# Air Quality Standards Compliance Report

Statistics for December 2001 Vol. 14, No. 12

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## 2001 AIR QUALITY

## Maximum Pollutant Concentrations

In 2001, pollutant concentrations in Southern California's South Coast Air Basin (Basin) and desert areas downwind of the Basin continued to exceed federal and state standards for ozone and particulate matter (PM10 and PM2.5). For the first time since monitoring began in the Basin, carbon monoxide concentrations did not exceed the state and federal standards at any Basin location. Figure 1 shows the 2001 Basin maximum pollutant concentrations as percentages of the federal standards compared to other metropolitan areas in the U.S. The federal ozone and PM10 standards were exceeded in some of these large U.S. urban areas. Carbon monoxide concentrations did not exceed the federal standards in any of the nation's metropolitan areas in 2001.

The maximum 1-hour average ozone concentration in the Basin in 2001 (0.19 ppm) was 152% of the federal standard, slightly higher than the previous two years, however, still less than the first stage episode level (0.20 ppm) for the third consecutive year. The highest 8-hour average carbon monoxide concentration of the year (7.71 ppm) was 81% of the federal standard, significantly lower than the previous three years. Maximum 24-hour average and annual average PM10 concentrations (219 $\mu g/m^3$ and 63.1 $\mu g/m^3$) were 146% and 125% of the federal 24-hour and annual standards.

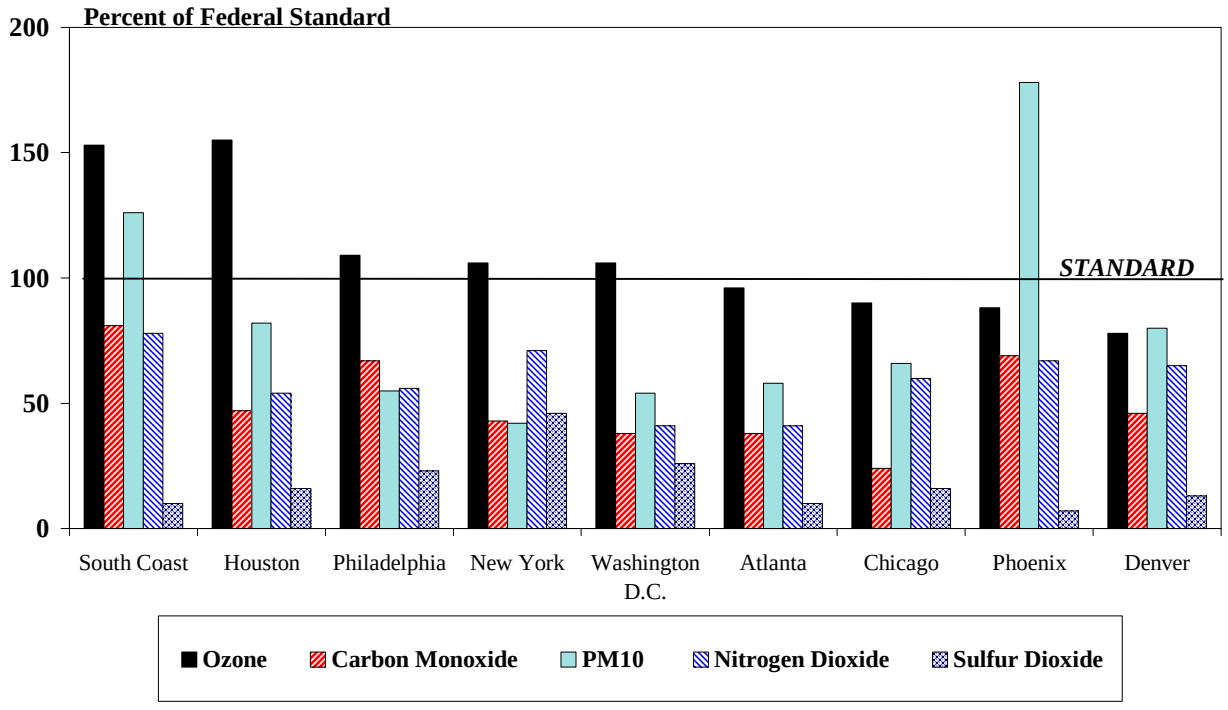



**Figure 1**

**Maximum Pollutant Concentrations as Percent of Standards**

*South Coast Air Quality Management District*
*21865 E. Copley Drive, Diamond Bar, CA 91765-4182*
*http://www.aqmd.gov*

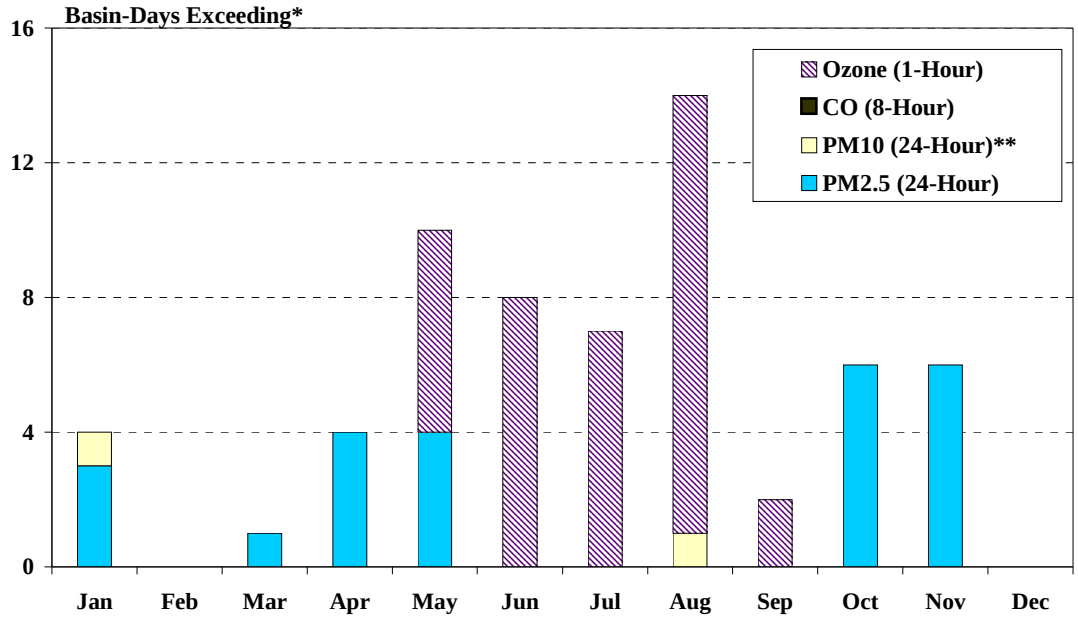
PM2.5 concentrations were monitored throughout the District in 2001 and maximum 24-hour average and annual average PM2.5 concentrations (98.0 µg/m$^3$ and 31.1 µg/m$^3$) were 150% and 201% of the federal 24-hour and annual standards.

