



MONTHLY AIR QUALITY REPORT FOR
JANUARY 2007

AOI COLOR SCALE

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

Calendar of maximum AQI values & their corresponding color for January 2007*

*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

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

	SUN	MON	TUES	WED	THU	FRI	SAT						
		1	26 57	2	30 41	3	27 32	4	29 34	5	29 38	6	31 16
			62 167		62 88		67 74		73 77		63 58		20 22
7	33 27	8	32 38	9	34 42	10	32 40	11	28 41	12	31 22	13	31 16
	34 57		82 80		89 64		72 66		81 66		55 41		30 30
14	29 25	15	36 43	16	35 32	17	30 34	18	30 39	19	27 20	20	27 26
	29 63		62 82		80 57		60 62		85 71		38 61		23 74
21	29 28	22	37 27	23	34 40	24	30 32	25	33 35	26	27 31	27	38 33
	15 64		37 75		64 85		66 73		55 55		62 57		47 62
28	38 33	29	35 36	30	30 34	31	23 20						
	42 71		72 69		37 49		25 44						

Calendar of High Pollution Advisories and Health Watches issued during January 2007

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

NEW!!

NEW!!!

NEW!!

Calendar of Meteorological Conditions observed in Metro Phoenix during January 2007

SUN			MON			TUE			WED			THU			FRI			SAT		
		1		E			E			E			E			B				6
7		8								E						B				13
14		15					D			E						B			B	C
21	B			C																27
28		29		E			B			B										

LEGEND

ELECTROMETEORS

- A** = Thunderstorm

HYDROMETEORS

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

LITHOMETEORS

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

Exceedance days during JAN 2007-

<u>Total=</u>	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
1	01/01	167	PM-2.5	West Phoenix
		162	PM-2.5	Phoenix Supersite

