



MONTHLY AIR QUALITY REPORT FOR
MARCH 2010

AOI 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 March 2010*

*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

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

	SUN	MON	TUES	WED	THU	FRI	SAT
		1	36 10 21 32	2	37 15 25 43	3	42 10 30 48
7	37 08 13 14	8	37 08 08 16	9	39 08 24 23	10	41 09 26 29
14	42 07 17 14	15	58 10 32 25	16	48 10 39 36	17	47 13 40 34
21	48 13 31 40	22	43 10 44 43	23	42 10 25 29	24	45 09 30 42
28	45 10 21 28	29	48 13 46 46	30	51 16 39 37	31	44 08 61 31

Calendar of High Pollution Advisories and Health Watches issued during March 2010

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	31			
			D			

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 March 2010

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	31			
			D			A B

LEGEND

ELECTROMETEORS

- A** = Thunderstorm

HYDROMETEORS

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

LITHOMETEORS

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

Exceedance days during MAR 2010-

<u>Total=</u>	<u>0</u>	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
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Health Watches issued during MAR 2010-

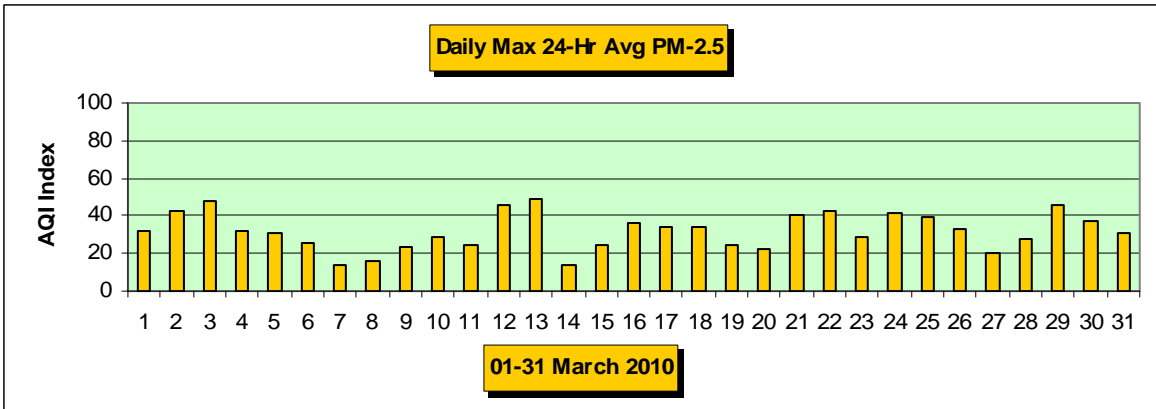
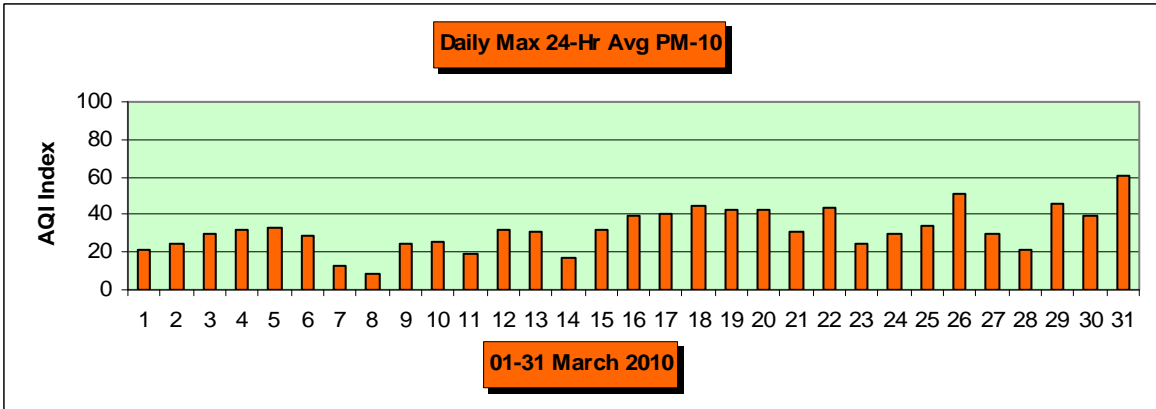
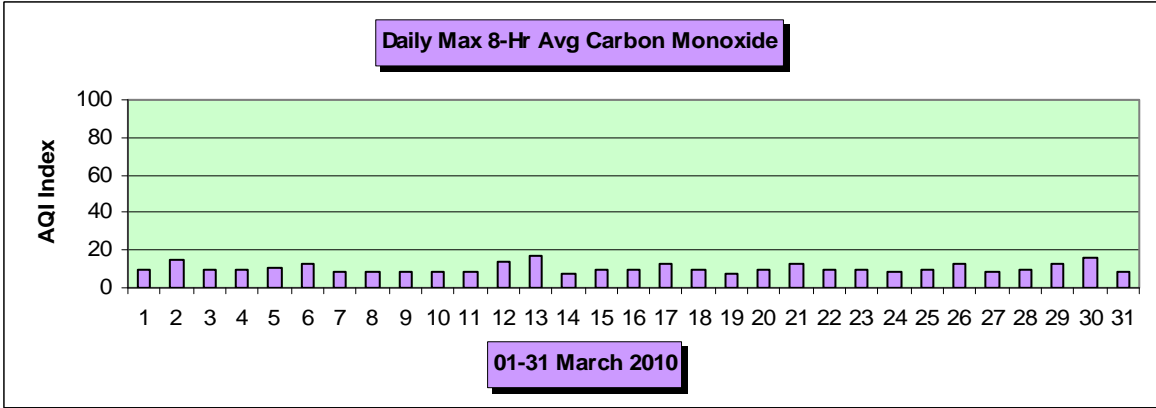
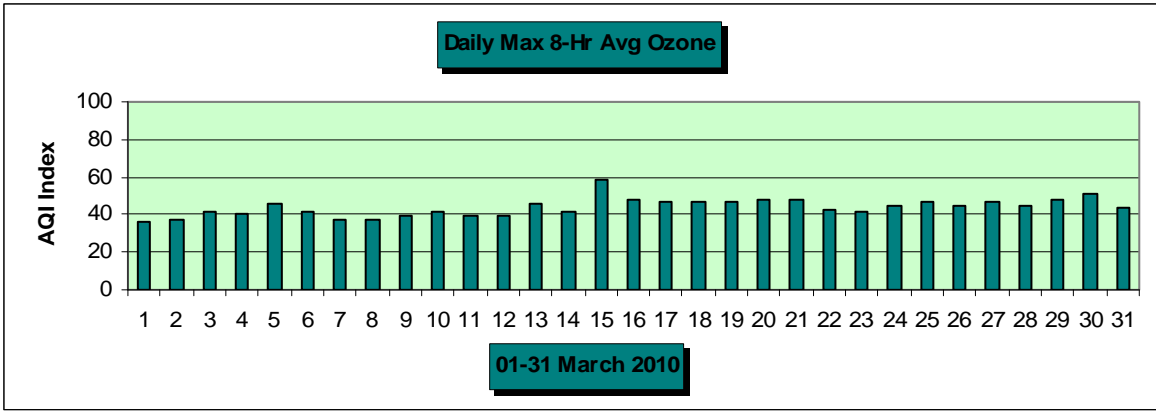
<u>Total=</u>	<u>1</u>	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
		3/31	61	PM-10	West Forty Third

