Chapter 2

Current Criteria Pollutant Emissions and Air Quality

Introduction

This chapter provides statewide information on current emissions and air quality, relative to the State and national ambient air quality standards (see Chapter 6 for information on toxic air contaminants). This section gives a national perspective on how California's air quality compares with that in other areas of the nation. The second section of this chapter includes a summary table of the Statewide Emission Inventory. The table shows emissions data by four major source categories: stationary sources, area-wide sources, mobile sources, and natural sources. The third section provides more detailed information for the four major source categories in a table of the Statewide Emission Inventory by Sub-Category. The remaining sections of this Chapter provide information on emissions (including the high emitting facilities) and air quality on a statewide basis. This information is organized by pollutant, for ozone (and ozone precursor emissions), PM_{10}, and CO.

Emissions are reported as annual averages, in tons per day. For most sources and pollutants that are not seasonal, this describes emissions very well. However, for some pollutants such as PM_{10}, annual averages do not give an accurate indication of the seasonal nature of emissions. Therefore, they may appear to be artificially low. Many sources of PM_{10} are seasonal, including wildfires, seasonal operations such as agricultural processes, or dust storms in the Owens Valley and Mono Lake areas. Many sources of PM_{10} can also be very localized, and basinwide annual averages of PM_{10} do not give any information about this localization.

State and local agencies have implemented many control measures during the last three decades to improve air quality. As a result, there has been a steady decline in both emissions and pollutant concentrations. However, three pollutants -- ozone, particulate matter, and carbon monoxide -- still pose air quality problems. While existing control programs have reduced CO concentrations to levels below the standards, except in parts of Los Angeles County and Calexico, it will be a significant challenge to reduce emissions sufficiently to attain the ozone and PM_{10} standards statewide.

Figure 2-1 shows the national 1-hour ozone design values for the top ten urban areas in the nation, based on data for 1997 to 1999. The design values in all these areas exceed the national 1-hour standard of 0.12 ppm. Five of the ten areas are located in California, with the Riverside-San Bernardino area on top. The Houston-Galveston area ranks second. The ranking of areas on the list can change, depending on the ozone statistic being used. For example, the Houston-Galveston area experienced higher 1-hour ozone concentrations during 1999 and 2000 than any other area of the United States. Therefore, it would rank first in the nation for this statistic. Overall, as ozone concentrations in California decline, our air quality continues to improve relative to other areas of the nation.

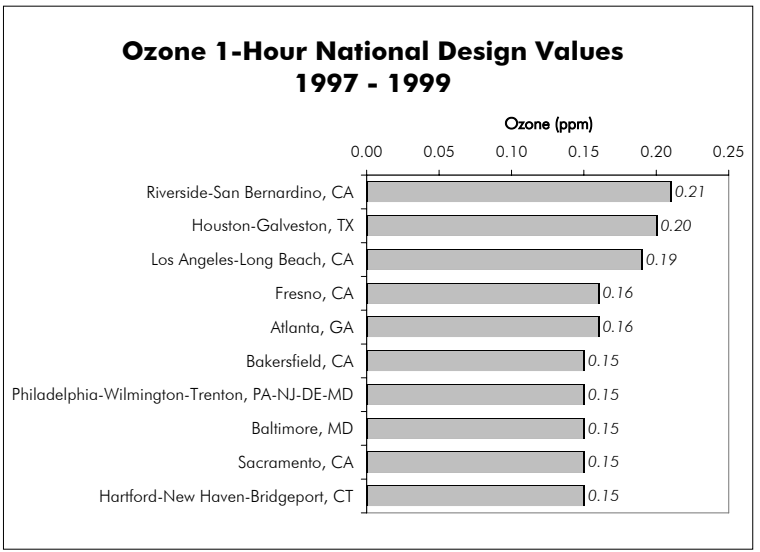

Figure 2-1

Attainment of the standards for particulate matter that is 10 microns and smaller (PM_{10}) is a significant problem. The PM_{10} problem is most prevalent in the western United States. Six western areas are classified as serious PM_{10} nonattainment areas. Four of these six areas -- the Coachella Valley, the Owens Valley, the San Joaquin Valley, and the South Coast Air Basin -- are located in California. Because of the complex nature of the particulate matter problem, it will be many years before the standards are attained.

