Air Quality Standards Compliance Report

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2002 AIR QUALITY AND TRENDS

In 2002, pollutant concentrations continued to exceed federal and/or state standards for ozone, carbon monoxide, particulate matter (PM10 and PM2.5) and nitrogen dioxide. In the desert areas of Riverside County downwind of the Basin (Salton Sea Air Basin), the standards for ozone and PM10 were exceeded. (Annual Basin air quality statistics for 2002 are summarized on the attached data card.)

Maximum Pollutant Concentrations

Figure 1 shows the monthly maximum Air Quality Index (AQI) values in the Basin for the years 2000-2002. Maximum pollutant concentrations in the Basin normally exceed the AQI level of 100 (designated as "unhealthy for sensitive groups") in most areas during the summer "smog season" (May through October), mainly due to high ozone concentrations. In recent years, the Basin has only occasionally exceeded the AQI of 100 during the fall and winter months due to significant reduction of carbon monoxide concentrations in the region. Particulate matter and nitrogen dioxide concentrations may also exceed the unhealthy level throughout the year.

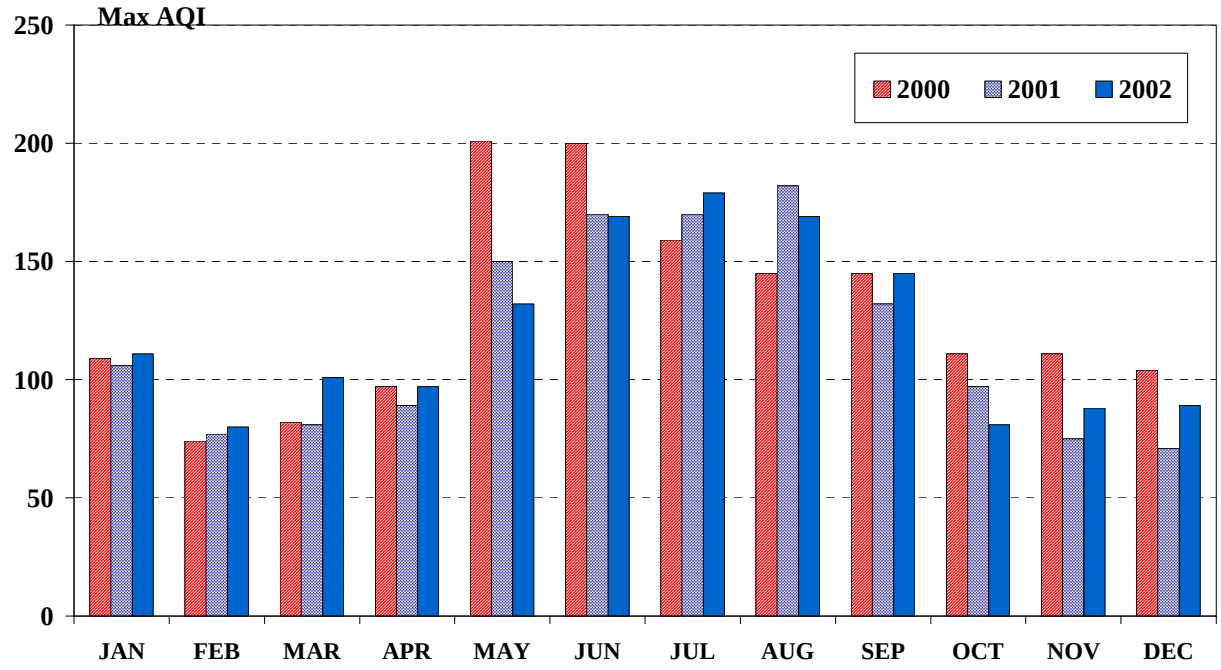

Figure 1
Maximum Monthly AQI Values in the Basin
2000-2002

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182

Figure 2 shows maximum pollutant concentrations in 2002 for the Basin compared to other urban areas in the U.S. Maximum concentrations in these other large U.S. urban areas exceeded the federal ozone, PM2.5 and PM10 standards in some instances, but did not exceed the carbon monoxide standard. (Other less urbanized areas in the country did report exceedances of the carbon monoxide standard in 2002.)

