



Janet Napolitano, Governor
 Stephen A. Owens, ADEQ Director

MONTHLY AIR QUALITY REPORT FOR
APRIL 2005

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 2005*
*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

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

SUN		MON		TUES		WED		THU		FRI		SAT			
									1	43	15	2	48	19	
										59	21		58	27	
3	61	24	4	49	10	5	49	10	6	50	20	7	51	23	
	53	28		109	38		60	34		65	38		73	36	
													8	61	10
													9	45	10
													10	42	08
													11	37	20
													12	47	15
													13	59	22
													14	70	39
													15	73	47
													16	79	20
													17	68	43
													18	82	19
													19	61	29
													20	72	13
													21	52	37
													22	82	19
													23	61	29
													24	77	25
													25	72	43
													26	48	10
													27	45	09
													28	48	10
													29	36	17
													30	47	28

PM Exceedance days during APR 2005-

Total=	1	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
		4th	109	PM-10	West Forty Third

PM Health Watches issued during APR 2005-

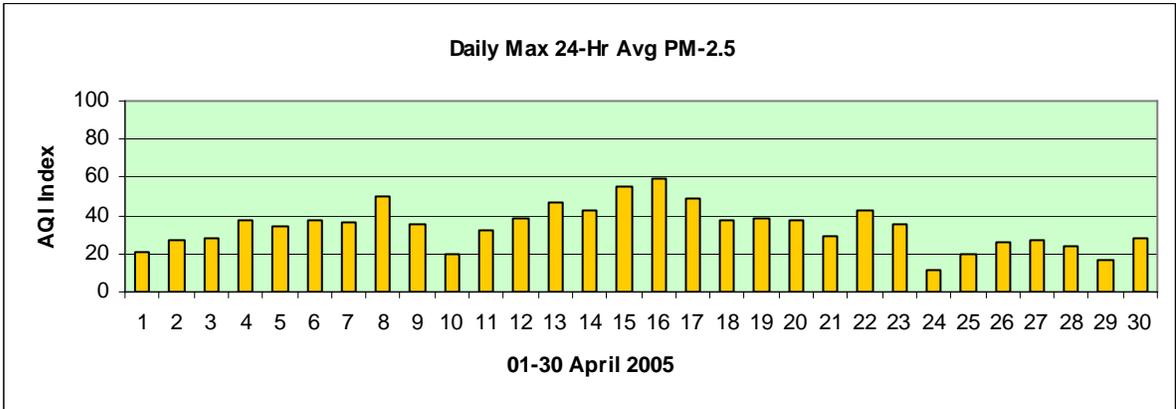
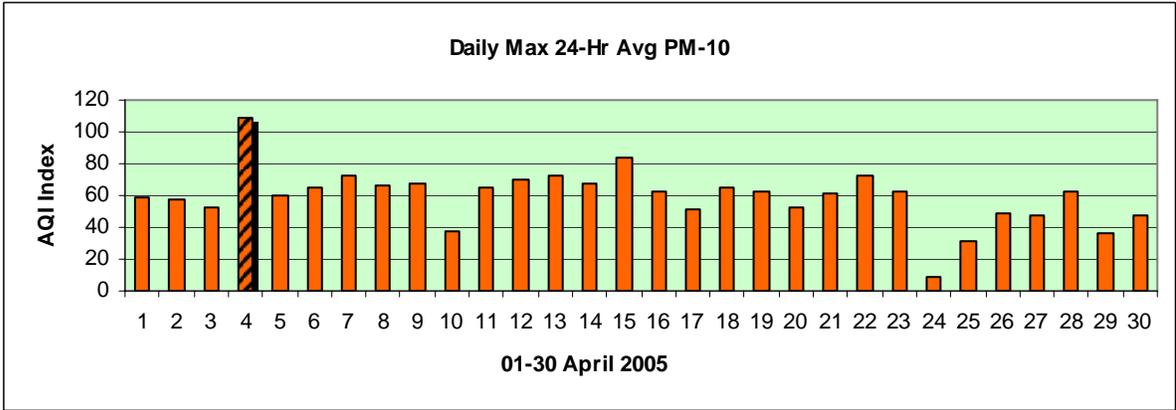
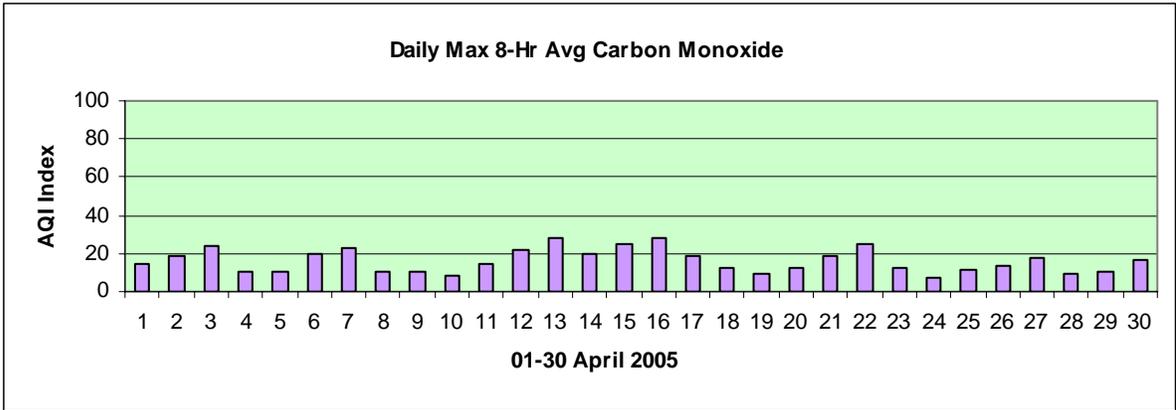
Total=	3	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
		8th	66	PM-10	West Forty Third
		19th	63	PM-10	West Forty Third
		28th	63	PM-10	West Forty Third