The federal nitrogen dioxide standard was not exceeded in 2001, with a maximum concentration (0.0419 ppm) which was 78% of the standard. The more stringent state standard was not exceeded either, with a maximum 1-hour average nitrogen dioxide concentration (0.25 ppm) which was 96% of the standard. Sulfur dioxide and lead concentrations continued to remain well below the federal and state standards. The state sulfate standard was not exceeded in 2001. (There is no federal sulfate standard.)

## Seasonal Variation in Pollutant Concentrations

Although concentrations of pollutants exceed the standards frequently in the Basin, the number of exceedances varies with time of year. Figure 2 shows the number of days on which one or more locations in the Basin exceeded federal standards during each month of 2001. Ozone concentrations, the pollutant exceeding most frequently in the Basin, peaks during the summer, while carbon monoxide concentrations (not exceeded in 2001) normally peaks during the late fall and winter. No clear pattern can be seen for the peak PM10 concentrations in the Basin. PM2.5 concentrations seem to peak during the late fall and winter months.

The seasonal variation is significant for ozone, the chief component of summer smog in Southern California. The monthly distribution of the historical number of days exceeding the federal standards in the Basin shows not only that the frequency of exceedances during the smog season (May - October) has been reduced significantly, but also that the duration of the smog season in recent years has also diminished considerably. Up until the early 1990's it was common to have days exceeding the federal ozone standard as early as February and during late fall as late as November. In the late 1990's (since 1996) there have been no federal standard exceedances recorded in the months of January-March and November-December.




* Monthly number of days on which one or more Basin locations exceeded one or more federal standards.

** The number of exceedances due to PM10 may have been higher, since PM10 samples are only collected every sixth or third day.

**Figure 2**

**Monthly Number of Days Basin Exceeded Federal Standards* in 2001**

# Comparison of Air Quality in Different Areas

## Ozone ($O_3$)

In 2001, the Basin exceeded the federal ozone standard more frequently than other areas of the U.S. However, the number of exceedances varied widely between different areas of the Basin. Figure 3 shows the number of days on which the federal ozone standard was exceeded in different areas of the Basin in 2001. The standard was exceeded most frequently in the central San Bernardino Mountains and adjacent inland valleys. The coastal areas of Los Angeles and Orange counties, and the eastern portion of the Coachella Valley, recorded no exceedances of the federal standard. However, most of these areas did exceed the more stringent state standard.

## Carbon Monoxide (CO)

The Basin is among the few areas in the nation which is still designated as nonattainment for carbon monoxide. In 2001, for the first time since ambient carbon monoxide concentration monitoring began in the South Coast Air Basin, maximum concentrations did not exceed the state and federal standards anywhere in the region. The maximum 8-hour average concentration (7.71 ppm) recorded in the South Central Los Angeles county area (where vehicle traffic is most dense) was 81% of the federal standard. Figure 4 shows the distribution of maximum 8-hour average carbon monoxide concentrations in the Basin in 2001.

## Particulate Matter ($PM_{10}$)

In 2001, the Basin was among the few areas exceeding the annual PM10 standard, and also exceeded the 24-hour standard. Figure 5 shows the 2001 annual average PM10 concentrations at locations in the Basin. Exceedances of the annual PM10 standard were limited to a few locations in Riverside and San Bernardino counties. Most areas of the Basin, including all locations monitored in Los Angeles and Orange counties, did not exceed the federal annual PM10 standard in 2001. However, the much more stringent state annual PM10 standard was exceeded in virtually all areas of the Basin.

## Particulate Matter ($PM_{2.5}$)

Figure 6 shows the annual average PM2.5 concentrations in different areas of the Basin. In 2001, 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. Unlike PM10, high PM2.5 concentrations are also recorded in the metropolitan areas of Los Angeles and Orange counties mainly due to the secondary formation of smaller-sized particulate resulting from mobile and stationary source activities. Coachella Valley areas in the desert portion of the District did not exceed the PM2.5 standards.

