

MONTHLY AIR QUALITY REPORT FOR MAY 2004

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 May 2004*

*Preliminary data

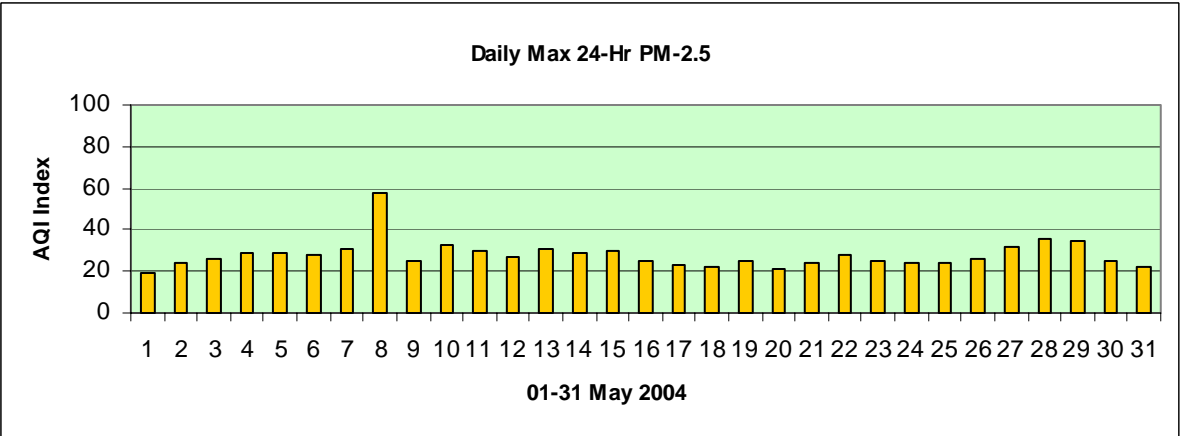
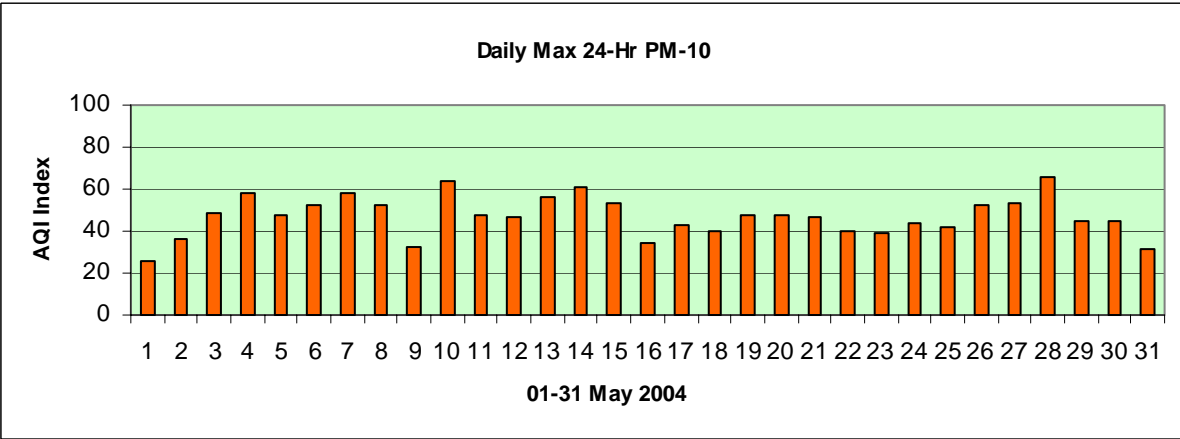
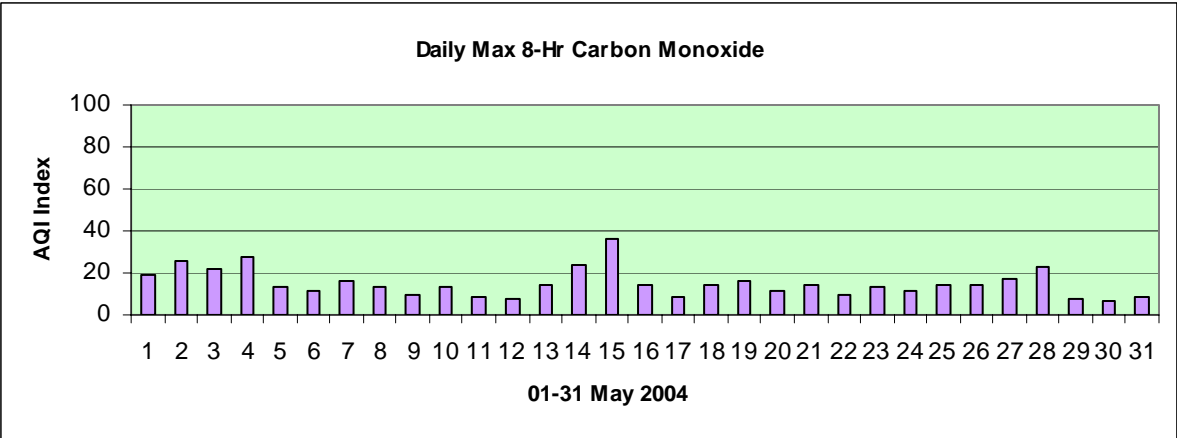
SAMPLE POLLUTANT REPORTING BOX