Carbon monoxide poses much less of a problem. Figure 2-2 shows the areas in the nation that still experience CO concentrations above the level of the national standard. The sites are ranked, based on the average number of days when the CO concentration was higher than the national 8-hour standard. The Los Angeles-Long Beach (influenced by Los Angeles County) and Calexico areas rank first and second. However, as a result of the State's stringent motor vehicle emission standards and clean fuels programs, CO concentrations in nine other California areas no longer violate the national standards, and these areas were redesignated as attainment for the national standards in 1998.

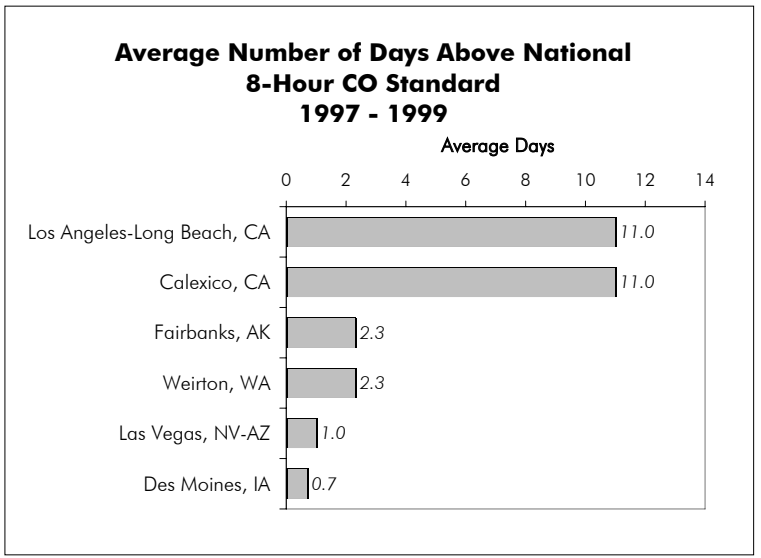

Figure 2-2

2000 Statewide Emission Inventory Summary

Division / Major Category	Emissions (tons/day, annual average) TOG	ROG	CO	NOx	SOx	PM_{10}
Stationary Sources	2684	630	350	604	139	139
Fuel Combustion	210	41	295	494	57	43
Waste Disposal	1475	21	2	3	0	2
Cleaning and Surface Coatings	461	343	0	0	0	0
Petroleum Production and Marketing	459	160	8	16	54	4
Industrial Processes	78	65	45	91	27	89
Area-wide Sources	2049	741	2343	94	6	2052
Solvent Evaporation	553	494	0	0	0	0
Miscellaneous Processes	1497	247	2343	94	6	2052
Mobile Sources	2082	1900	17898	2873	188	125
On-Road Motor Vehicles	1595	1463	14691	1862	31	56
Other Mobile Sources	487	437	3207	1011	157	69
Natural Sources*	108	40	442	20	-	86
Total California	**6923**	**3311**	**21034**	**3591**	**333**	**2402**

*Does not include biogenic sources. These summaries do not include emissions from wind blown dust - exposed lake beds from Owens and Mono Lakes. These emissions are estimated to be about 800 tons/day.