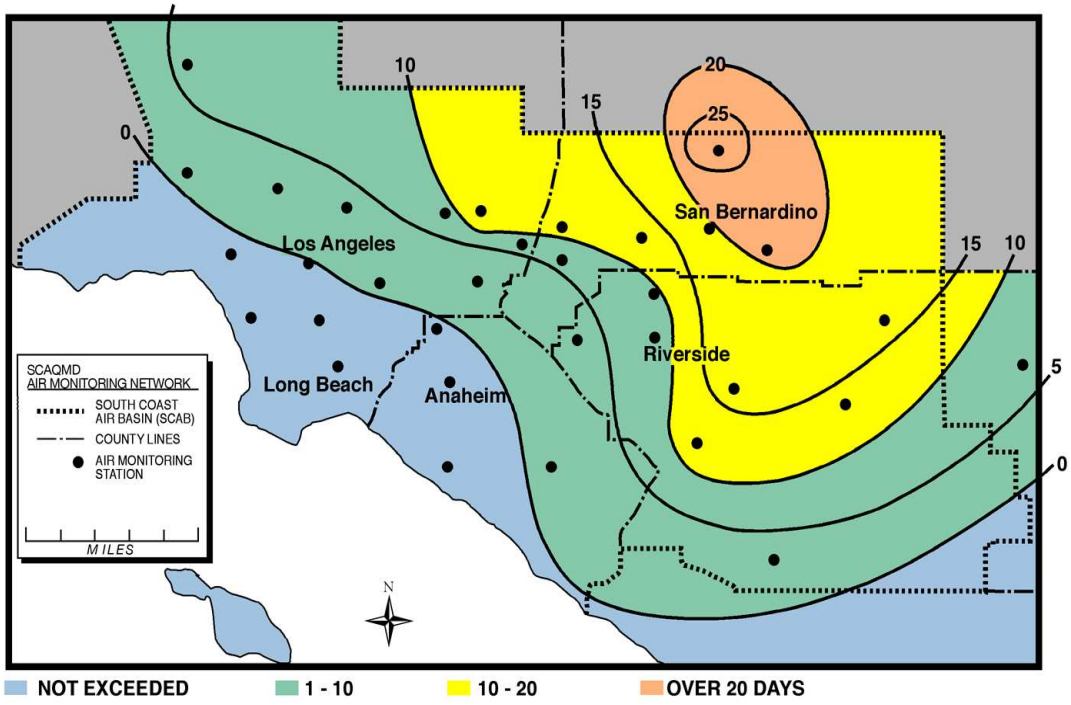



**Figure 3**
**Ozone 2001**
**Number of Days Exceeding the Federal Standard**

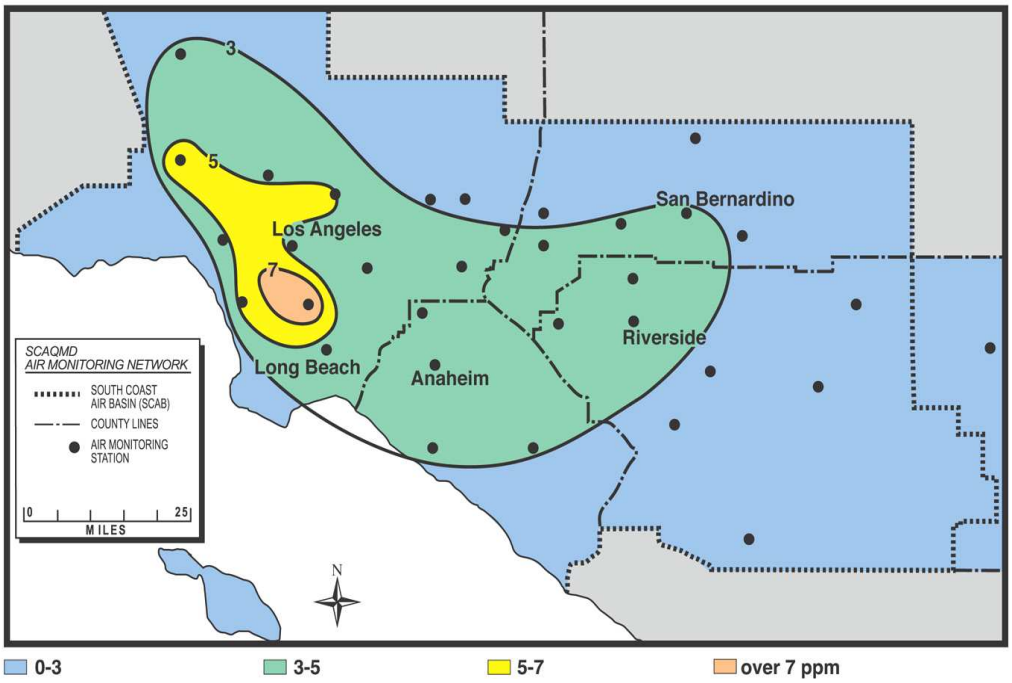



**Figure 4**
**Carbon Monoxide - 2001**
**Maximum 8-Hour Average Concentration, ppm**

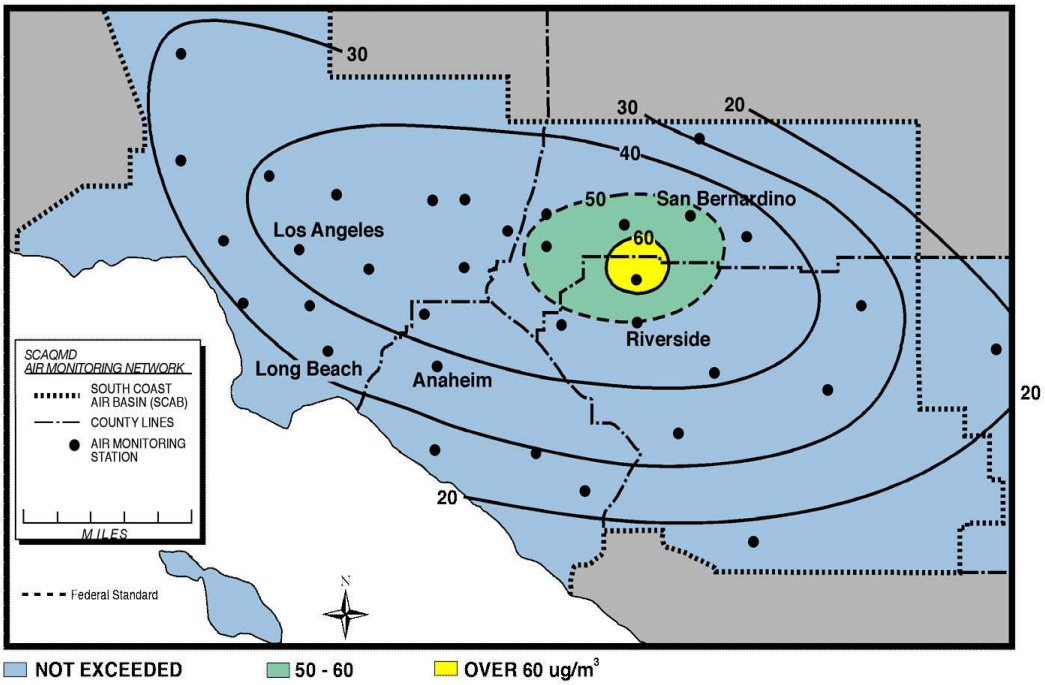



**Figure 5**
**Suspended Particulate Matter (PM10) - 2001**
**Annual Arithmetic Mean, µg/m$^3$**

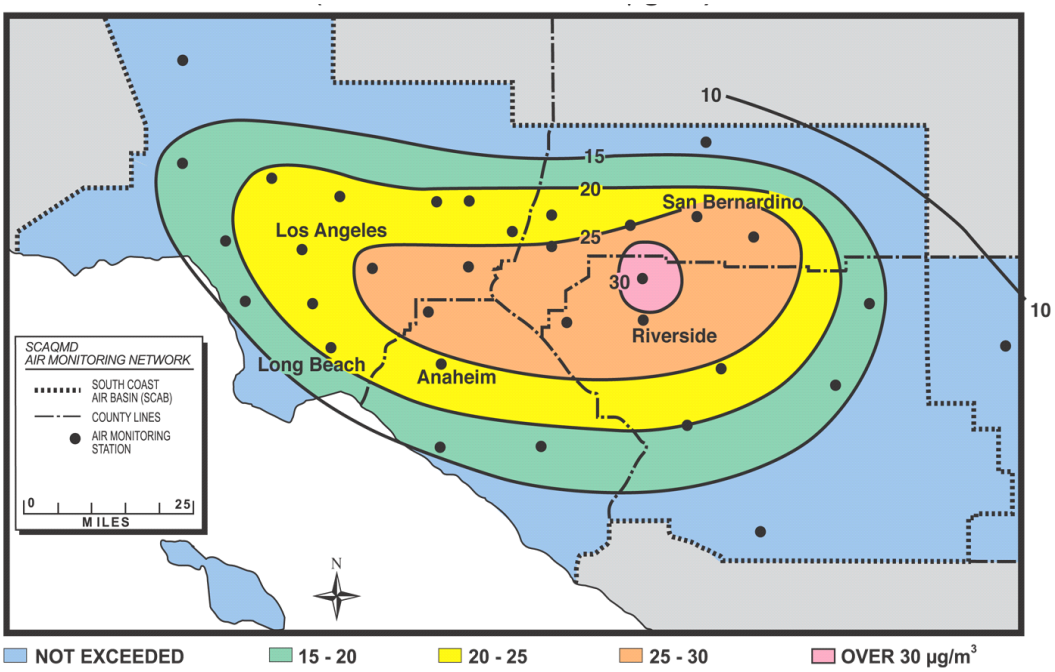



**Figure 6**
**Suspended Particulate Matter (PM2.5) - 2001**
**Annual Arithmetic Mean, µg/m$^3$**

## Air Quality Trends Through 2001

The number of days exceeding standards recorded in 2001 is consistent with a continuation of the downtrends in the Basin reported in previous years. In 2001, there were 37 days on which one or more federal standards were exceeded somewhere in the Basin, most of which (35 days) were for ozone alone.

