



Arizona Department of Environmental Quality

Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

MONTHLY AIR QUALITY REPORT FOR
APRIL 2006

AQI 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 April 2006*

*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

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

SUN		MON		TUE		WED		THU		FRI		SAT	
												1	44 07 24 26
2	59 14 27 41	3	50 19 57 51	4	41 13 68 39	5	43 05 73 30	6	45 10 36 28	7	59 23 56 51	8	72 28 49 51
9	56 32 34 39	10	41 09 48 33	11	50 15 52 42	12	50 16 60 46	13	50 23 71 45	14	36 16 180 78	15	49 10 160 75
16	48 17 44 43	17	45 10 62 48	18	77 10 56 47	19	66 17 58 44	20	59 17 65 49	21	48 23 73 60	22	45 15 68 53
23	44 06 34 36	24	51 13 50 48	25	74 22 62 55	26	74 13 65 52	27	44 13 63 39	28	46 08 37 40	29	79 13 42 45
30	66 18 46 47												

Calendar of High Pollution Advisories and Health Watches issued during April 2006

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

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

Exceedance days during APR 2006-

Total= 2	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
	04/14	180	PM-10	West Forty Third
		150	PM-10	Durango
		133	PM-10	Greenwood
		130	PM-10	Higley
		129	PM-10	Buckeye
		118	PM-10	Central Phoenix
		112	PM-10	West Phoenix
	04/15	160	PM-10	Higley
		119	PM-10	West Forty Third
		117	PM-10	West Phoenix
		113	PM-10	Durango
		108	PM-10	Greenwood

High Pollution Advisories issued during APR 2006-

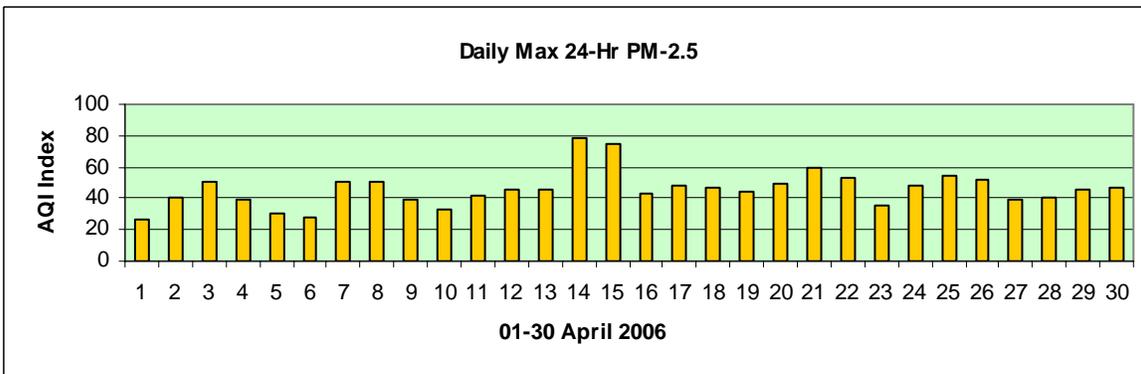
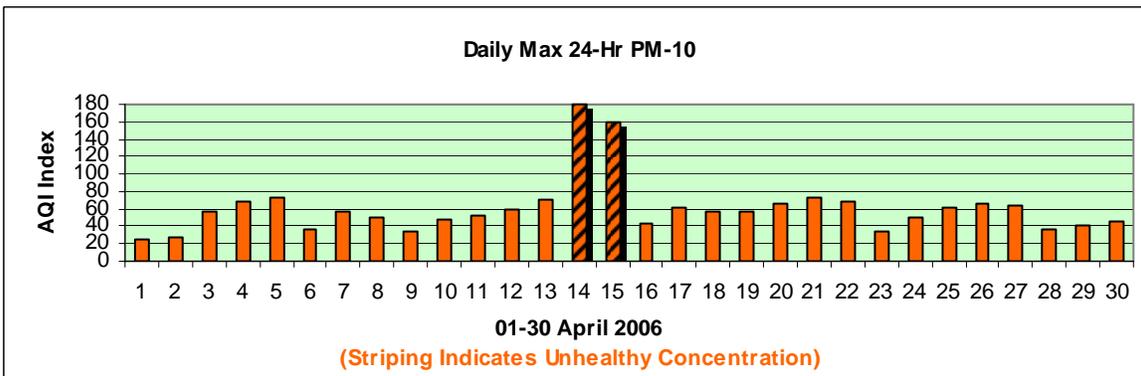
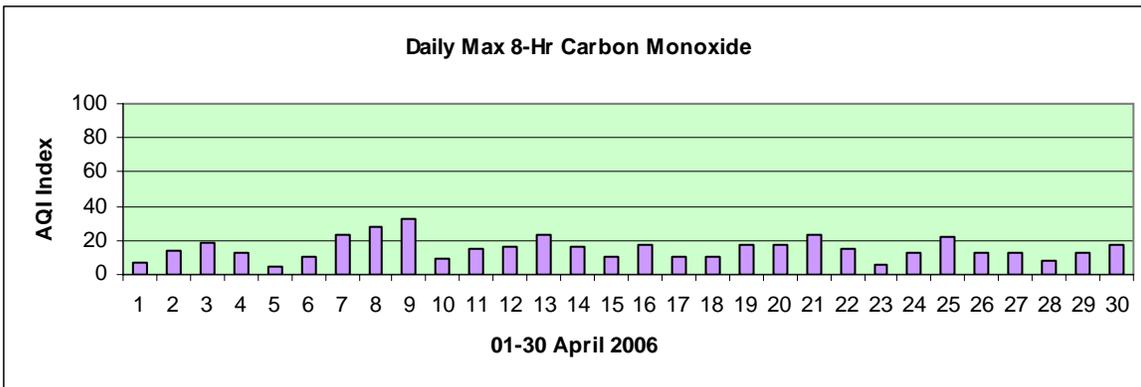
Total= 0	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
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Health Watches issued during APR 2006-