High Pollution Advisories issued during MAR 2010-

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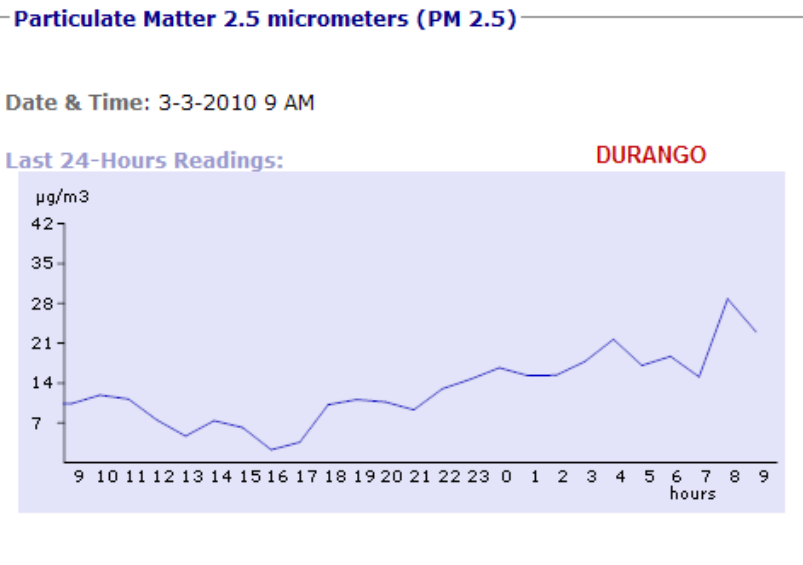
Concentration Recap:

Days in the Good category:	27
Days in the Moderate category:	4
Days in the Unhealthy for Sensitive Groups category:	0
Days in the Unhealthy category:	<u>0</u>
Total Forecast Days:	31



Narrative:

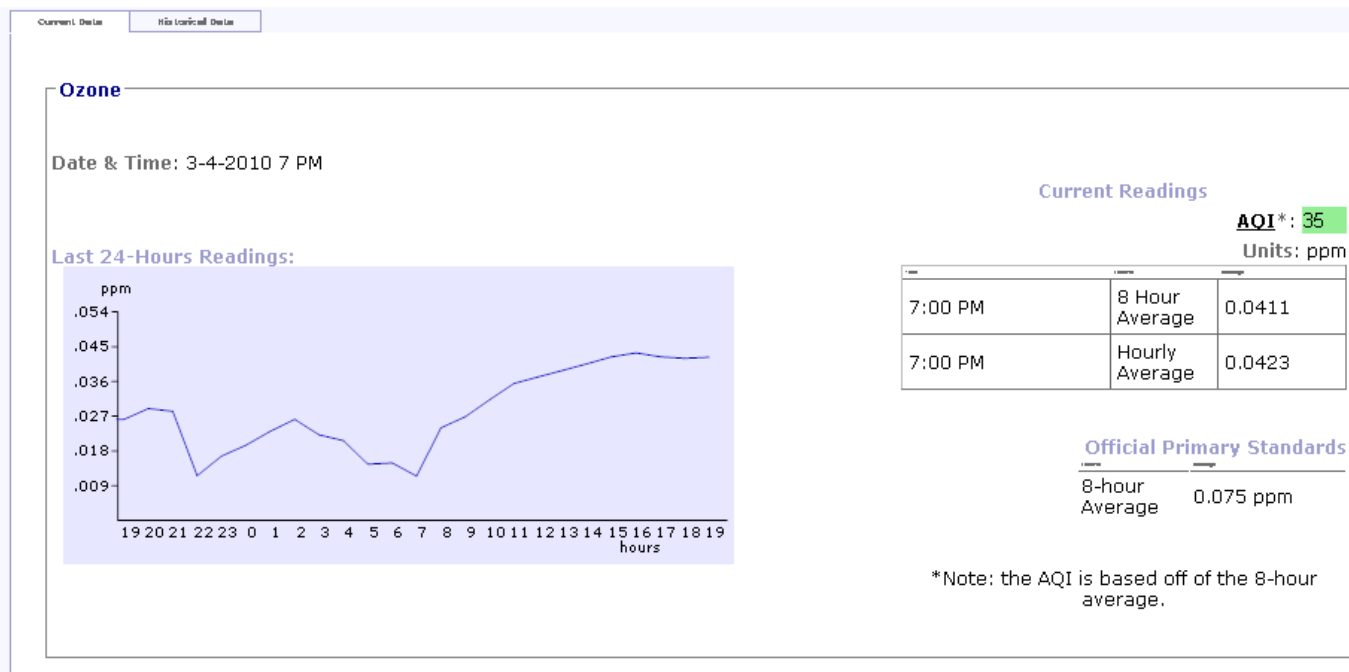
The strong El Nino-driven southward displaced mid-latitude storm track was again active over Arizona during March 2010 with no fewer than six trough and frontal passages spread over a good portion of the month; as a result, air quality was excellent for the second straight month in the Phoenix metro area. Several episodes of heavy rainfall kept blowing dust and PM-10 (coarse particle) levels to an absolute minimum despite several high wind events associated with storm passages. Significant air mass stagnation occurred on just four days, one of which was the 3rd of the month. As can be seen from the graphics below, elevated PM-2.5 (fine particle) concentrations, in concert with high residual moisture, produced significant visibility degradation over the Valley on that date.