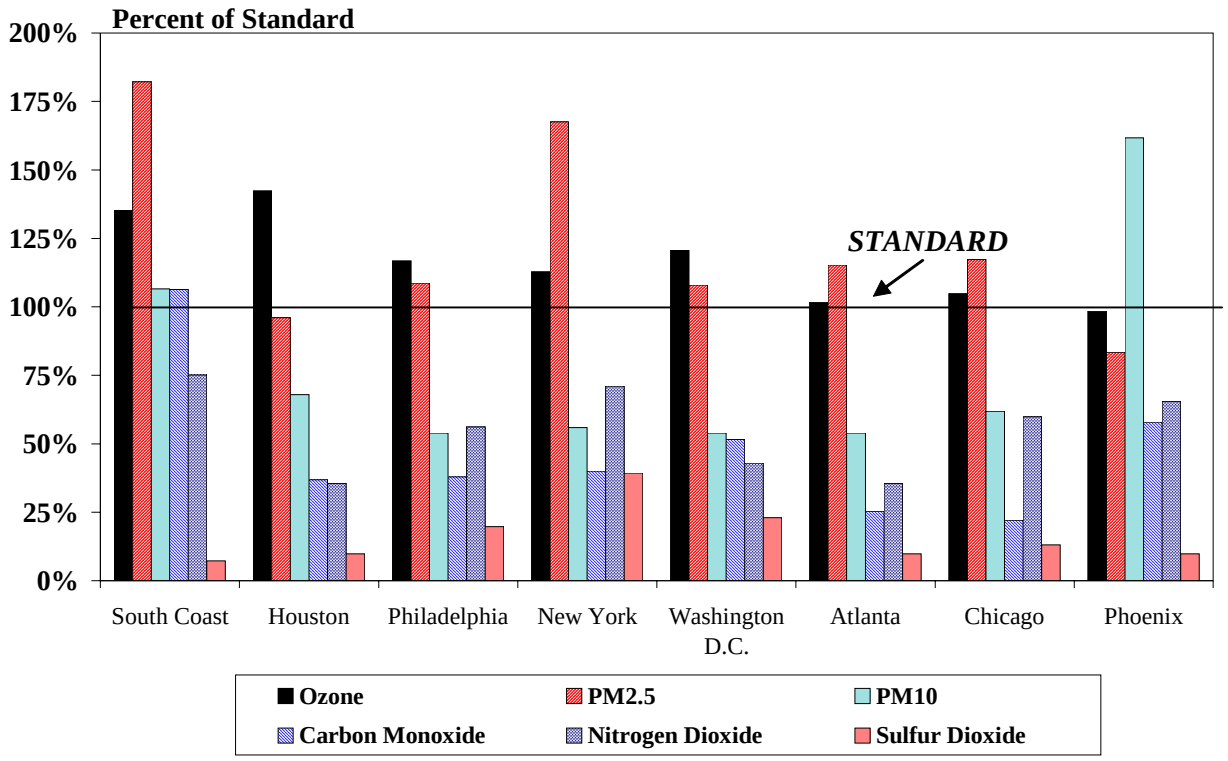

Figure 2
Maximum Pollutant Concentrations as Percent of Federal Standards
South Coast Air Basin Compared to U.S. Metropolitan Areas

The maximum 1-hour ozone concentration in the Basin in 2002 was the lowest concentration recorded since monitoring began in this region. Ozone concentrations in the Basin, however, still exceeded the standards for ozone by a wide margin. The maximum 1-hour and 8-hour average ozone concentrations (0.169 ppm and 0.145 ppm, both recorded in Santa Clarita Valley) were 135% and 171% of the 1-hour and 8-hour federal standard, respectively.

The highest 8-hour average carbon monoxide concentration (10.1 ppm, recorded in the South Central Los Angeles County area) was 107% of the federal standard. Maximum 24-hour average and annual average PM10 concentrations in the Basin (130 $\mu g/m^3$ and 53.4 $\mu g/m^3$, recorded in the Metropolitan Riverside County area) were 86% and 106% of the federal 24-hour and annual standards, respectively. Maximum 24-hour average and annual average PM2.5 concentrations (82.1 $\mu g/m^3$, in Central San Bernardino Valley and 27.5 $\mu g/m^3$, recorded in the Metropolitan Riverside County area) were 125% and 177% of the federal 24-hour and annual PM2.5 standards, respectively.

The federal nitrogen dioxide standard was not exceeded in 2002, with a maximum annual average concentration (0.0402 ppm recorded in the East San Fernando Valley area) which was 75% of the standard. The more stringent state standard was exceeded on one day at one location in the Basin, with a maximum 1-hour average concentration (0.26 ppm recorded in the East San Fernando Valley area) which was 102% of the standard.

Sulfur dioxide, sulfate and lead concentrations remained well below the state and federal standards in 2002.

New State Standards

California Air Resources Board recommended and approved a new PM2.5 state standard (annual average 12 $\mu g/m^3$) and revised PM10 annual average state standard (20 $\mu g/m^3$ to replace annual geometric mean of 30 $\mu g/m^3$). The new standards became effective on July 5, 2003.

In 2002, maximum PM10 and PM2.5 annual average concentrations in the Basin (53.4 $\mu g/m^3$ and 27.5 $\mu g/m^3$, both in Metropolitan Riverside County area) were 260% and 220% of the revised PM10 and new PM2.5 state standards, respectively.

Air Quality in Different Areas

Ozone (O_3)

In 2002, the Basin continued to exceed the federal ozone standards far more frequently than any other area of the U.S. The three highest U.S. locations in terms of number of days over the 1-hour federal ozone standard were located in the Basin (maximum 32 days). The 16 highest locations were in California. Other areas with the greatest number of exceedances outside California were located in New Jersey and Connecticut (7 days).

The number of days exceeding the federal ozone standard varies widely between different areas of the Basin. Figures 3 and 4 show the number of days on which the 1-hour and 8-hour federal ozone standards were exceeded in different areas of the Basin in 2002. The 1-hour ozone standard was exceeded most frequently in the Santa Clarita Valley area. The long-term 8-hour average standard, however, was exceeded most frequently in the Basin's Central San Bernardino Mountains area. The central Los Angeles and the coastal areas of Los Angeles and Orange counties recorded no exceedances of the federal standards.

Particulate Matter (PM_{10})

In 2002, the Basin was among the few metropolitan areas in the U.S. exceeding the federal annual PM10 standard. Phoenix (Arizona) was among other urban areas exceeding the federal annual PM10 standard. Figure 5 shows the 2002 annual average PM10 concentrations at locations in the Basin. The federal annual PM10 standard exceedance in 2002 was limited to the Metropolitan Riverside County area. The much more stringent recently revised state annual PM10 standard was exceeded in all areas of the Basin.