Total= 3	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
	04/05	73	PM-10	West Forty Third
	04/14	180	PM-10	West Forty Third
	04/22	68	PM-10	Higley

<u>Concentration Recap:</u>	Days in the Good category:	6
	Days in the Moderate category:	22
	Days in the Unhealthy for Sensitive Groups category:	0
	Days in the Unhealthy category:	2
	Total Forecast Days:	30

Narrative: The big event this month was the epic wind and dust storm that engulfed the desert areas of the state from the afternoon of the 14th into the early morning hours of the 15th. Despite heavy rains in mid-March, almost none thereafter – combined with daily highs in the eighties and nineties in April – really dried the soils out and disturbed areas were efficient and productive sources of dust emissions. The high winds were the result of a strong but dry major short wave trough and surface cold front in the mid-latitude storm track. Sustained south to southwesterly winds between 25-35 mph lasted from 3:00 to 10:00 p.m. and a gust to 56 mph was recorded in the metro area. Blowing dust was widespread and reduced visibilities to as low as three miles at times into the nighttime hours; hourly PM-10 levels were between 840 and 998ug/m3 at three sites. PM-10 exceedances on the 15th were solely due to suspended dust from the previous day and hourly PM-10 levels were between 800 and 900ug/m3 at four sites at 2:00 a.m. -Reith



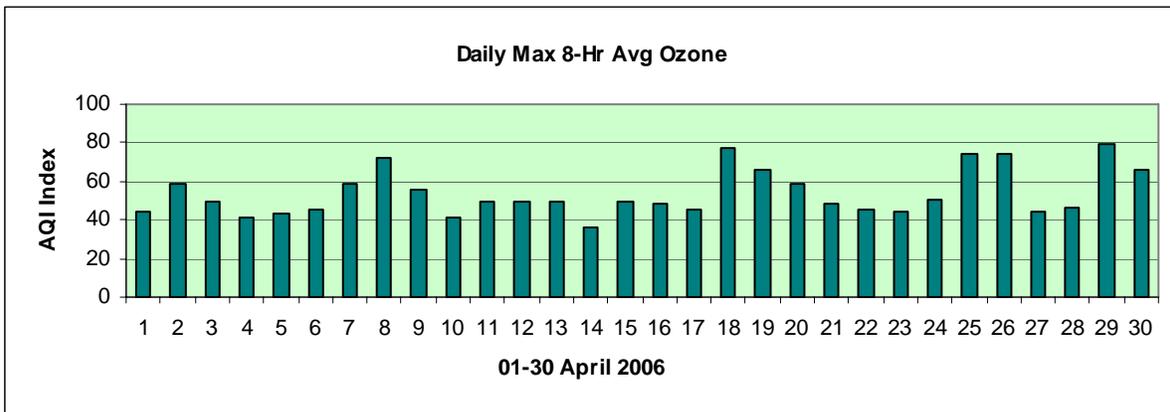
DETAILED OZONE SECTION

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

SUMMARY OF MAXIMUM 8-HR OZONE AQI VALUES FOR APRIL 2005*

*Preliminary data

SUN		MON		TUES		WED		THU		FRI		SAT	
												1	44
2	59	3	50	4	41	5	43	6	45	7	59	8	72
9	56	10	41	11	50	12	50	13	50	14	36	15	49
16	48	17	45	18	77	19	66	20	59	21	48	22	45
23	44	24	51	25	74	26	74	27	44	28	46	29	79
30	66												