Ozone concentrations have continued the downtrend all over the Basin through 2001. Trend analysis in ozone concentration and exceedances of standards in different areas of the Basin show a significant downtrend in exceedances of federal 1-hour ozone standard at all individual sites for the period 1990-2001. Figure 7 shows the weekday/weekend number of hours exceeding federal ozone standard at representative sites in the Basin where frequently the greatest number of federal standard exceedances are recorded in different counties. Even though the number of hours exceeding federal standard fluctuates in some high areas throughout the period, overall, there has been a significant decrease in the number of exceedances for the period 1990-2001. The reduction is more substantial for the weekday averages (Monday through Friday) at most locations, specifically in the eastern portion of the Basin, in the Central San Bernardino Mountains and adjacent valley areas. Santa Clarita Valley, the one of the sites of the Basin's high concentrations in the recent years, shows less difference in weekday/weekend exceedances compared to other areas in the Basin. The three-year average number of days exceeding the federal standard in the Basin has dropped 76% between 1990-1992 and 1999-2001. The three-year average number of hours exceeding the federal standard in the Basin fell 87% for the same period.

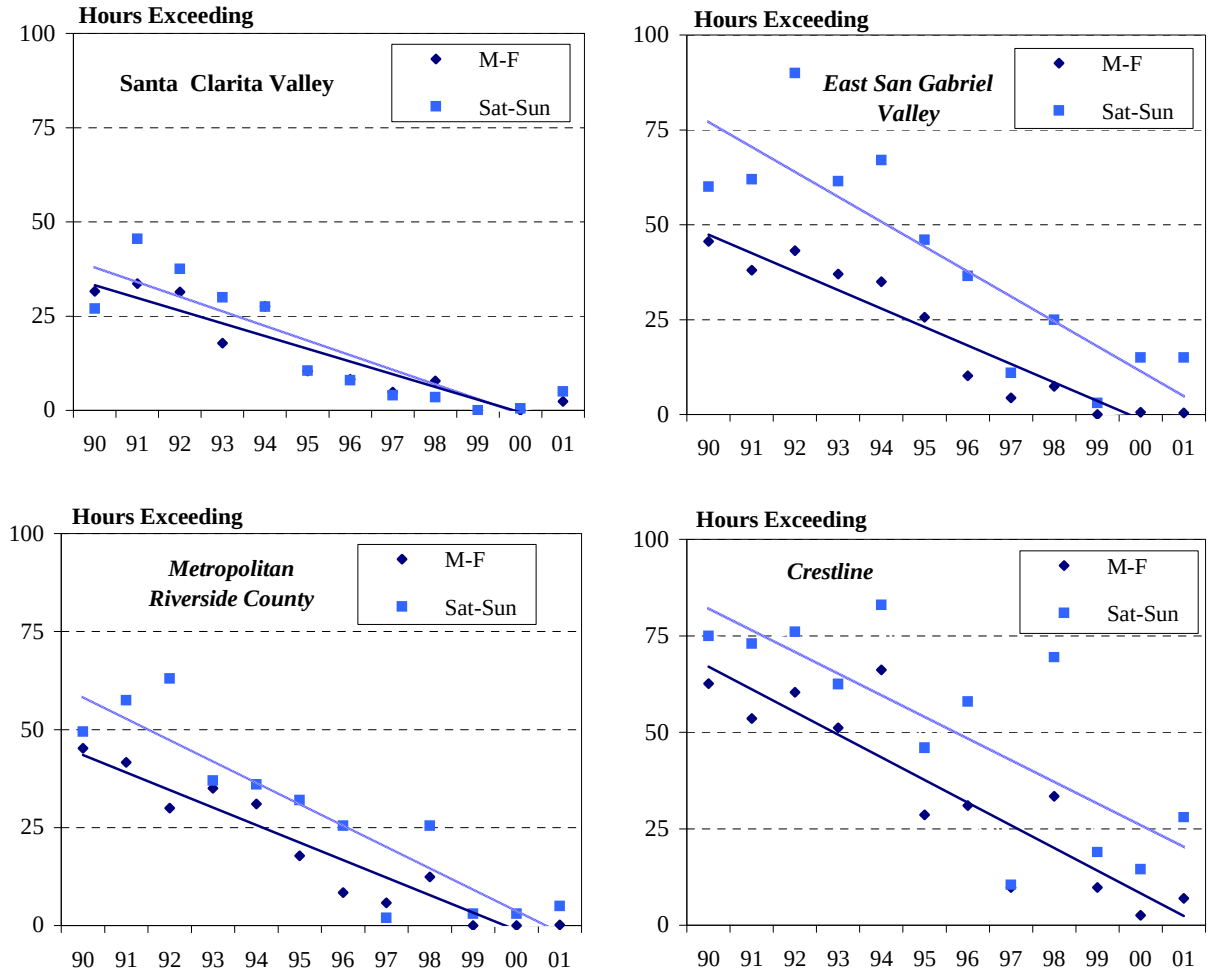



**Figure 7**

**OZONE, 1990-2001**
**Average Weekday/Weekend Number of Hours**
**Exceeding the Federal Standard**

## Carbon Monoxide

Carbon monoxide concentrations did not exceed the standards in 2001. Figure 8 shows the number of days exceeding the federal carbon monoxide standard for the years 1976-2001 at South Central Los Angeles county, the area where typically the highest carbon monoxide concentrations are recorded. Between 1976-78 and 1999-2001, the three-year average number of exceedances decreased by 96%.

## PM10

Figure 9 shows the annual average PM10 concentrations at Metropolitan Riverside county, the Basin's highest PM10 area, for the period 1985-2001. Between 1985-1987 and 1999-2001, the three-year average of annual average PM10 concentrations decreased by 31%. The three-year average of percent of sampling days exceeding federal and state 24-hour standards in the Basin decreased by 89% for the federal standard and 20% for the state standard between the years 1986-1988 and 1999-2001. The three-year average is used to minimize year to year variations in the weather.

