



**MONTHLY AIR QUALITY REPORT FOR**  
**AUGUST 2008**

AOI COLOR SCALE

<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>

Calendar of maximum AQI values & their corresponding color for August 2008\*

\*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	93	08	2	58	08						
											58	68									
3	58	07	4	84	09	5	67	09	6	116	08	7	93	09	8	101	07	9	80	05	
	36	23		40	28		69	30			29	22		94	41		45	50		23	43
10	51	06	11	104	05	12	97	05	13	87	06	14	80	05	15	87	07	16	47	05	
	55	48		50	38		49	27		59	33		56	25		42	31		25	23	
17	50	05	18	51	05	19	54	06	20	71	07	21	64	07	22	84	07	23	71	06	
	20	19		37	23		44	29		50	30		55	29		46	41		40	22	
24	51	05	25	49	06	26	49	06	27	93	07	28	109	06	29	80	10	30	36	09	
	31	27		96	62		17	16		25	20		23	22		29	38		26	25	
31	40	09																			
	13	12																			

**Calendar of High Pollution Advisories and Health Watches issued during August 2008**

SUN			MON			TUE			WED			THU			FRI			SAT		
															1			2		
3		4			5			6		F	7			8						9
10		11			12			13		F	14		F	15		F				16
17		18			19			20			21			22		F				23
24		25		F	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 2008**