Particulate Matter ($PM_{2.5}$)

Figure 6 shows the distribution of annual average PM2.5 concentrations in different areas of the Basin. In 2002, PM2.5 concentrations exceeded the annual standard everywhere except the Central San Bernardino Mountains in the Basin. Highest PM2.5 concentrations were recorded in the Metropolitan Riverside county areas extending to the inland valley areas of San Bernardino County. The new PM2.5 state standard adopted recently was also exceeded everywhere in the Basin except the Central San Bernardino Mountains area.

Coachella Valley areas in the desert portion of the District did not exceed the PM2.5 standards.

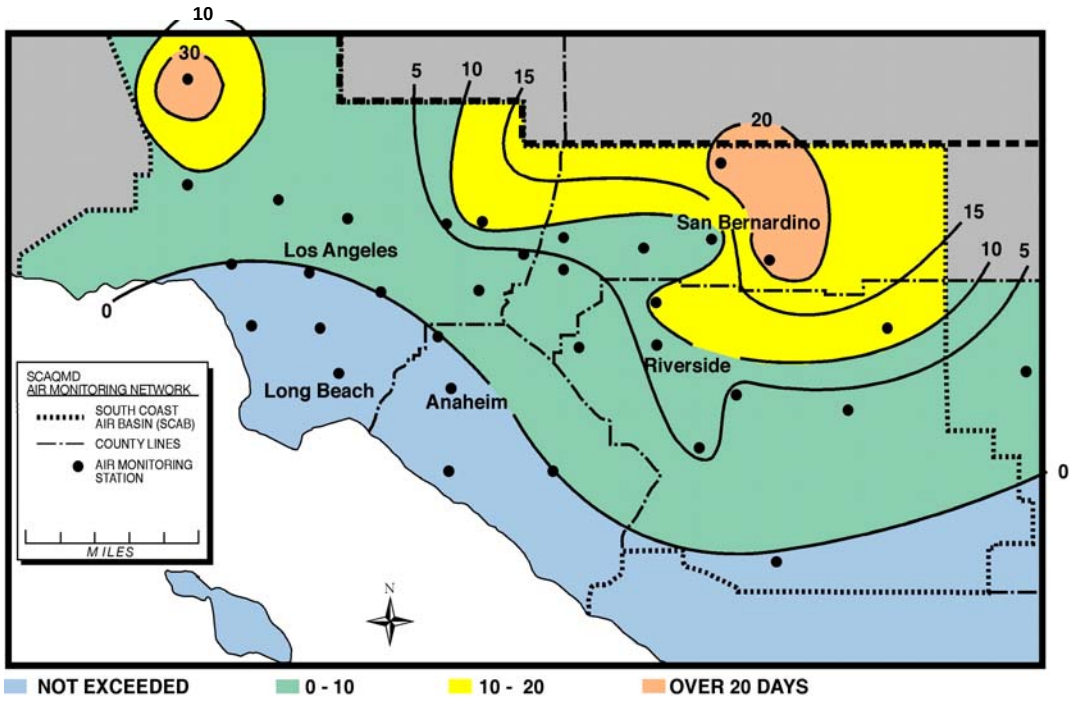

Figure 3
Ozone - 2002
Number of Days Exceeding 1-Hour Federal Standard

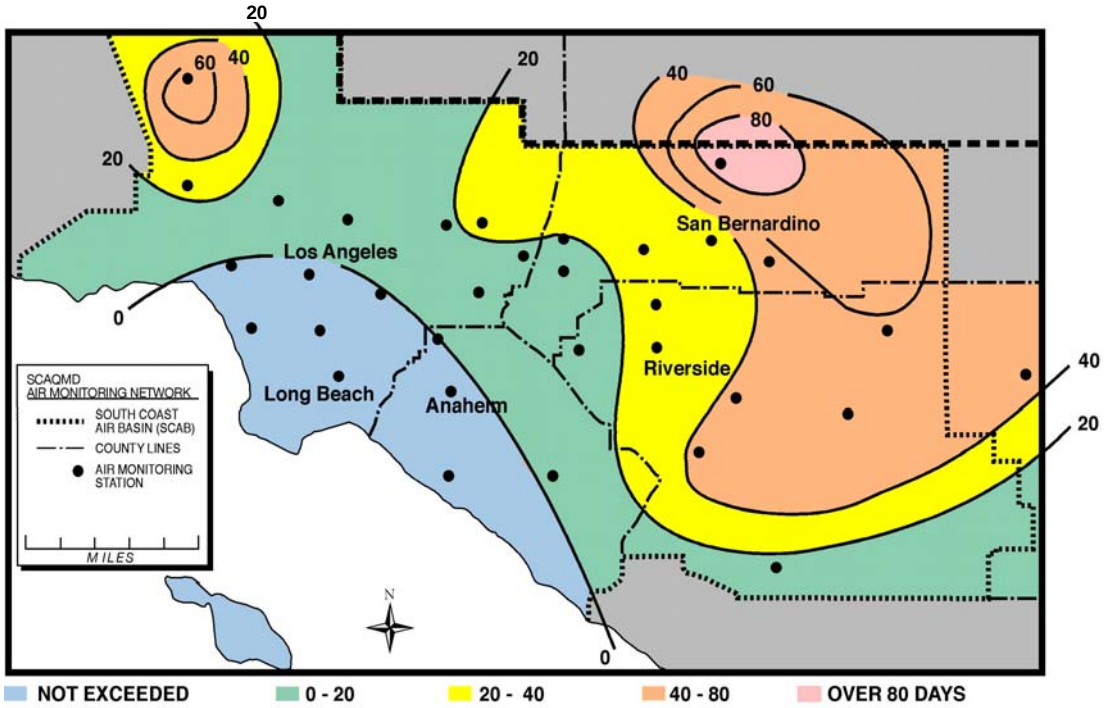

Figure 4
Ozone - 2002
Number of Days Exceeding 8-Hour Federal Standard

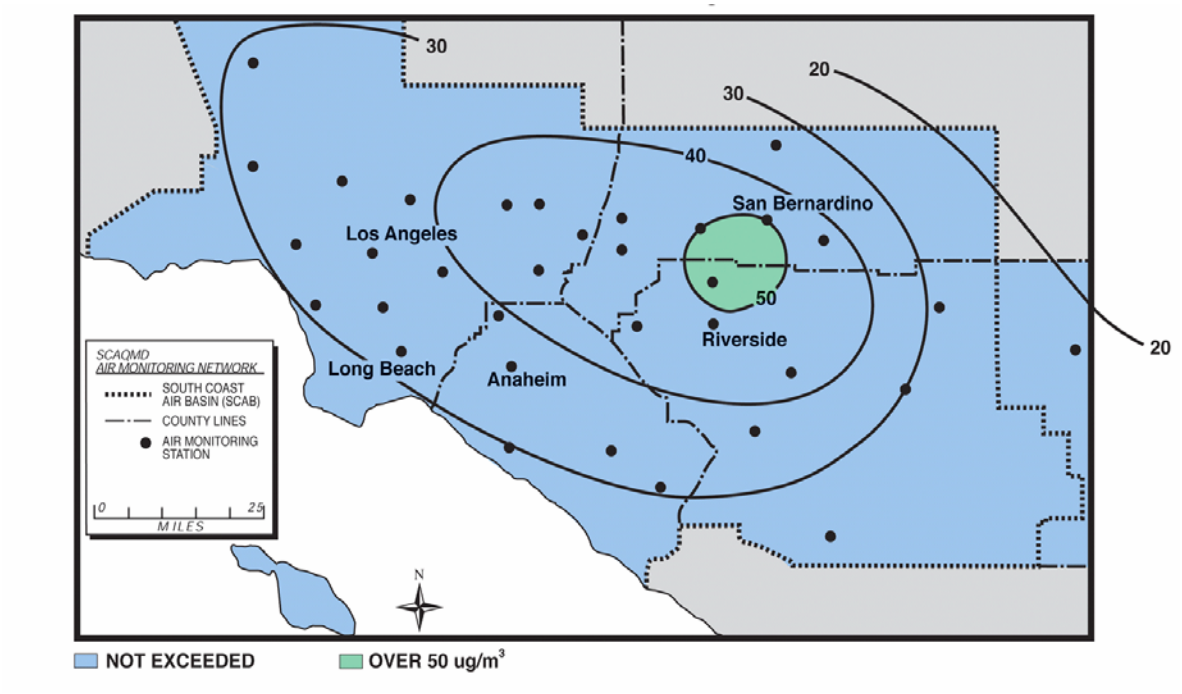

Figure 5
Suspended Particulate Matter (PM10) - 2002
Annual Arithmetic Mean, µg/m^3

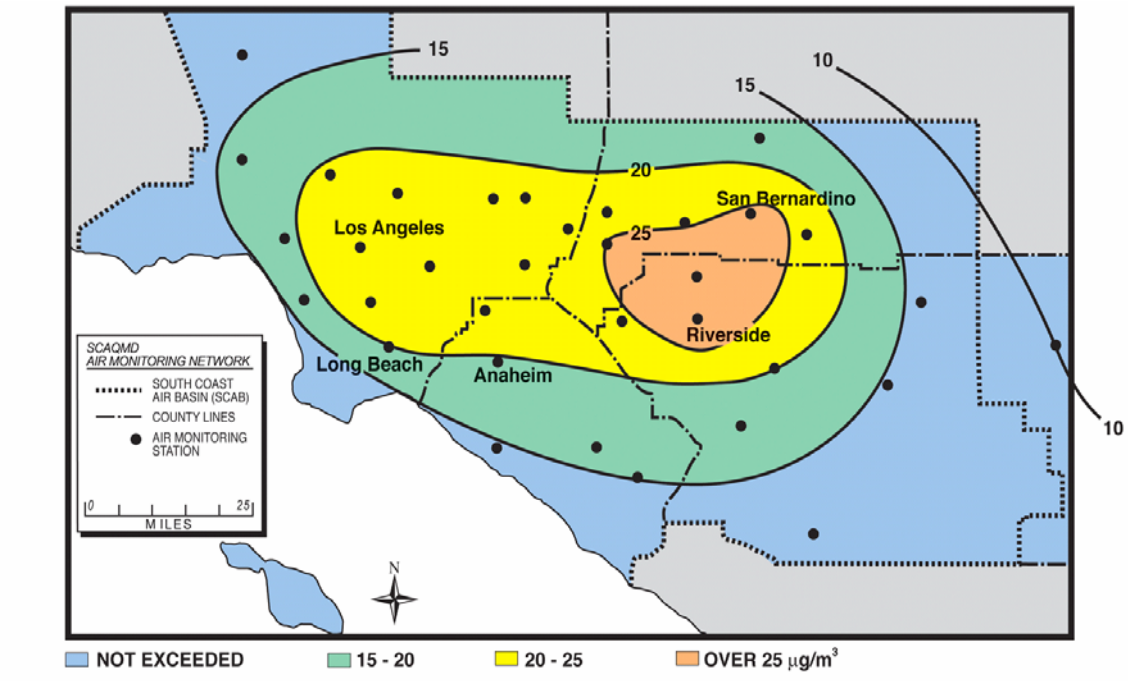

Figure 6
Suspended Particulate Matter (PM2.5) - 2002
Annual Arithmetic Mean, µg/m^3