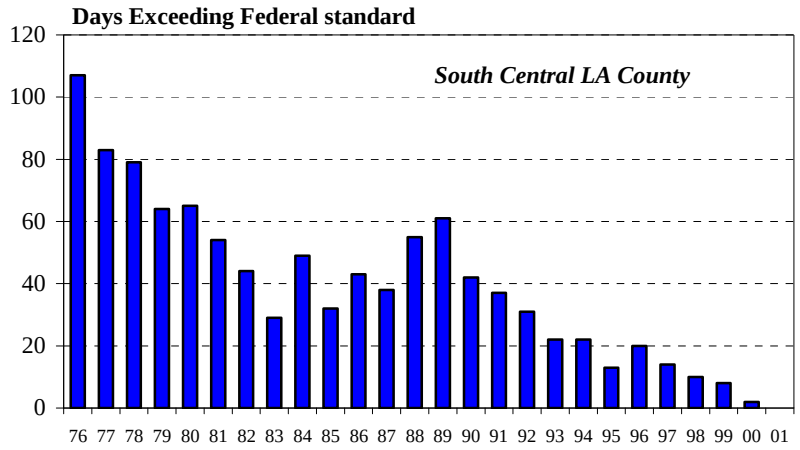



**Figure 8**
**CARBON MONOXIDE**
**Days Exceeding 8-Hour Federal Standard, 1976-2001**

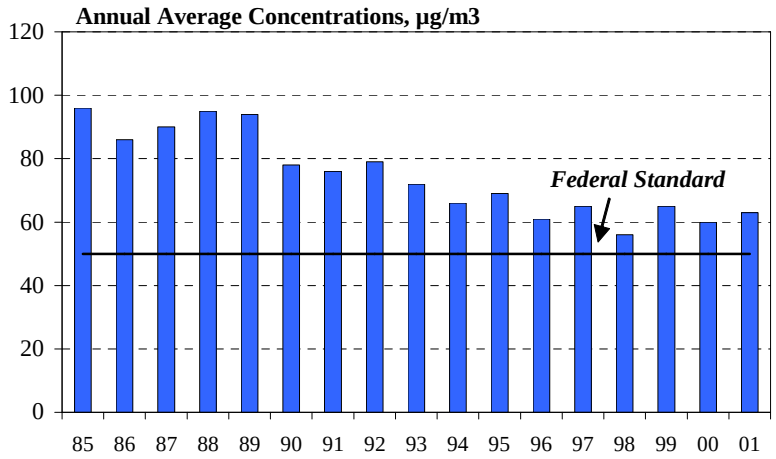



**Figure 9**
**PM10**
**Annual Average Concentrations (µg/m3), 1985-2001**

## DECEMBER 2001 AIR QUALITY

Air quality statistics in the South Coast Air Basin and the downwind desert area of Coachella Valley in the Salton Sea Air Basin for December 2001 are shown and summarized in the following figures and tables. Figure 10 compares the maximum pollutant concentrations recorded in December 2001 as percentages of the state and federal standards. Figure 11 shows the 2001 maximum concentrations for non-attainment pollutants in the Basin compared to the maximum concentrations in the previous three years.

Table 1 shows the maximum concentrations for all criteria pollutants recorded in December 2001 compared to the state and federal ambient air quality standards. It also shows the date of the maximum concentration, maximum Air Quality Index (AQI) value recorded in December for each pollutant, and the location where the maximum concentration was recorded.

Figure 12 shows the location of the District's air monitoring stations in each source/receptor area. The source/receptor area names and numbers, air monitoring station numbers, the number of days exceeding the state and federal standards and the maximum concentrations of the pollutants in each source/receptor area during December 2001 are summarized in Table 2 (pages 11 and 12). The state and federal ambient air quality standards are given in Table 3.

*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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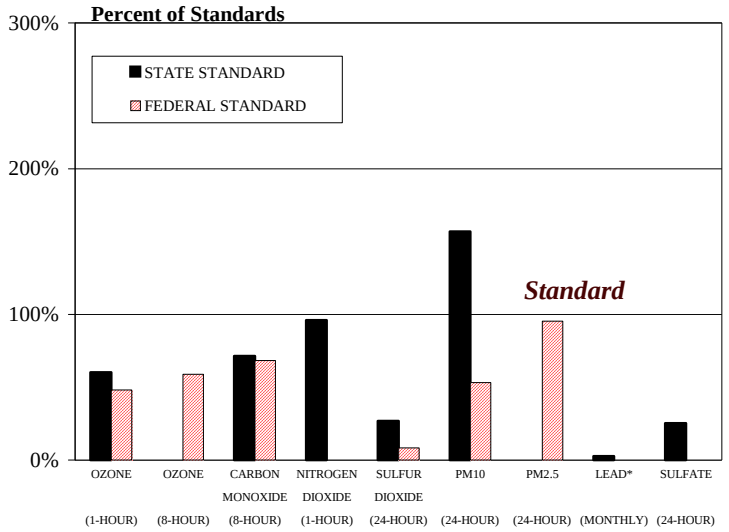


* Higher lead concentrations were recorded at special monitoring sites located immediately downwind of stationary sources of lead.

**Figure 10**
**Maximum Concentrations Recorded in December 2001 as Percentages of State and Federal Standards**

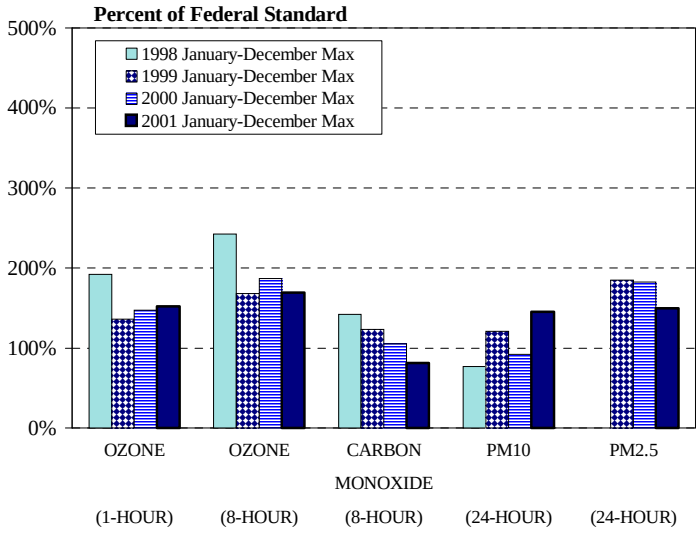


**Figure 11**
**Maximum Concentrations in 2001 Compared to the Previous Years**

**Table 1. Maximum Concentrations and Corresponding AQIs Reported in December 2001**

| Pollutant<br>Averaging Time | Maximum Concentrations<br>ppm/ ug/m3 | Date | % State Standard | % Federal Standard | AQI | Location |
|---|---|---|---|---|---|---|
| **Ozone** | | | | | | |
| 1-Hour | 0.06 | December 19 | 60% | 48% | 48 | Lake Elsinore |
| 8-Hour | 0.050 | December 19 | -- | 59% | 39 | Central San Bernardino Mountains |
| **Carbon Monoxide** | | | | | | |
| 8-Hour | 6.50 | December 19 | 71% | 68% | 71 | South Central Los Angeles County |
| **Nitrogen Dioxide** | | | | | | |
| 1-Hour | 0.25 | December 8 | 96% | -- | -- | East San Fernando Valley |
| 24-Hour | 0.084 | December 29 | -- | -- | 84 | East San Fernando Valley |
| **Sulfur Dioxide** | | | | | | |
| 1-Hour | 0.02 | December 26 | 8% | -- | -- | South Coastal Los Angeles County |
| 24-Hour | 0.012 | December 28 | 27% | 8% | 18 | Southwest Coastal Los Angeles County |
| **Particulate (PM10)** | | | | | | |
| 24-Hour | 80 | December 27 | 157% | 53% | 63 | Southwest San Bernardino Valley |
| **Particulate (PM2.5)** | | | | | | |
| 24-Hour | 62.5 | December 28 | -- | 95% | 144 | Central Los Angeles |
| **Sulfates** | | | | | | |
| 24-Hour | 6.3 | December 27 | 25% | -- | -- | Southwest Coastal Los Angeles County |
| **Lead*** | | | | | | |
| 30-Day | 0.04 | a) | 3% | -- | -- | Several Locations |
| 30-Day* | 0.20 | a) | 13% | -- | -- | Southeast Los Angeles County |

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

## AMBIENT AIR QUALITY STANDARDS

Ambient air quality standards shown in Table 4 (page 8) represent targets for acceptable concentrations of specified pollutant in outdoor air. The Federal Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The Federal Clean Air Act also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as ozone and PM10, which are more protective of public health than respective NAAQS. California has also set standards for some pollutants that are not addressed by federal standards (please see Table 4).