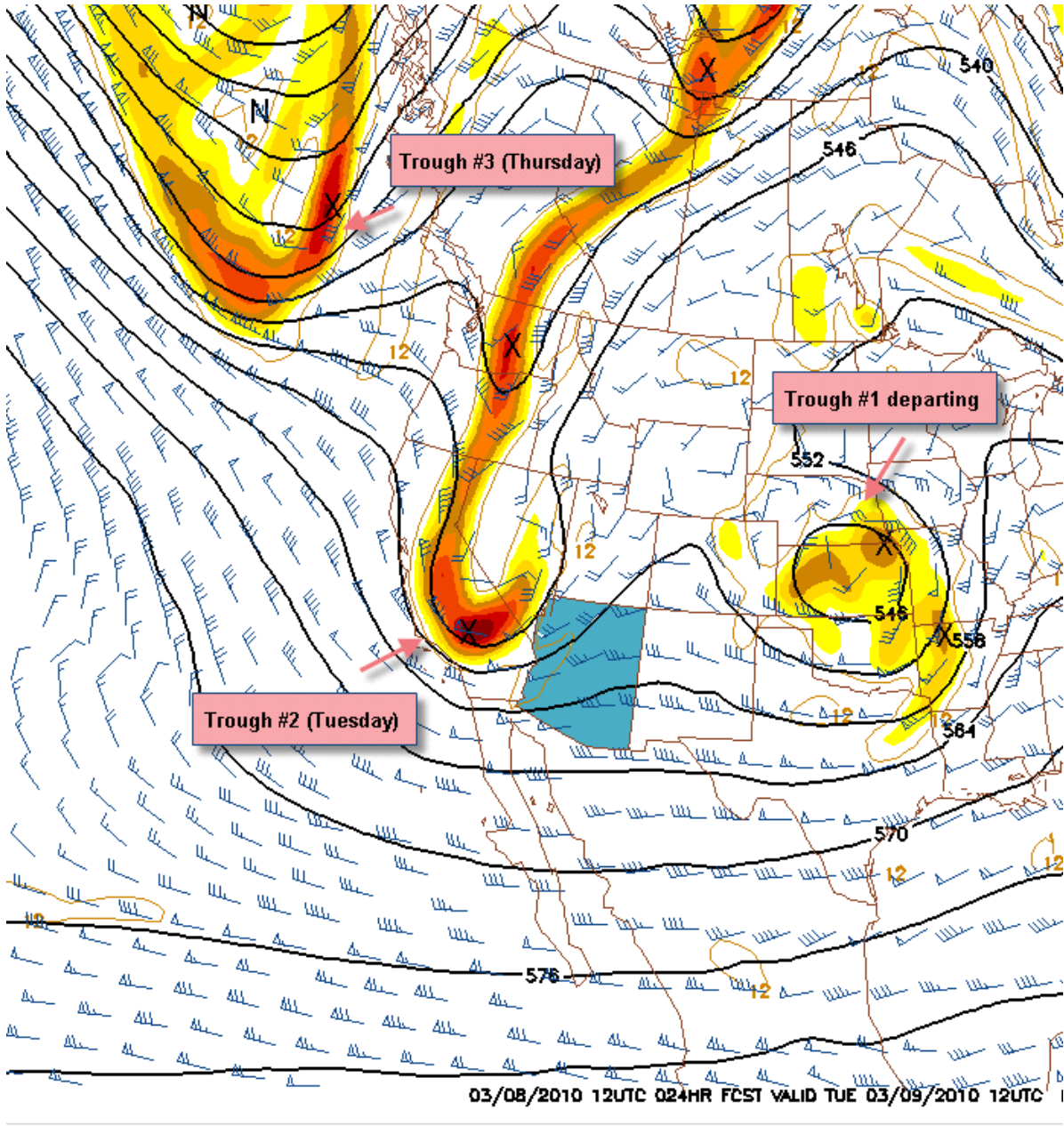
Cloud cover, cooler than average daytime temperatures, and breezy to windy conditions also kept ozone formation and accumulation well below its potential with moderate AQI levels reached on only two days. Of some interest, however, was the marked increase in local ozone levels that began during the afternoon of the 4th and that continued well into the evening hours despite wind gusts of 30 mph. This event corresponded with a trough passage and a low-level wind configuration that was highly conducive to transport of additional ozone and/or its precursors from the west, i.e., California. The graphic below illustrates how ozone levels remained constant at the Fountain Hills monitoring site east of the metro area well past the peak formation period.

Site Name: **Fountain Hills**
 Site Location: **Palisades & Fountain Hills Blvd.**
 AQS Code: **04-013-9704**

Warning: These data have been obtained from automated instruments and have not been subjected to a quality assurance review to determine the awareness and should not be considered final. Conditions such as power outages and equipment malfunctions can produce invalid data. **Please not at every site.**



The forecast 500mb weather map for March 9 (below) shows the parade of weather systems that impacted the state during the early part of the month.



The final weather disturbance of the month was incredibly strong and its approach prompted the issuance of a Wind Advisory by the National Weather Service from 2:00 pm until midnight of the 31st. The predicted wind conditions led ADEQ forecasters to issue a PM-10 Health Watch for the same day. Although some blowing and suspended dust did occur over the Valley, coarse particle levels were held below their potential by heavy rainfall that occurred the week before. The maps below show the 500mb map for the 31st and the regional extent of the expected strong winds.

-Reith