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

SUN			MON			TUES			WED			THU			FRI			SAT		
																		1	74	19
																			26	19
2	56	26	3	61	22	4	74	28	5	61	13	6	54	11	7	49	16	8	56	13
	36	24		49	26		58	29		48	29		52	28		58	31		52	58
9	56	10	10	51	13	11	69	09	12	85	08	13	82	14	14	82	24	15	95	36
	32	25		64	33		48	30		47	27		56	31		61	29		53	30
16	61	14	17	44	09	18	49	14	19	45	16	20	51	11	21	64	14	22	64	10
	34	25		43	23		40	22		48	25		48	21		47	24		40	28
23	56	13	24	46	11	25	44	14	26	46	14	27	66	17	28	66	23	29	50	08
	39	25		44	24		42	24		52	26		53	32		66	36		45	35
30	72	07	31	69	09															
	45	25		31	22															

Narrative:

For the third straight month carbon monoxide (CO) and fine particles (PM-2.5) were in the good range every day except on the 8th when fine particle concentrations rose into the moderate range at the Estrella site due to residual smoke from a river bottom fire near Buckeye. The storm track during May was active although dry with no measured precipitation in the forecast area for the entire month. Breezy to gusty winds caused by the passage or presence of upper level troughs were a common occurrence. These resulted in a few days with elevated coarse particle levels, but were well below the health standard.



DETAILED OZONE SECTION

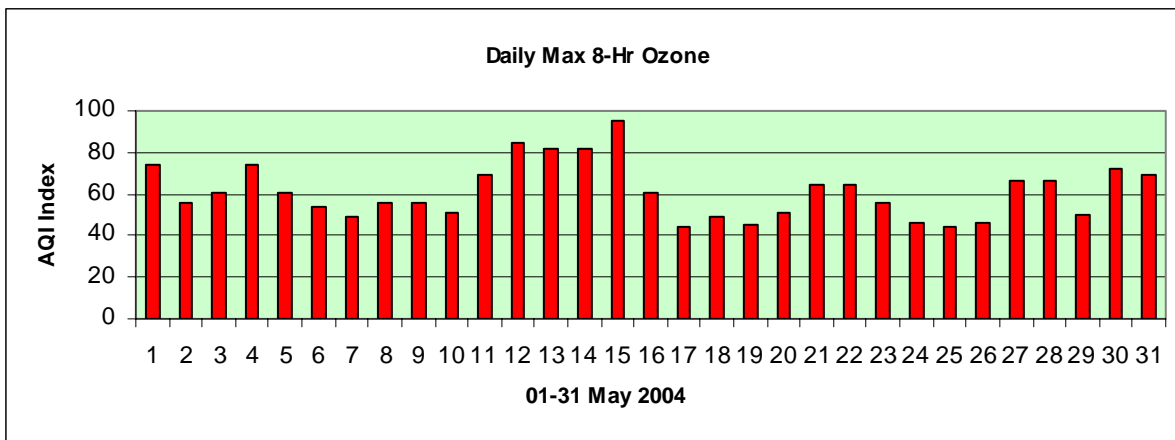
GOOD	MODERATE	UNHEALTHY FOR SENSITIVE GROUPS	UNHEALTHY
0-50	51-100	101-150	151-200

SUMMARY OF MAXIMUM 8-HR OZONE AQI VALUES FOR MAY 2004*

*Preliminary data

SUN		MON		TUES		WED		THU		FRI		SAT	
												1	74
2	56	3	61	4	74	5	61	6	54	7	49	8	56
9	56	10	51	11	69	12	85	13	82	14	82	15	95*
16	61	17	44	18	49	19	45	20	51	21	64	22	64
23	56	24	46	25	44	26	46	27	66	28	66	29	50
30	72	31	69										

*HIGHEST AQI OF MONTH



Exceedance days in MAY: 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 MAY: Total= 7 Date Max ppb/AQI Site/s
(Forecast max value 80-84 ppb)