8-hr Ozone exceedance days in APR: 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

Ozone Health Watches in APR: Total= 0 Date Max ppb/AQI Site/s
(Forecast max value 80-84 ppb)

Ozone Health Watches since APR 01: Total= 0

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

High Pollution Advisories since APR 01: Total= 0

Concentration Recap: Days in the **Good** category: 18
Days in the **Moderate** category: 12
Days in the **Unhealthy for Sensitive Groups** category: 0
Days in the **Unhealthy** category: 0
Total Forecast Days: 30

Maximum 8-Hr value: Date Hour Site ppb/AQI DOW
4/29 1600 Tonto Nat'l Mon 76/79 Sat

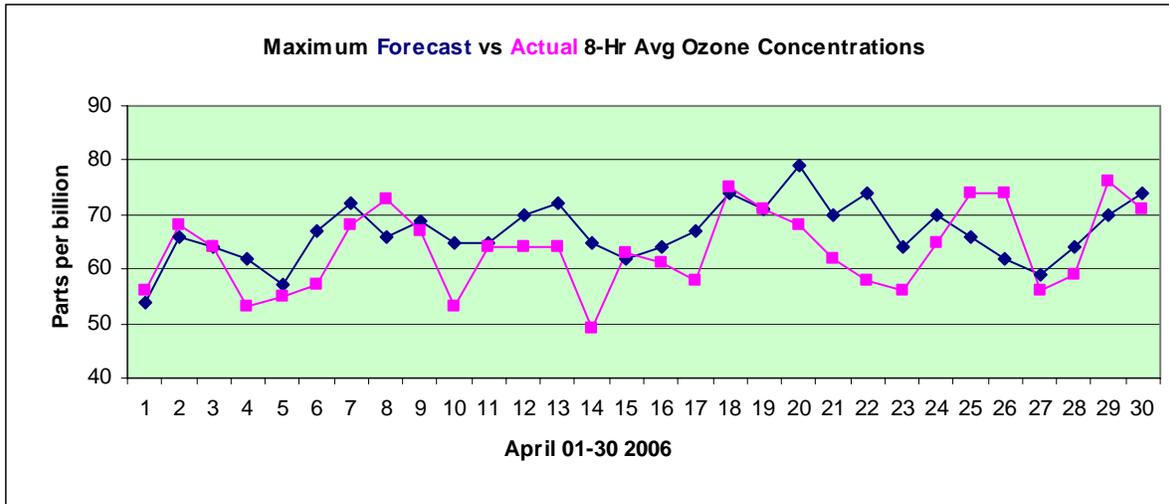
Maximum 1-Hr value: Date Hour Site ppb/AQI DOW
4/26 1400 Queen Valley 86/72 Wed

Average daily max 8-Hr concentration (ppb): 63.4

Deviation from the 1996-2005 average (ppb): -3.2

APR Climatology: Average number of 8-Hr exceedances: 0.4
(1996-2005) Maximum number of 8-Hr exceedances: 1 in 1996/98/99/2000
Minimum number of 8-Hr exceedances: 0 in 1997& 2001-2005
Average daily max 8-Hr concentration (ppb): 66.6
Record high max 8-Hr concentration (ppb): 99 on the 29th, 1996
Record low max 8-Hr concentration (ppb): 40 on the 14th, 2003

Forecast Verification:	# of days maximum concentrations were over-forecast:	21
	# of days maximum concentrations were under-forecast:	7
	# of days maximum concentrations were correctly forecast:	2
	April average forecast accuracy (ppb):	+/-5.9
	April average forecast bias (ppb):	+4.7



Narrative: The complete ADEQ and Maricopa County ozone monitoring network was on-line by April 01, which marked the official beginning to the 2006 ozone forecast season. This includes a dense network of analyzers in the greater Phoenix metro area as well as some remote sites in Yuma and La Paz counties. In the past the latter two sites have proved to be especially useful in tracking and illustrating suspected ozone and/or precursor transport episodes from California to Arizona. During this month four such episodes each resulted in a significant local ozone concentration increase; although no 8-hour ozone exceedances occurred this month, many have occurred under similar circumstances in prior years. The highest 8-hour average concentrations (between 73 and 76 ppb) in the Phoenix area – associated with these suspected transport events – took place on the 8th, 18th, 25 & 26th, and 29th. On most occasions, jumps in ozone levels occurred at one or both upstream sites in Yuma and La Paz counties 24-48 hours prior to the highest readings in Maricopa county and adjacent areas. During April forecasters managed to exactly predict the highest concentration on two days; however, overall the forecasts this month demonstrated a very positive bias with concentrations over-forecasted on 70% of the days and by as much as 16 parts per billion on two occasions. -Reith