Air Quality Trends Through 2002

With the weather pattern rebounding in 2002 from the relatively mild summer conditions observed in the previous few years, air pollution levels in some areas of the Basin were slightly higher than those observed in recent years. Despite the 2002 nominal increase in ozone, the overall long-term trend, however, showed continued improvement in air quality. Figure 7 shows the trend in percent number of days exceeding the federal standards in the Basin. In 2002, there were 50 days on which one or more federal standards were exceeded somewhere in the Basin, most of which (49 days) were for ozone alone. Between 1976-1978 and 2000-2002, the three-year average number of days exceeding any of the federal standards for 1-hour ozone, 8-hour carbon monoxide or 24-hour PM10 in the Basin was reduced by 84%. ("All Standards" does not include exceedances of 24-hour PM2.5 and 8-hour ozone federal standards, and PM10 exceedances are not included until 1985.) The three-year average number of days exceeding the carbon monoxide federal standard was reduced by 99% for the same period. The number of sampling days exceeding the federal 24-hour PM10 standard decreased 97% between 1985-1987 and 2000-2002. (Three-year averages are used to minimize the effect of year-to-year variations due to changes in meteorological conditions.)

Figure 8 shows the three-year average number of days exceeding state and federal ozone standards and health advisory and episode levels in the Basin for the years 1978-2002. Between the periods 1976-1978 and 2000-2002, exceedances of state standard decreased 48% (from a mean of 232 days per year in 1976-1978 to a mean of 121 days per year in 2000-2002), exceedances of 1-hour and 8-hour federal standards decreased 79% (from 196 to 42 days), and 50% (from 210 to 104 days), respectively. Health advisories decreased 90% (from 174 to 17 days). There were no stage 1 episodes during the years 1999 thru 2002.

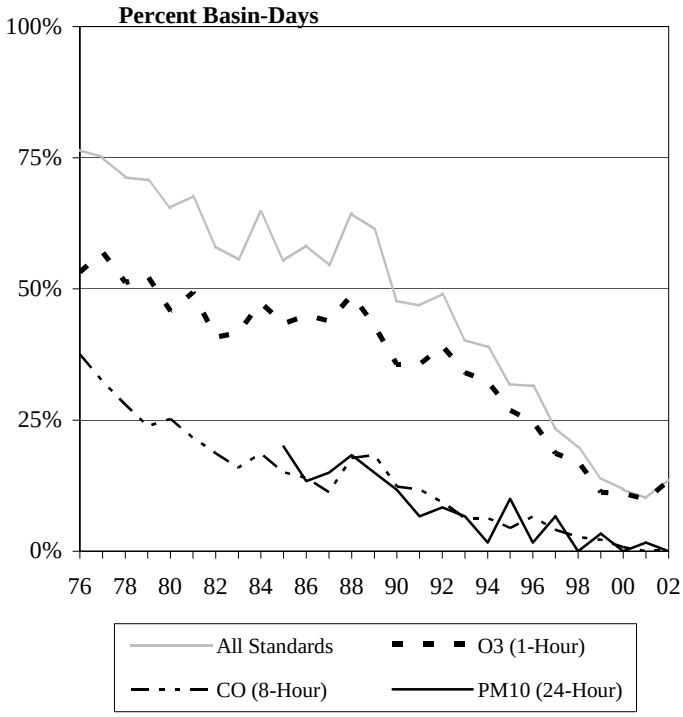

Figure 7
1976-2002
Percent Basin-Days Exceeding the Federal Standards

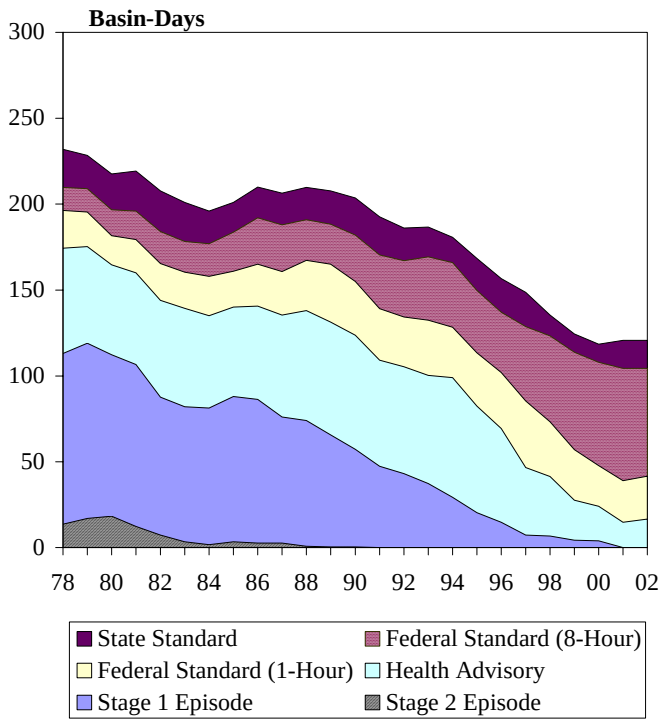

Figure 8
OZONE, 1978-2002
Three-Year Average Number of Basin-Days Exceeding Standards and Episode Levels

DECEMBER 2002 AIR QUALITY

Air quality statistics in the South Coast Air Basin and the desert area of Coachella Valley in the Salton Sea Air Basin for December 2002 are shown and summarized in the following figures and tables. Figure 9 compares the maximum pollutant concentrations recorded in December 2002 to the maximum concentrations recorded for December 2001. The maxima are shown as percentages of the state ambient air quality standards. Figure 10 shows the maxima as percentages of the federal standards.