PM High Pollution Advisories issued during APR 2005-

Total=	2	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
		9th	67	PM-10	West Forty Third
		10th	37	PM-10	Buckeye

Narrative:

Low carbon monoxide levels were the rule during April and this is typical of the warm months in Phoenix. PM-2.5 concentrations were also in the good range of the Air Quality Index each day except on the 15th and 16th. On those two days a rather stagnant air mass was over the area that trapped plentiful particulate matter; visibility was reduced to 15-20 miles despite good dispersion and mixing heights greater than 10K'. At the other end of the spectrum a series of late-season mid-latitude storms brought gusty winds and blowing dust on the 4th, 19th, 23rd, and 28th. The first in the series coincided with the highest PM-10 levels of the month that saw the equipment (TEOM) at the West Forty Third monitoring site record a 24-hour average concentration of 172.7 ug/m³ and a one-hour average of over 652 ug/m³ at 1:00 p.m. Three PM-10 Health Watches and two PM-10 High Pollution Advisories were issued among the other wind events but none of them resulted in nearly the magnitude or duration of airborne and suspended dust as on April 4th. The trough passage on the 23rd brought wind gusts to 45 mph but was also accompanied by showers and thunderstorms that dropped rain sufficient to stabilize unpaved areas. This was the principal reason for such low PM-10 concentrations through the remainder of the month. -Reith