To attain NAAQS (other than ozone, PM10 and those based on annual averages), standards are not to be exceeded more than once a year. To attain the ozone standard, the 1-hour average concentration must not exceed the federal standard more than once per year, averaged over three consecutive years. For PM10, the 24-hour concentration must not exceed the standard more than once per year, averaged over three years. To attain the federal annual PM10 standard, the annual arithmetic mean, averaged over three years, must not exceed the standard.

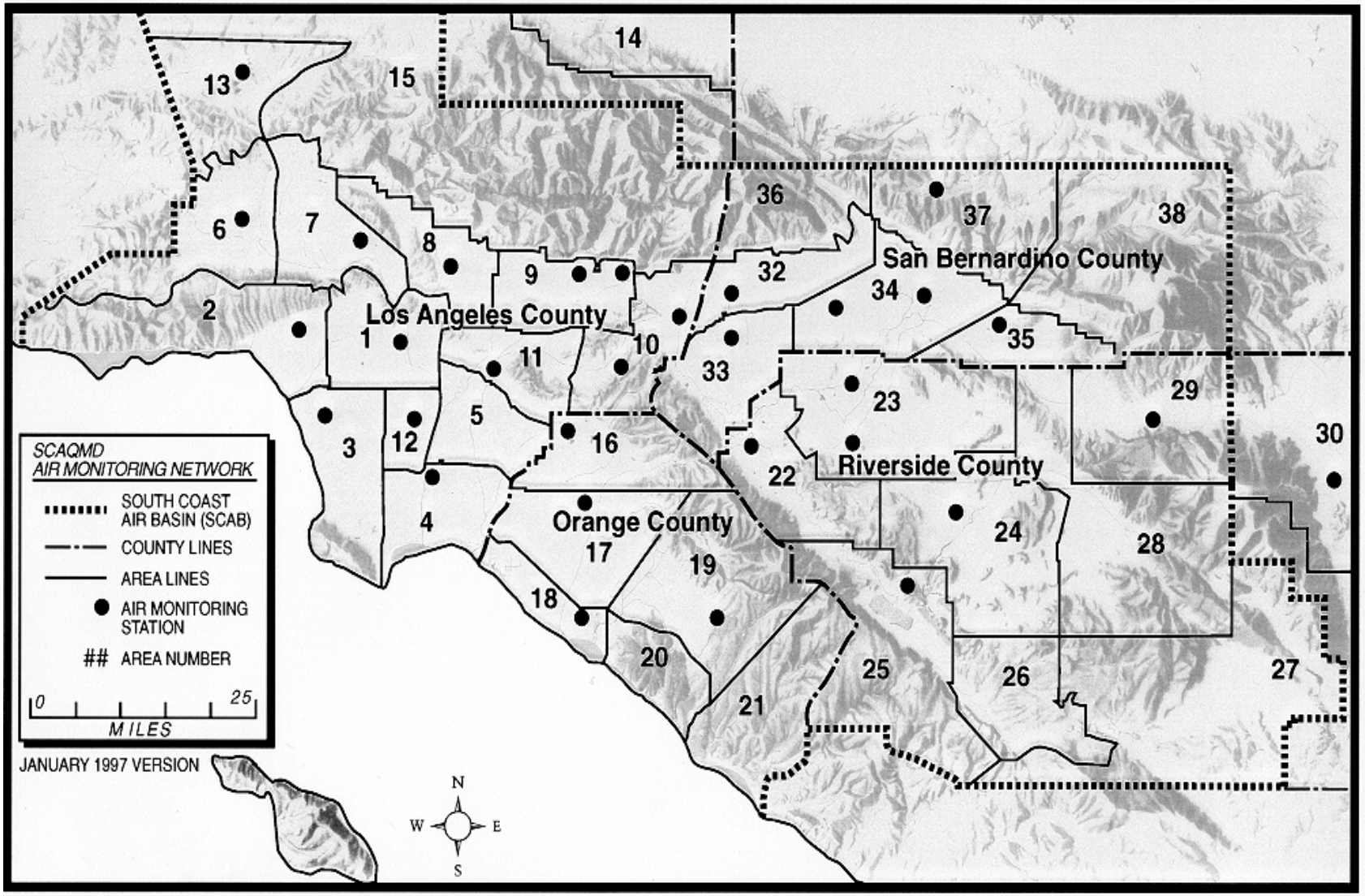


**Figure 12**
**South Coast Air Basin and Adjoining Areas of Salton Sea and Mojave Desert Air Basins and Monitoring Stations**