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

**LEGEND**

**ELECTROMETEORS**

- A** = Thunderstorm

**HYDROMETEORS**

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

**LITHOMETEORS**

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

---

**Non-Ozone Exceedance days during AUG 2008-**

Total= 0      Date      Max AQI      Pollutant      Site/s

---

**Non-Ozone Health Watches issued during AUG 2008-**

Total= 0      Date      Max AQI      Pollutant      Site/s

---

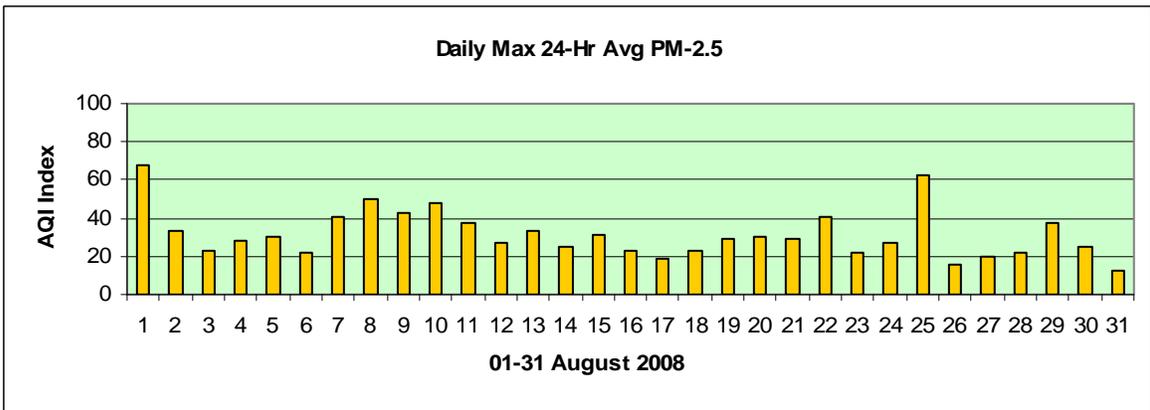
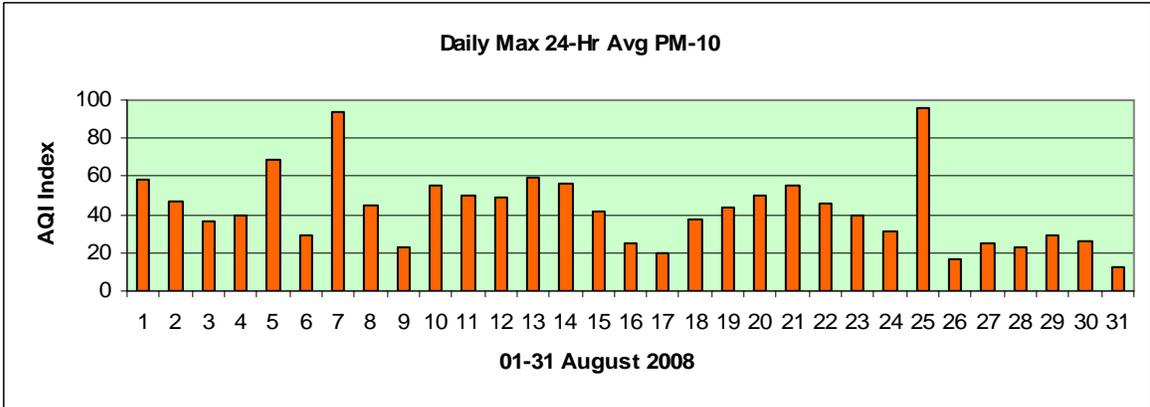
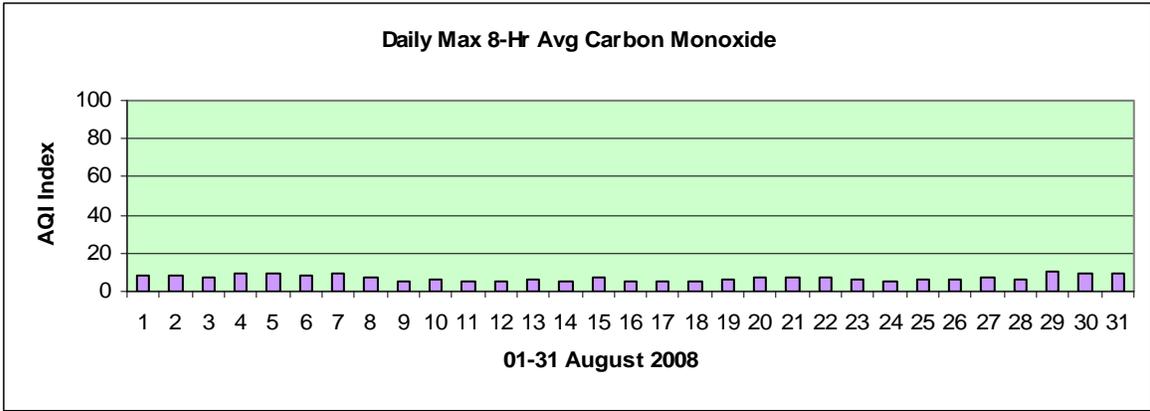
**Non-Ozone High Pollution Advisories issued during AUG 2008-**

Total= 0      Date      Max AQI      Pollutant      Site/s

---

**Concentration Recap:**      Days in the **Good** category:      5  
(All pollutants)      Days in the **Moderate** category:      22  
Days in the **Unhealthy for Sensitive Groups** category:      4  
Days in the **Unhealthy** category:      0  
Total Forecast Days:      31

---



**Narrative:** The North American Monsoon was very productive for the local forecast area during the month of August. The Phoenix area was included within NWS Severe Thunderstorm Watch boxes on the 14th and 29th, and local rainfall occurred on 16 days during the month; totals reached or exceeded one inch at some Valley locations on the 7th, 25th, and 28th. In fact, Sky Harbor Airport recorded daily record rainfall totals on the latter two dates. An additional source of moisture that began on the 25th was that shed from Tropical Storm Julio located near Baja. Another prevalent weather phenomenon was strong winds. Thunderstorm outflow boundaries impacted the metro area on 20 days and blowing dust was generated on 10 of them. Wind gusts over 50 mph were reported at Valley airports on the 5th, 7th, 14th, 25th, and the 28th. The latter date was especially severe in that wind gusts up to 75 mph resulted in the widespread downing of trees and power lines, followed by torrential rainfall that totaled 2” in some locations. Despite this frequency of strong winds, blowing dust, and visibilities that approached zero on some occasions, no PM-10 (coarse particle) exceedances occurred – mainly due to the heavy rainfall that followed each event; in essence, the periods of dense blowing dust were brief and followed by very low concentrations due to the precipitation. -Reith