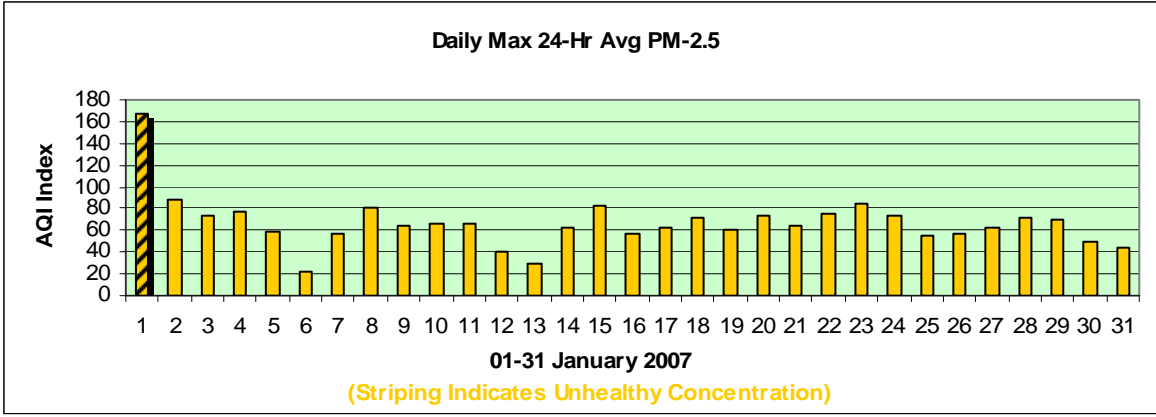
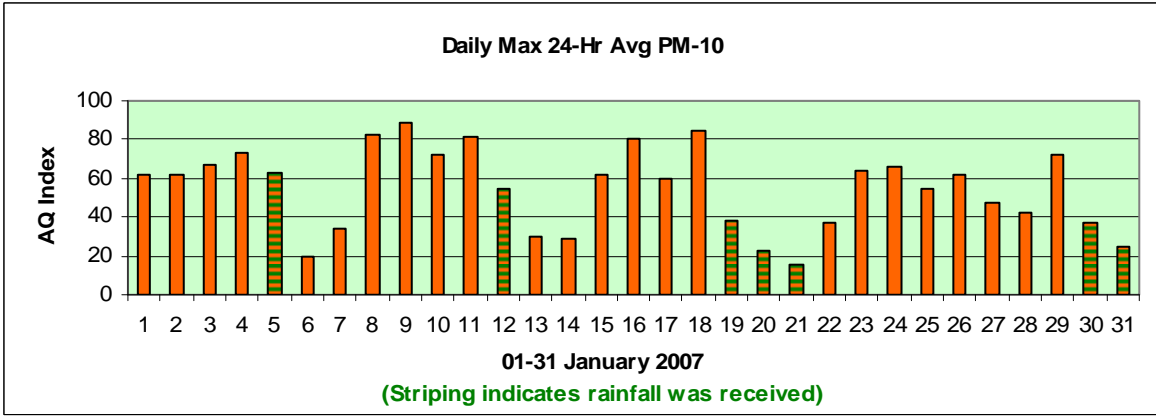
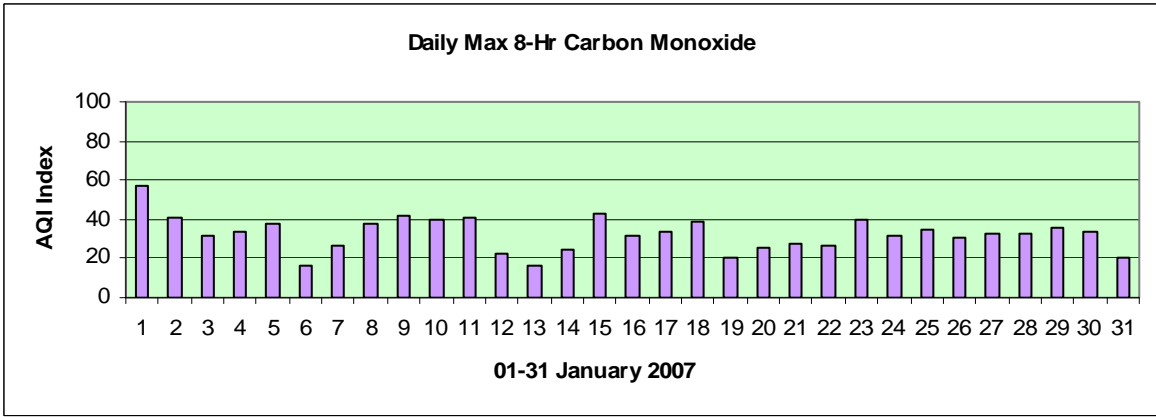
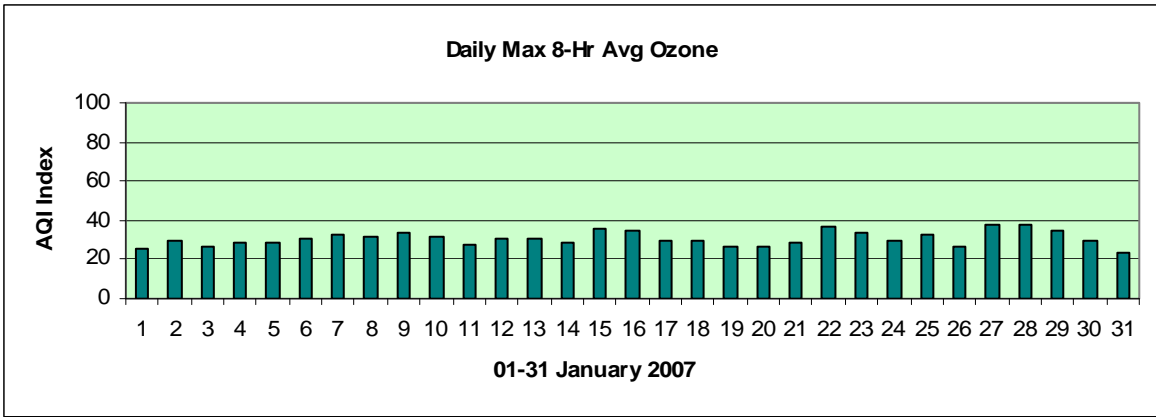
Health Watches issued during JAN 2007-

<u>Total=</u>	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
2	01/12	55	PM-10	West Forty Third
	01/24	73	PM-2.5	Durango