Table 2
December 2001
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 | 4.57 | 5 | 0 | 0.10 | 0.010 | 0.01 |
| 2 Northwest Coastal LA County | 091 | 0 | 0 | 0 | 0 | 0.04 | 0.030 | 0/0 | 0/0 | 2.75 | 3 | 0 | 0.11 | | |
| 3 Southwest Coastal LA County | 094 | 0 | 0 | 0 | 0 | 0.04 | 0.038 | 0/0 | 0/0 | 5.14 | 6 | 0 | 0.11 | 0.012 | 0.02 |
| 4 South Coastal LA County | 072 | 0 | 0 | 0 | 0 | 0.04 | 0.034 | 0/0 | 0/0 | 4.71 | 6 | 0 | 0.12 | 0.007 | 0.02 |
| 6 West San Fernando Valley | 074 | 0 | 0 | 0 | 0 | 0.03 | 0.030 | 0/0 | 0/0 | 4.50 | 6 | 0 | 0.07 | | |
| 7 East San Fernando Valley | 069 | 0 | 0 | 0 | 0 | 0.04 | 0.028 | 0/0 | 0/0 | 4.88 | 6 | 0 | 0.25 | 0.005 | 0.01 |
| 8 West San Gabriel Valley | 088 | 0 | 0 | 0 | 0 | 0.04 | 0.033 | 0/0 | 0/0 | 3.75 | 6 | 0 | 0.10 | | |
| 9 East San Gabriel Valley 1 | 060 | 0 | 0 | 0 | 0 | 0.04 | 0.035 | 0/0 | 0/0 | 2.50 | 3 | 0 | 0.09 | | |
| 9 East San Gabriel Valley 2 | 591 | 0 | 0 | 0 | 0 | 0.05 | 0.048 | 0/0 | 0/0 | 1.88 | 2 | 0 | 0.07 | | |
| 10 Pomona/Walnut Valley | 075 | 0 | 0 | 0 | 0 | 0.03 | 0.018 | 0/0 | 0/0 | 3.43 | 5 | 0 | 0.08 | | |
| 11 South San Gabriel Valley | 085 | 0 | 0 | 0 | 0 | 0.03 | 0.024 | 0/0 | 0/0 | 4.00 | 5 | 0 | 0.10 | | |
| 12 South Central LA County | 084 | 0 | 0 | 0 | 0 | 0.03 | 0.021 | 0/0 | 0/0 | 6.50 | 10 | 0 | 0.09 | | |
| 13 Santa Clarita Valley | 090 | 0 | 0 | 0 | 0 | 0.05 | 0.045 | 0/0 | 0/0 | 1.60 | 3 | 0 | 0.06 | | |
| ORANGE COUNTY | | | | | | | | | | | | | | | |
| 16 North Orange County | 3177 | 0 | 0 | 0 | 0 | 0.03 | 0.026 | 0/0 | 0/0 | 4.43 | 8 | 0 | 0.09 | | |
| 17 Central Orange County | 3176 | 0 | 0 | 0 | 0 | 0.05 | 0.038 | 0/0 | 0/0 | 3.71 | 7 | 0 | 0.08 | | |
| 18 North Coastal Orange County | 3195 | 0 | 0 | 0 | 0 | 0.04 | 0.040 | 0/0 | 0/0 | 4.14 | 5 | 0 | 0.06 | 0.002 | 0.01 |
| 19 Saddleback Valley | 3812 | 0 | 0 | 0 | 0 | 0.04 | 0.040 | 0/0 | 0/0 | 1.88 | 3 | | | | |
| RIVERSIDE COUNTY | | | | | | | | | | | | | | | |
| 22 Norco/Corona | 4155 | | | | | | | | | | | | | | |
| 23 Metropolitan Riverside County 1 | 4144 | 0 | 0 | 0 | 0 | 0.04 | 0.040 | 0/0 | 0/0 | 3.13 | 5 | 0 | 0.08 | 0.001 | 0.00 |
| 23 Metropolitan Riverside County 2 | 4146 | | | | | | | 0/0 | 0/0 | 3.63 | 6 | | | | |
| 24 Perris Valley | 4149 | 0 | 0 | 0 | 0 | 0.04 | 0.035 | | | | | | | | |
| 25 Lake Elsinore | 4158 | 0 | 0 | 0 | 0 | 0.06 | 0.050 | 0/0 | 0/0 | 1.33 | 2 | 0 | 0.05 | | |
| 29 Banning Airport | 4164 | 0 | 0 | 0 | 0 | 0.05 | 0.047 | | | | | 0 | 0.05 | | |
| 30 Coachella Valley 1** | 4137 | 0 | 0 | 0 | 0 | 0.05 | 0.044 | 0/0 | 0/0 | 1.00 | 2 | 0 | 0.05 | | |
| 30 Coachella Valley 2** | 4157 | 0 | 0 | 0 | 0 | 0.05 | 0.041 | | | | | | | | |
| SAN BERNARDINO COUNTY | | | | | | | | | | | | | | | |
| 32 Northwest San Bernardino Valley | 5175 | 0 | 0 | 0 | 0 | 0.04 | 0.029 | 0/0 | 0/0 | 1.75 | 3 | 0 | 0.08 | | |
| 33 Southwest San Bernardino Valley | 5817 | | | | | | | | | | | | | | |
| 34 Central San Bernardino Valley 1 | 5197 | 0 | 0 | 0 | 0 | 0.04 | 0.040 | | | | | 0 | 0.08 | 0.007 | 0.01 |
| 34 Central San Bernardino Valley 2 | 5203 | 0 | 0 | 0 | 0 | 0.05 | 0.049 | 0/0 | 0/0 | 2.88 | 4 | 0 | 0.05 | | |
| 35 East San Bernardino Valley | 5204 | 0 | 0 | 0 | 0 | 0.05 | 0.041 | | | | | | | | |
| 37 Central San Bernardino Mountains | 5181 | 0 | 0 | 0 | 0 | 0.05 | 0.050 | | | | | | | | |
| District maximum | | 0 | 0 | 0 | 0 | 0.06 | 0.050 | 0/0 | 0/0 | 6.50 | 10 | 0 | 0.25 | 0.012 | 0.02 |

** Salton Sea air basin

Table 2 - continued
December 2001
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 | 64 | 5 | 0.03 | 5 | 3.3 | 28 | 0 | 62.5 |
| 2 Northwest Coastal LA County | 091 | | | | | | | 5 | 3.9 | | | |
| 3 Southwest Coastal LA County | 094 | 0(0%) | 0(0%) | 5 | 50 | 5 | 0.02 | 5 | 6.3 | | | |
| 4 South Coastal LA County | 072 | 1(20%) | 0(0%) | 5 | 56 | 5 | 0.03 | 5 | 5.6 | 30 | 0 | 58.2 |
| 6 West San Fernando Valley | 074 | | | | | | | | | 10 | 0 | 25.9 |
| 7 East San Fernando Valley | 069 | 1(20%) | 0(0%) | 5 | 63 | | | | | 10 | 0 | 45.2 |
| 8 West San Gabriel Valley | 088 | | | | | | | 5 | 1.6 | 10 | 0 | 30.6 |
| 9 East San Gabriel Valley 1 | 060 | 0(0%) | 0(0%) | 5 | 50 | | | 5 | 1.7 | 26 | 0 | 46.9 |
| 9 East San Gabriel Valley 2 | 591 | | | | | | | | | | | |
| 10 Pomona/Walnut Valley | 075 | | | | | | | | | | | |
| 11 South San Gabriel Valley | 085 | | | | | 4 | 0.04 | 4 | 6.0 | 9 | 0 | 39.8 |
| 12 South Central LA County | 084 | | | | | 5 | 0.03 | 5 | 5.4 | 10 | 0 | 49.9 |
| 13 Santa Clarita Valley | 090 | 0(0%) | 0(0%) | 5 | 20 | | | | | | | |
| ORANGE COUNTY | | | | | | | | | | | | |
| 16 North Orange County | 3177 | | | | | | | | | | | |
| 17 Central Orange County | 3176 | 1(20%) | 0(0%) | 5 | 52 | | | | | 30 | 0 | 44.6 |
| 18 North Coastal Orange County | 3195 | | | | | | | | | | | |
| 19 Saddleback Valley | 3812 | 0(0%) | 0(0%) | 5 | 33 | | | | | 7 | 0 | 28.4 |
| RIVERSIDE COUNTY | | | | | | | | | | | | |
| 22 Norco/Corona | 4155 | 1(25%) | 0(0%) | 4 | 58 | | | | | | | |
| 23 Metropolitan Riverside County 1 | 4144 | 1(13%) | 0(0%) | 8 | 74 | 5 | 0.02 | 5 | 2.9 | 30 | 0 | 52.4 |
| 23 Metropolitan Riverside County 2 | 4146 | | | | | 6 | 0.02 | 6 | 2.2 | 9 | 0 | 34.9 |
| 24 Perris Valley | 4149 | 0(0%) | 0(0%) | 5 | 47 | | | | | | | |
| 25 Lake Elsinore | 4158 | | | | | | | | | | | |
| 29 Banning Airport | 4164 | 0(0%) | 0(0%) | 4 | 8 | | | | | | | |
| 30 Coachella Valley 1** | 4137 | 0(0%) | 0(0%) | 5 | 17 | | | | | 10 | 0 | 15.3 |
| 30 Coachella Valley 2** | 4157 | 0(0%) | 0(0%) | 10 | 38 | | | | | 10 | 0 | 29.8 |
| SAN BERNARDINO COUNTY | | | | | | | | | | | | |
| 32 Northwest San Bernardino Valley | 5175 | | | | | 5 | 0.02 | 5 | 1.9 | | | |
| 33 Southwest San Bernardino Valley | 5817 | 1(20%) | 0(0%) | 5 | 80 | | | | | 8 | 0 | 46.4 |
| 34 Central San Bernardino Valley 1 | 5197 | 1(20%) | 0(0%) | 5 | 54 | | | 5 | 1.9 | 9 | 0 | 31.8 |
| 34 Central San Bernardino Valley 2 | 5203 | 0(0%) | 0(0%) | 5 | 49 | 5 | 0.03 | 5 | 2.3 | 9 | 0 | 23.0 |
| 35 East San Bernardino Valley | 5204 | 0(0%) | 0(0%) | 3 | 16 | | | | | | | |
| 37 Central San Bernardino Mountains | 5181 | 1(20%) | 0(0%) | 5 | 51 | | | | | | | |
| District maximum | | 1 | 0 | | 80 | | 0.04 | | 6.3 | | 0 | 62.5 |