## DETAILED OZONE SECTION

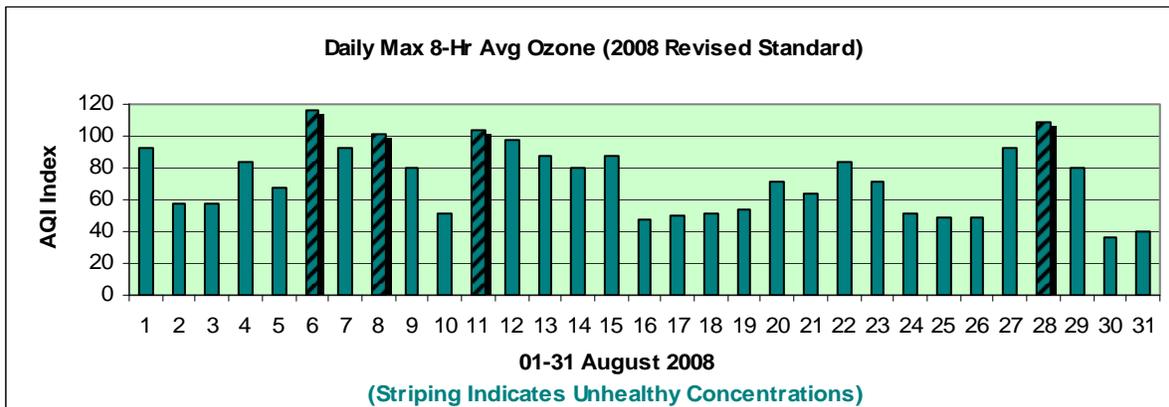
(Based on the 2008 EPA Revised 8-Hour Ozone Standard)

<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 AUGUST 2008\*

\*Preliminary data

SUN		MON		TUES		WED		THU		FRI		SAT	
										1	<b>93</b>	2	<b>58</b>
3	<b>58</b>	4	<b>84</b>	5	<b>67</b>	6	<b>116</b>	7	<b>93</b>	8	<b>101</b>	9	<b>80</b>
10	<b>51</b>	11	<b>104</b>	12	<b>97</b>	13	<b>87</b>	14	<b>80</b>	15	<b>87</b>	16	<b>47</b>
17	<b>50</b>	18	<b>51</b>	19	<b>54</b>	20	<b>71</b>	21	<b>64</b>	22	<b>84</b>	23	<b>71</b>
24	<b>51</b>	25	<b>49</b>	26	<b>49</b>	27	<b>93</b>	28	<b>109</b>	29	<b>80</b>	30	<b>36</b>
31	<b>40</b>												



---

<b><u>8-hr Ozone exceedance days in AUG:</u></b>	Total= 4	<u>Date</u>	<u>Max ppb/AQI</u>	<u>Site/s</u>
		8/06	82/116	Tempe
			80/111	West Phoenix
			79/109	West Chandler
			77/104	Phx Supersite
			76/101	South Phoenix
		8/08	76/101	Apache Junction
			76/101	Queen Valley
		8/11	77/104	Queen Valley
		8/28	79/109	Fountain Hills

**Total number of exceedance days since APR 01:** 28  
**Total number of exceedance sites since APR 01:** 107

---

<b><u>Ozone Health Watches in AUG:</u></b> (Forecast max value 72-75 ppb)	Total= 7	<u>Date</u>	<u>Max ppb/AQI</u>	<u>Site/s</u>
		8/01	73/93	Five Sites
		8/06	82/116	Tempe
		8/13	71/87	West Chandler
		8/14	69/80	Fountain Hills
		8/15	71/87	Queen Valley
		8/22	70/84	North Phoenix
		8/25	58/49	North Phoenix