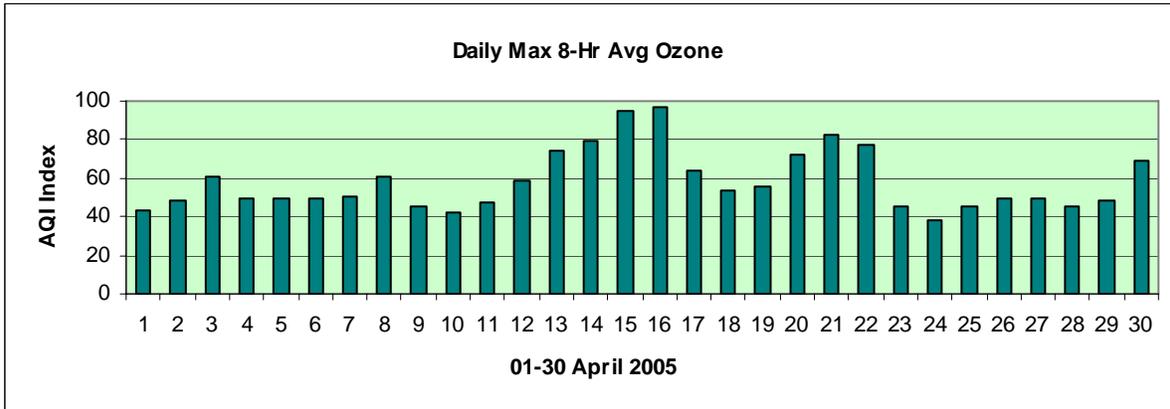
DETAILED OZONE SECTION

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

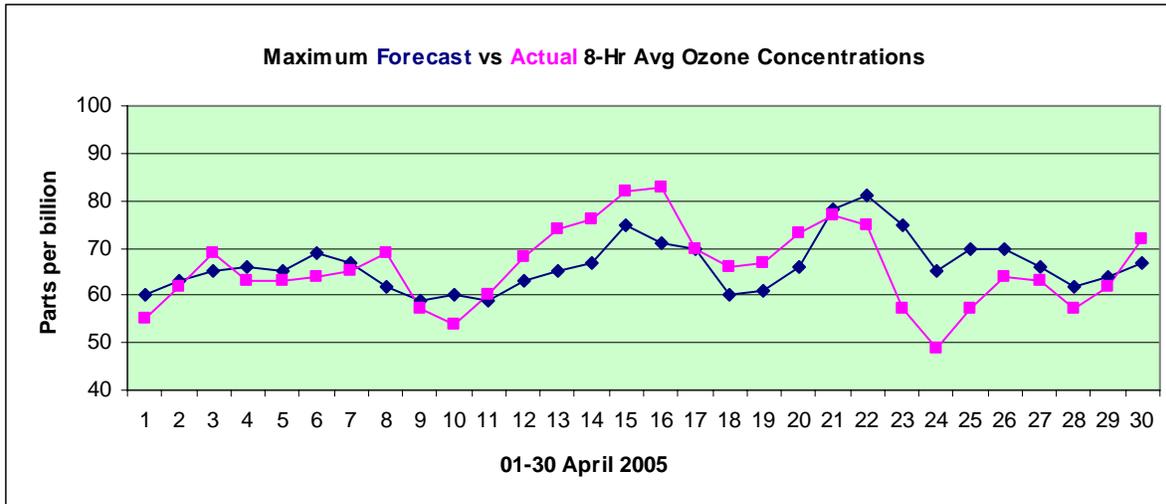
SUMMARY OF MAXIMUM 8-HR OZONE AQI VALUES FOR APRIL 2005*

*Preliminary data

SUN		MON		TUES		WED		THU		FRI		SAT	
										1	43	2	48
3	61	4	49	5	49	6	50	7	51	8	61	9	45
10	42	11	47	12	59	13	74	14	79	15	95	16	97
17	64	18	54	19	56	20	72	21	82	22	77	23	45
24	38	25	45	26	50	27	49	28	45	29	48	30	69



Forecast Verification:	# of days maximum concentrations were over-forecast:	17
	# of days maximum concentrations were under-forecast:	12
	# of days maximum concentrations were correctly forecast:	1
	April average forecast accuracy (ppb):	5.8
	April average forecast bias (ppb):	+0.6



Narrative: “Ozone Season” officially began for the Phoenix metropolitan forecast area this month. Although only four exceedances of the 8-hour average ozone standard have occurred during the month of April from 1996 through 2004, several days this month came very close. Preceding the high-ozone episode on the 15th and 16th, upstream winds aloft on the 14th were favorable for the weak transport of ozone or its precursors from Southern California (where on the 13th 1-hr ozone concentrations were in the 80-99 ppb in several areas). Local evidence of this suspected transport was also present at the Hillside monitor – established as a background ozone site several years ago – where the maximum 8-hr average ozone level rose from 59 ppb on the 12th to 72 ppb on the 13th and remained in the 73-76 ppb range thru the 17th. Local weather conditions also played a role with light winds both on the 15th and 16th, maximum temperatures in the lower 90’s, and 100% of the possible sunshine. On the other hand, there were no signs that transport of ozone played a role during the 21st and 22nd episode when ozone levels spiked again. During that period low-level easterly flow was present, which is another recognized situation under which local levels of ozone tend to spike. Maximum temperatures were only in the 80’s but light afternoon winds coincided with the period of peak ozone production. After ozone levels hit 77ppb on the 21st an Ozone Health Watch was issued for the 22nd as a health precaution. Thick high and middle-level clouds moved over the forecast area by late morning and only 63% of the possible sunshine was recorded, however. Even so, the maximum ozone concentration only dropped to 75 ppb; absent the cloud cover it appears there was there was the potential for an exceedance of the 8-hr ozone standard. The last week or so of the month was characterized by much lower ozone levels that can be attributed to an unsettled weather pattern that included several mid-latitude trough passages that produced gusty winds, plentiful cloud cover, and cooler temperatures.
-Reith