Table 1 shows the state and federal ambient air quality standards for criteria pollutants, the maximum concentrations recorded in December 2002 and the location where the maximum concentration was recorded. Figure 11 shows the location of the District's air monitoring stations in each source/receptor area.

The number of days exceeding the state and federal standards and the maximum concentrations of the pollutants in each source/receptor area during December 2002 are summarized in Table 2.

This monthly publication satisfies the requirements for reporting on air quality in the South Coast Air Basin set by California legislation (Chapter 1301, Statutes of 1987; Health and Safety Code Section 40451(d)), and supplies similar information for the areas of the Salton Sea Desert Air Basin served by the District.

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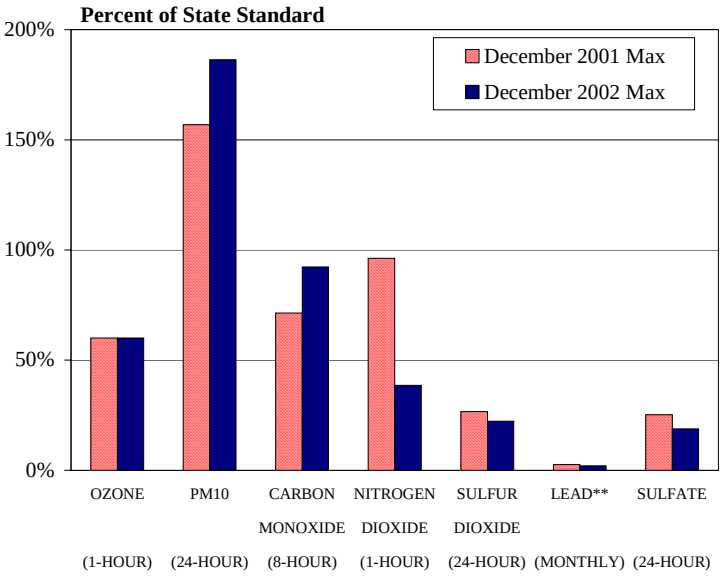

**Higher lead concentrations were recorded at special monitoring sites located immediately downwind of stationary sources of lead.

Figure 9
Maximum Concentrations as Percentages of State Standards

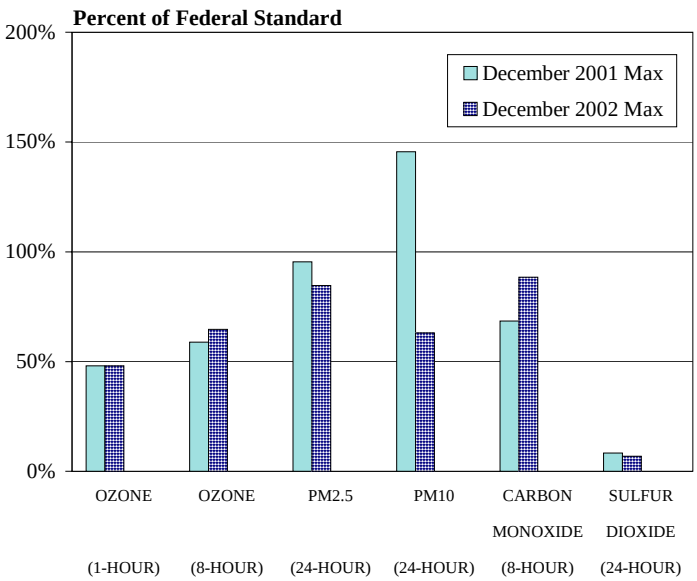

Figure 10
Maximum Concentrations as Percentages of Federal Standards

Table 1. Maximum Concentrations Reported in July 2002 Compared to the Ambient Air Quality Standards

Pollutant Averaging Time	State Standard	Federal Standard	Maximum Concentrations ppm/ ug/m3	% State Standard	% Federal Standard	Location
Ozone						
1-Hour	> 0.09 ppm	> 0.12 ppm	0.06	60%	48%	Several Locations
8-Hour		> 0.08 ppm	0.055		65%	Banning Airport
Carbon Monoxide						
8-Hour	> 9.0 ppm	> 9 ppm	8.40	92%	88%	South Central Los Angeles County
Nitrogen Dioxide						
1-Hour	> 0.25 ppm		0.10	38%		Southwest Coastal Los Angeles County
24-Hour			0.069			South San Gabriel Valley
Sulfur Dioxide						
1-Hour	> 0.25 ppm		0.02	8%		South Coastal Los Angeles County
24-Hour	> 0.04 ppm	> 0.14 ppm	0.010	24%	7%	North Coastal Orange County
Particulate (PM10)						
24-Hour	> 50 ug/m3	> 150 ug/m3	95	186%	63%	Metropolitan Riverside County
Particulate (PM2.5)						
24-Hour		> 65 ug/m3	55.4		85%	South Coastal Los Angeles County
Sulfates						
24-Hour	>= 25 ug/m3		4.7	19%		South Central Los Angeles County
Lead*						
30-Day	>= 1.5 ug/m3		0.03	2%		Central Los Angeles
30-Day*			0.19	13%		Several Locations

*Maximum monthly average concentration recorded at special monitoring sites in the immediate vicinity of major lead sources.