**Ozone Health Watches since APR 01:** Total= 42

**High Pollution Advisories in AUG:** Total= 0  
(Forecast max value 76+ppb)

**High Pollution Advisories since APR 01:** Total= 11

---

**Concentration Recap:** Days in the **Good** category: 6  
(Ozone) Days in the **Moderate** category: 21  
Days in the **Unhealthy for Sensitive Groups** category: 4  
Days in the **Unhealthy** category: 0  
Total Forecast Days: 31

**Maximum 8-Hr value:** Date Hour Site ppb/AQI DOW  
8/06 1100 Tempe 82/116 Wed

**Maximum 1-Hr value:** Date Hour Site ppb/AQI DOW  
8/06 1500 West Phoenix 99/83 Wed

Average daily max 8-Hr concentration (ppb): 65.9  
Deviation from the 1996-2007 average (ppb): -5.8

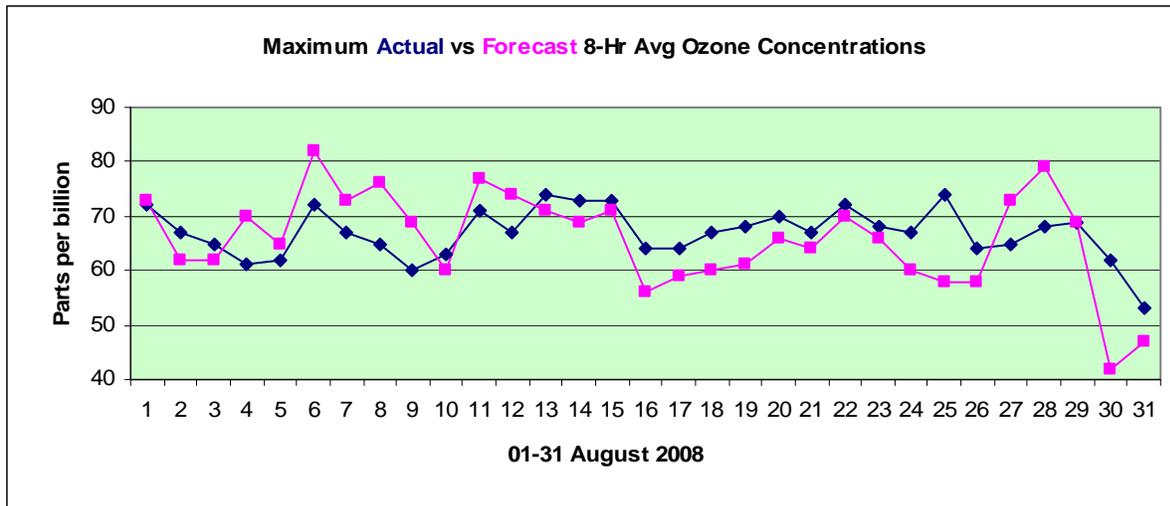
---

**AUG Climatology:**  
 (Period 1996-2007  
 using 1997 85ppb  
 standard)

Average number of 8-Hr exceedance days:	3.5
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):	71.7
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:	19
# of days maximum concentrations were under-forecast:	11
# of days maximum concentrations were correctly forecast:	1
August average forecast accuracy (ppb):	+/-6.3
August average forecast bias (ppb):	+1.1



**Narrative:**

Although there were four days this month with unhealthy ozone levels and only nine site exceedances, this was well below the potential – especially considering the recent lowering of the 8-hour ozone standard. Control measures, as well as fewer miles driven due to gas prices that approached \$4/gallon, undoubtedly played a role in reducing precursor emissions. However, local weather conditions likely had an impact as well. Based on meteorological data from the first order weather station at Sky Harbor Airport, the daily maximum temperature in August was 0.6 deg F cooler than the 30-year average. (However, the low of only 95 deg F on the 1st was the second highest minimum temperature ever recorded at Sky Harbor). Also, it was the third wettest August on record with a rainfall total of 3.55” at the airport; on one out of every two days rainfall was reported in the Valley. There were 13 days with considerable cloud cover (0.6 24-hour average or above) and only six days with 0.3 or less coverage. Lastly, a deep (surface to 10K’) easterly wind regime – which correlates very well with high ozone days – was present on only three days the entire month. -Reith