** Salton Sea air basin
***Special monitoring of lead near stationary sources was carried out in December 2001 and the maximum monthly average was 0.20 ug/m3.

## Table 3
## AMBIENT AIR QUALITY STANDARDS

| | CALIFORNIA | | FEDERAL | | |
|---|---|---|---|---|---|
| **AIR POLLUTANT** | **CONCENTRATION** | **DISTRICT METHOD** | **PRIMARY (>)** | **SECONDARY (>)** | **METHOD [a)]** |
| **Ozone [b)]** | 0.09 ppm, 1-hour average > | U.V. Photometry | 0.12 ppm, 1-hour average<br>0.08 ppm, 8-hour average[b)] | Same as Primary Standrd | Chemiluminescence |
| **Carbon Monoxide** | 9.0 ppm, 8-hour average > [c)]<br>20 ppm, 1-hour average > | Gas Correlation | 9 ppm, 8-hour average [d)]<br>35 ppm, 1-hour average | None | Non-dispersive Infra-Red Spectrophotometry |
| **Nitrogen Dioxide** | 0.25 ppm, 1-hour average > [e)] | Gas Phase Chemiluminescence | 0.053 ppm, annual average [f)] | Same as Primary Standrd | Gas Phase Chemiluminescence |
| **Sulfur Dioxide** | 0.04 ppm, 24-hour average > [g)]<br>0.25 ppm, 1-hour average > [h)] | Ultraviolet PulseFluorescence | 0.03 ppm, annual average<br>0.14 ppm, 24-hour average | 0.50 ppm, 3-hour average | Para-rosaniline |
| **Suspended Particulate Matter (PM10)** | 30 $\mu g/m^3$, annual geometric mean ><br>50 $\mu g/m^3$, 24-hour average > [i)] | Size Segregation Inlet<br>High Volume Sampling | 50 $\mu g/m^3$, annual arithmetic mean<br>150 $\mu g/m^3$, 24-hour average [j)] | Same as Primary Standrd | Inertial Separation and Gravimetric Analysis |
| **Suspended Particulate Matter (PM2.5) [k)]** | | | 15 $\mu g/m^3$, annual arithmetic mean [k)]<br>65 $\mu g/m^3$, 24-hour average [k)] | Same as Primary Standrd | Inertial Separation and Gravimetric Analysis |
| **Lead** | 1.5 $\mu g/m^3$, 30-day average >= | High Vol. Sampling<br>Atomic Absorption | 1.5 $\mu g/m^3$, calendar quarter | Same as Primary Standrd | High Vol. Sampling<br>Atomic Absorption |
| **Sulfates** | 25 $\mu g/m^3$, 24-hour average >= | High Vol. Sampling<br>Ion Chouromatography | **NO FEDERAL STANDARDS** | | |
| **Hydrogen Sulfide** | 0.03 ppm, 1-hour average >= | Cadmium Hydroxide Stractan | | | |
| **Vinyl Chloride** | 0.010 ppm, 24-hour average >= | Gas Chouromatography | | | |
| **Visibility Reducing Particles** | In sufficient amount to give an extinction coefficient > 0.23 inverse kilometers (visual range less than 10 miles), with relative humidity <70%, 8-hour average (10am-6pm, PST) [l)] . | Nephelometry and AISI Tape Sampler (COH) | | | |

a) Reference method as described by the federal government. An equivalent method of measurement may be used as approved by the federal government.
b) In September 1997, a new federal 8-hour average standard was proposed by EPA. A 1999 federal court ruling blocked the implementation of this standard. The status of this standard is pending the EPA's appeal.
c) Effective December 15, 1982. The previous standards were 10 ppm, 12-hour average and 40 ppm, 1-hour average.
d) Effective September 13, 1985, standard changed from >10 $\mu g/m^3$ (>=9.3 ppm) to > 9 ppm (>=9.5 ppm).
e) Effective March 9, 1987, standard changed from >=0.25 ppm to > 0.25 ppm.
f) Effective July 1, 1985, standard changed from > 100 $\mu g/m^3$ (>0.0532 ppm) to > 0.053 ppm (>= 0.0535 ppm).
g) Effective July 29, 1992. The previous standard was >= 0.05 ppm, 24-hour average with ozone >=0.1 ppm, 1-hour average or TSP >=100 $\mu g/m^3$, 24-hour average.
h) Effective October 5, 1984. The previous standard was 0.5 ppm, 1-hour average.
i) Effective August 19, 1983. The previous standards were 60 $\mu g/m^3$ TSP, annual geometric mean, and 100 $\mu g/m^3$ TSP, 24-hour average.
j) Effective July 1, 1987. The previous standards were :
Primary - annual geometric mean TSP > 75 $\mu g/m^3$, and 24 hour average TSP > 260 $\mu g/m^3$.
Secondary - annual geometric mean TSP > 60 $\mu g/m^3$, and 24-hour average TSP > 150 $\mu g/m^3$.
k) In September 1997, new federal standards were proposed for PM2.5. There were no previous standards for PM2.5. A 1999 federal court ruling blocked the implementation of these standards.
l) Effective October 18, 1989. The previous standard was "In sufficient amount to reduce the prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation", and was based on human observation rather than instrumental measurement.

***Revised***
***Jan. 2002***