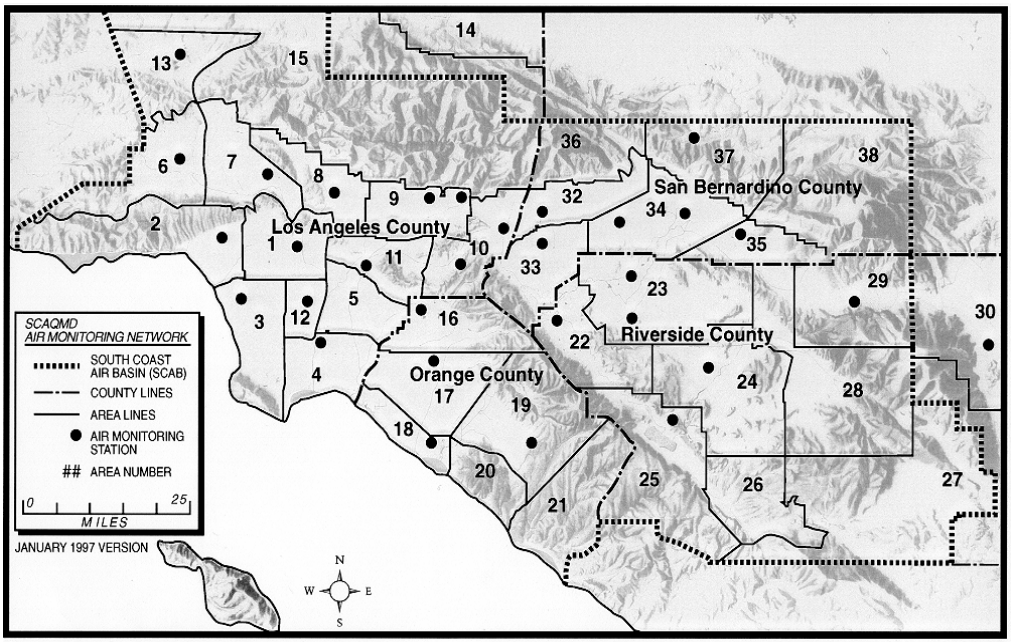

Figure 11

South Coast Air Basin and Adjoining Areas of Salton Sea and Mojave Desert Air Basins and Monitoring Stations

Table 2
December 2002
Exceedances of Standards and Maximum Concentrations

Source/Receptor		Ozone: Days Exceeding State Std	Ozone: Days Exceeding Health Advisory	Ozone: Days Exceeding Fed Std 1-hr	Ozone: Days Exceeding Fed Std 8-hr	Ozone: Max 1-hr ppm	Ozone: Max 8-hr ppm	Carbon Monoxide: Days Exceeding State Std 8-hr/1-hr	Carbon Monoxide: Days Exceeding Fed Std 8-hr/1-hr	Carbon Monoxide: Max 8-hr ppm	Carbon Monoxide: Max 1-hr ppm	Nitrogen Dioxide: Days Exceeding State Std	Nitrogen Dioxide: Max 1-hr ppm	Sulfur Dioxide: Max 24-hr ppm	Sulfur Dioxide: Max 1-hr ppm
LOS ANGELES COUNTY															
1 Central LA	087	0	0	0	0	0.04	0.033	0/0	0/0	3.38	4	0	0.09	0.005	0.01
2 Northwest Coastal LA County	091	0	0	0	0	0.06	0.040	0/0	0/0	1.86	3	0	0.09		
3 Southwest Coastal LA County	094	0	0	0	0	0.04	0.040	0/0	0/0	5.29	7	0	0.10	0.001	0.00
4 South Coastal LA County	072	0	0	0	0	0.04	0.034	0/0	0/0	4.25	6	0	0.09	0.008	0.02
6 West San Fernando Valley	074	0	0	0	0	0.05	0.039	0/0	0/0	4.63	6	0	0.07		
7 East San Fernando Valley	069	0	0	0	0	0.04	0.038	0/0	0/0	4.13	5	0	0.08	0.001	0.00
8 West San Gabriel Valley	088	0	0	0	0	0.05	0.039	0/0	0/0	3.38	4	0	0.09		
9 East San Gabriel Valley 1	060	0	0	0	0	0.05	0.039	0/0	0/0	1.88	3	0	0.09		
9 East San Gabriel Valley 2	591	0	0	0	0	0.05	0.039	0/0	0/0	2.25	4	0	0.08		
10 Pomona/Walnut Valley	075	0	0	0	0	0.04	0.030	0/0	0/0	3.00	5	0	0.09		
11 South San Gabriel Valley	085	0	0	0	0	0.04	0.029	0/0	0/0	3.43	4	0	0.08		
12 South Central LA County 1	084	0	0	0	0	0.03	0.019	0/0	0/0	8.38	11	0	0.09		
13 Santa Clarita Valley	090	0	0	0	0	0.05	0.043	0/0	0/0	1.50	3	0	0.06		
ORANGE COUNTY															
16 North Orange County	3177	0	0	0	0	0.04	0.029	0/0	0/0	3.29	7	0	0.09		
17 Central Orange County	3176	0	0	0	0	0.04	0.035	0/0	0/0	3.00	4	0	0.08		
18 North Coastal Orange County	3195	0	0	0	0	0.05	0.043	0/0	0/0	3.38	5	0	0.08	0.010	0.01
19 Saddleback Valley	3812	0	0	0	0	0.05	0.040	0/0	0/0	1.38	2				
RIVERSIDE COUNTY															
22 Norco/Corona	4155														
23 Metropolitan Riverside County 1	4144	0	0	0	0	0.05	0.039	0/0	0/0	3.00	8	0	0.07	0.002	0.01
23 Metropolitan Riverside County 2	4146							0/0	0/0	3.13	6				
24 Perris Valley	4149	0	0	0	0	0.05	0.039								
25 Lake Elsinore	4158	0	0	0	0	0.06	0.045	0/0	0/0	2.00	3	0	0.05		
29 Banning Airport	4164	0	0	0	0	0.06	0.055					0	0.05		
30 Coachella Valley 1**	4137	0	0	0	0	0.06	0.051	0/0	0/0	0.88	1	0	0.05		
30 Coachella Valley 2**	4157	0	0	0	0	0.05	0.044								
SAN BERNARDINO COUNTY															
32 Northwest San Bernardino Valley	5175	0	0	0	0	0.04	0.033	0/0	0/0	1.38	4	0	0.08		
33 Southwest San Bernardino Valley	5817														
34 Central San Bernardino Valley 1	5197	0	0	0	0	0.05	0.040					0	0.06	0.001	0.01
34 Central San Bernardino Valley 2	5203	0	0	0	0	0.04	0.038	0/0	0/0	3.29	4	0	0.05		
35 East San Bernardino Valley	5204	0	0	0	0	0.05	0.038								
37 Central San Bernardino Mountains	5181	0	0	0	0	0.05	0.050								
District maximum		0	0	0	0	0.06	0.055	0/0	0/0	8.38	11	0	0.10	0.010	0.02