High Pollution Advisories issued during JAN 2007-

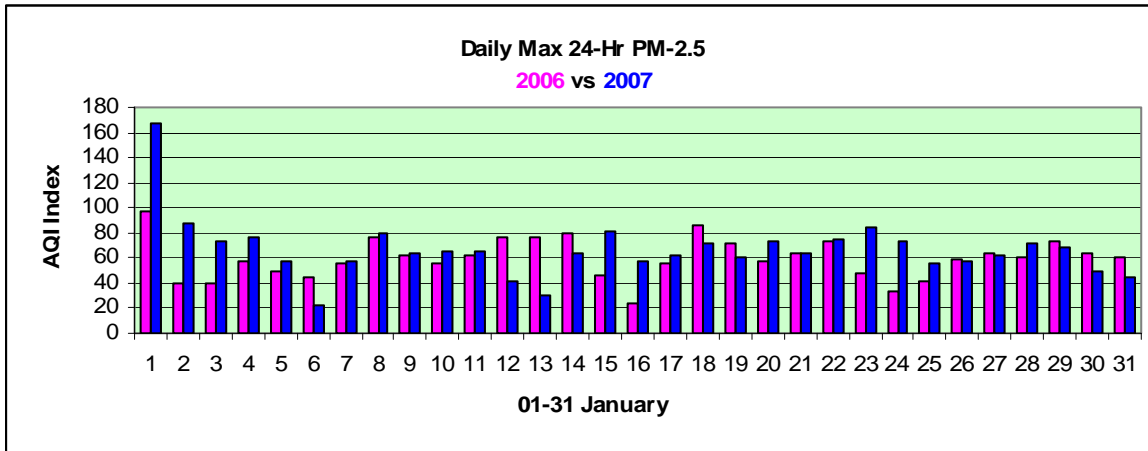
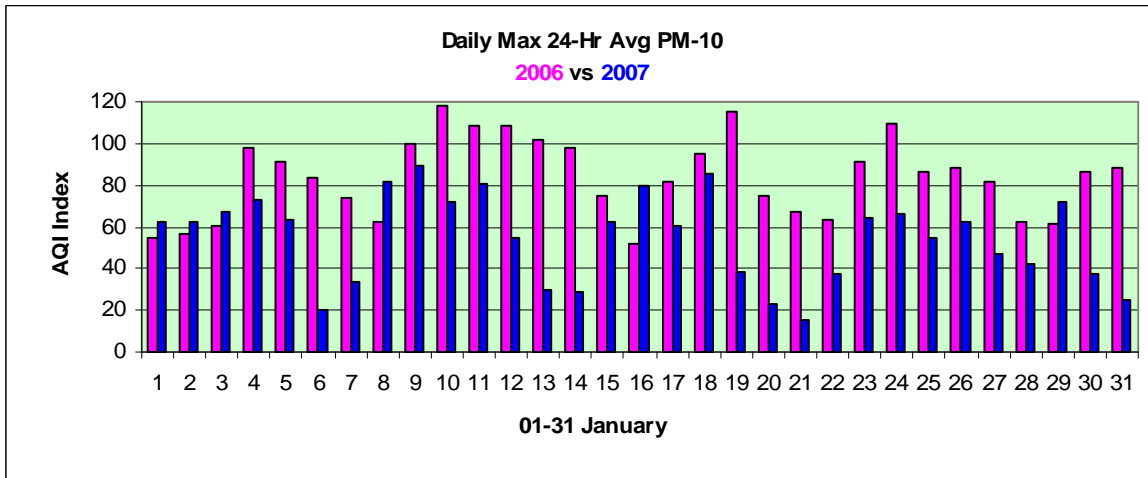
<u>Total=</u>	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
0				

<u>Concentration Recap:</u>	Days in the Good category:	4
	Days in the Moderate category:	26
	Days in the Unhealthy for Sensitive Groups category:	0
	Days in the Unhealthy category:	$\frac{1}{31}$
	Total Forecast Days:	31



Narrative:

This month began on an ominous note with unhealthy levels of fine particles (PM-2.5) at some valley locations on New Year's Day. Like Christmas Day a week prior (see December 2006's Air Quality Report) – and despite daytime temperatures in the 60's – this situation was more than likely contributed to by widespread holiday fireplace use under less-than-ideal air mass characteristics. Dispersion was poor to marginal with a best mixing depth of only 3500' and light or calm winds the entire day. Elevated carbon monoxide levels and visibilities that were restricted to less than 10 miles at times at four local airports were other indicators of smoke – ostensibly from fireplace use. The good news was that no additional exceedances of the ambient air quality standards were recorded the remainder of the month. This was in no small part due to the fact that the mid-latitude storm track delivered a series of upper lows and troughs as well as surface cold fronts that managed to not only increase dispersion and mixing but deliver much-needed rainfall. The first chart below illustrates the impact of precipitation on coarse particle (PM-10) levels during **January 2007**—when four rainy episodes occurred— compared to the rain-free **January 2006**. On the other hand, on most days highest fine particle (PM-2.5) concentrations (shown on the second chart) were as high as or higher than those of last year; this does not bode well for the local forecast area in light of the new and soon-to-be-implemented PM-2.5 standard.



The local weather of January 2007 was significant in at least one other way – it was unusually cold on several occasions. The first cold spell occurred from the 14th thru the 16th and freeze warnings were issued by the NWS for each day. Minimum temperatures on the 14th were the lowest in 16 years and a new record low-max temp of 46 degrees was set at Sky Harbor Airport on that date. Lows in the upper 10's elsewhere contributed to widespread freeze damage to vegetation as well as broken water pipes. Another cold but moist air mass brought snow to the desert floor on the 21st. -Reith