	5/03	69/61	Humboldt Mtn
	5/04	74/74	Humboldt Mtn
			Tonto Natl Mon
	5/13	77/82	Rio Verde
	5/14	77/82	Humboldt Mtn
			Rio Verde
	5/15	82/95	Rio Verde
	5/16	69/61	Humboldt Mtn
	5/17	56/44	Queen Valley
			Rio Verde
			Tonto Natl Mon

Ozone Health Watches since APR 01: Total= 9

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

High Pollution Advisories since APR 01: Total= 0

Concentration Recap: Days in the **Good** category: 6
Days in the **Moderate** category: 25
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
5/15 1100 Rio Verde 82/95 Sat

Maximum 1-Hr value: Date Hour Site ppb/AQI DOW
5/15 1600 Rio Verde 92/77 Sat

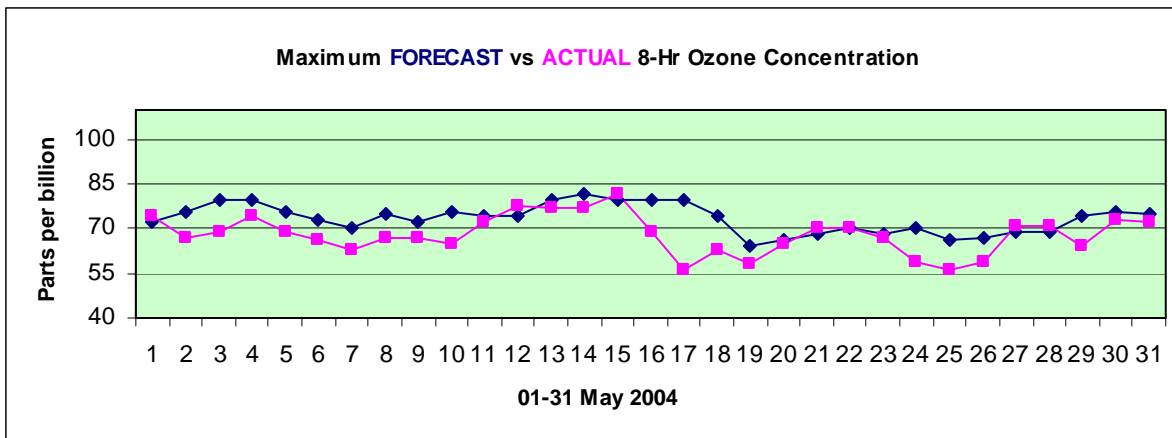
Average daily max 8-Hr concentration (ppb): 68.1
Deviation from 1996-2003 average (ppb): -5.6

MAY Climatology:
(1996-2003)

Average number of 8-Hr exceedances:	4.0
Maximum number of 8-Hr exceedances:	10 in 1996
Minimum number of 8-Hr exceedances:	0 in 1997, 2001
Average daily max 8-Hr concentration (ppb):	73.7
Record high max 8-Hr concentration (ppb):	105 on the 21st, 1996
Record low max 8-Hr concentration (ppb):	46 on the 20th, 1997

Forecast Verification:

Days maximum concentration was over-forecast:	24
Days maximum concentrations was under-forecast:	6
Days maximum concentrations was correctly forecast:	1
May average forecast accuracy (ppb):	6.3
May average forecast bias (ppb):	+5.8



Narrative:

The sub-tropical high was positioned well south of Arizona during May while the storm track remained active at this latitude. The main effects of this were three-fold: cooler than average daytime temperatures, wind (lots of it), and episodes of ozone and precursor import from California. Maximum daytime temperatures reached the 100- degree F mark on only eight days and did not exceed 103 degrees F until the final day of the month. This situation likely helped keep ozone production below its potential. According to preliminary data from the National Weather Service at Sky Harbor, there were 27 days with wind gusts of 20+ mph, 7 days with 25+ mph, and 2 days with 30+ mph, originating mostly from the southwest or west. When associated with an upper level trough passage, they appeared to deliver ozone and/or its precursors from upstream over California. These episodes were most evident on the 11th – 17th, 21st – 22nd, and 27th – 31st. The former was the most significant episode – during it the highest four maximum 8-hr concentrations as well as the highest 1-hr concentration of the month occurred. On the 11th only one site out of a total of 26 in the local monitoring network had an ozone level in the moderate range; on the 12th all but four sites were in the moderate range. Despite these episodes, the May 2004 average daily maximum 8-hr ozone concentration was well below the 8-year average and in fact was the lowest since 1995. ADEQ forecasters use pattern recognition as one of their principal forecast methods but ozone readings this month did not behave as they have under similar past circumstances. A high positive forecast bias was one outcome. -Reith