** Salton Sea air basin

Table 2 - continued
December 2002
Exceedances of Standards and Maximum Concentrations

Source/Receptor		PM10				Lead***		Sulfate		PM2.5		
		No.(%)Days Exceeding State Standard	NO.(%)Days Exceeding Federal Standard	Number Days Sampled	Max 24-hr Average	Number Days Sampled	Monthly Average ug/m3	Number Days Sampled	Maximum 24-hr Average ug/m3	Number Days Sampled	Number days Exceeding Federal Standard	Maximum 24-hr Conc. ug/m3
LOS ANGELES COUNTY												
1 Central LA	087	1(20%)	0(0%)	5	53	5	0.02	6	4.2	7	0	39.7
2 Northwest Coastal LA County	091							5	3.0			
3 Southwest Coastal LA County	094	1(20%)	0(0%)	5	53	5	0.01	5	4.6			
4 South Coastal LA County	072	1(25%)	0(0%)	4	74	5	0.03	5	4.7	30	0	55.4
6 West San Fernando Valley	074									11	0	45.8
7 East San Fernando Valley	069	0(0%)	0(0%)	4	37					11	0	50.3
8 West San Gabriel Valley	088							4	2.7	11	0	44.3
9 East San Gabriel Valley 1	060	0(0%)	0(0%)	2	46			5	3.0	21	0	44.7
9 East San Gabriel Valley 2	591											
10 Pomona/Walnut Valley	075											
11 South San Gabriel Valley	085					5	0.03	5	4.2	10	0	52.2
12 South Central LA County 1	084					5	0.03	5	4.7	11	0	53.7
13 Santa Clarita Valley	090	0(0%)	0(0%)	5	26							
ORANGE COUNTY												
16 North Orange County	3177											
17 Central Orange County	3176	1(20%)	0(0%)	5	69					31	0	55.2
18 North Coastal Orange County	3195											
19 Saddleback Valley	3812	1(20%)	0(0%)	5	62					11	0	45.8
RIVERSIDE COUNTY												
22 Norco/Corona	4155	2(67%)	0(0%)	3	71							
23 Metropolitan Riverside County 1	4144	5(50%)	0(0%)	10	95	4	0.03	4	4.3	29	0	54.6
23 Metropolitan Riverside County 2	4146					5	0.01	5	2.8	10	0	53.0
24 Perris Valley	4149	1(20%)	0(0%)	5	57							
25 Lake Elsinore	4158											
29 Banning Airport	4164	0(0%)	0(0%)	5	38							
30 Coachella Valley 1**	4137	0(0%)	0(0%)	5	27					10	0	19.5
30 Coachella Valley 2**	4157	3(27%)	0(0%)	11	75					10	0	20.0
SAN BERNARDINO COUNTY												
32 Northwest San Bernardino Valley	5175					5	0.02	5	2.1			
33 Southwest San Bernardino Valley	5817	2(40%)	0(0%)	5	61					7	0	44.3
34 Central San Bernardino Valley 1	5197	2(40%)	0(0%)	5	71			5	3.6	9	0	52.6
34 Central San Bernardino Valley 2	5203	1(20%)	0(0%)	5	64	5	0.01	5	2.6	9	0	54.6
35 East San Bernardino Valley	5204	0(0%)	0(0%)	5	36							
37 Central San Bernardino Mountains	5181											
District maximum		5	0		95		0.03		4.7		0	55.4

** Salton Sea air basin
***Special monitoring of lead near stationary sources was carried out in December 2002 and the maximum monthly average was 0.19 ug/m3.