Table 2-1

2000 Statewide Emission Inventory by Sub-Category

Division Major Category Sub-Category	Emissions (tons/day, annual average)					
	TOG	ROG	CO	NOx	SOx	PM_{10}
Stationary Sources (division total)	**2684**	**630**	**350**	**604**	**139**	**139**
Fuel Combustion (major category total)	210	41	295	494	57	43
- Electric Utilities	37	4	32	46	4	5
- Cogeneration	20	4	38	33	2	4
- Oil and Gas Production (Combustion)	39	6	23	58	8	3
- Petroleum Refining (Combustion)	3	2	10	43	11	4
- Manufacturing and Industrial	62	10	81	163	21	10
- Food and Agricultural Processing	5	4	52	42	3	4
- Service and Commercial	39	9	48	103	8	6
- Other (Fuel Combustion)	3	1	11	5	1	8
Waste Disposal (major category total)	1475	21	2	3	0	2
- Sewage Treatment	1	1	0	0	0	0
- Landfills	1470	19	1	1	0	2
- Incinerators	1	0	1	2	0	0
- Soil Remediation	0	0	0	0	0	0
- Other (Waste Disposal)	4	2	0	0	0	0
Cleaning and Surface Coatings (major category total)	461	343	0	0	0	0
- Laundering	22	1	0	0	0	0
- Degreasing	205	127	-	-	-	-
- Coatings and Related Process Solvents (sub-category total)	176	162	0	0	0	0
- Auto Marine, & Aircraft	*29*	*28*	*0*	*0*	*0*	*0*
- Paper & Fabric	*3*	*3*	*0*	*0*	*0*	*0*
- Metal, Wood, & Plastic	*50*	*48*	*0*	*0*	*0*	*0*
- Other	*93*	*83*	*0*	*0*	*0*	*0*

Table 2-2

2000 Statewide Emission Inventory by Sub-Category

Division Major Category Sub-Category	Emissions (tons/day, annual average) TOG	ROG	CO	NOx	SOx	PM_{10}
Stationary Sources (division total) (continued)						
Cleaning and Surface Coatings (major category) (continued)						
- Printing	21	20	0	0	0	0
- Adhesives and Sealants	29	26	0	0	-	0
- Other (Cleaning and Surface Coatings)	8	6	0	0	0	0
Petroleum Production and Marketing (major category total)	459	160	8	16	54	4
- Oil and Gas Production	162	70	1	3	0	0
- Petroleum Refining	37	29	6	13	54	4
- Petroleum Marketing (sub-category total)	256	57	0	0	0	0
- Fuel Distribution Losses	*201*	*3*	*0*	*0*	*0*	*0*
- Fuel Storage Losses	*4*	*3*	*0*	*0*	*0*	*0*
- Vehicle Refueling	*38*	*38*	*0*	*0*	*0*	*0*
- Other	*12*	*12*	*0*	*0*	*0*	*0*
- Other (Petroleum Production and Marketing)	5	5	-	-	-	-
Industrial Processes (major category total)	78	65	45	91	27	89
- Chemical	29	24	1	3	7	6
- Food and Agriculture	19	18	3	9	1	15
- Mineral Processes	7	5	31	56	11	44
- Metal Processes	1	1	2	1	0	1
- Wood and Paper	3	3	3	2	1	16
- Glass and Related Products	0	0	1	17	6	1
- Electronics	0	0	0	0	0	0
- Other (Industrial Processes)	18	13	5	2	0	5

Table 2-2 (continued)

2000 Statewide Emission Inventory by Sub-Category

Division Major Category Sub-Category	Emissions (tons/day, annual average)					
	TOG	ROG	CO	NOx	SOx	PM_{10}
Area-Wide Sources (division total)	**2049**	**741**	**2343**	**94**	**6**	**2052**
Solvent Evaporation (major category total)	553	494	0	0	0	0
- Consumer Products	319	267	-	-	-	-
- Architectural Coatings and Related Process Solvent (sub-category total)	125	120	-	-	-	-
- Architectural Coating	*107*	*102*	*0*	*0*	*0*	*0*
- Thinning & Cleanup Solvents	*18*	*17*	*0*	*0*	*0*	*0*
- Pesticides/Fertilizers (sub-category total)	77	76	-	-	-	-
- Farm Use	*73*	*73*	*0*	*0*	*0*	*0*
- Commercial Use	*4*	*3*	*0*	*0*	*0*	*0*
- Asphalt Paving / Roofing	32	32	-	-	-	0
Miscellaneous Processes (major category total)	1497	247	2343	94	6	2052
- Residential Fuel Combustion (sub-category total)	150	66	995	73	5	141
- Wood Combustion	*142*	*62*	*969*	*12*	*2*	*136*
- Cooking and Space Heating	*6*	*3*	*22*	*50*	*3*	*4*
- Other	*1*	*0*	*4*	*10*	*0*	*1*
- Farming Operations (sub-category total)	1196	96	-	-	-	219
- Tilling,Harvesting, & Growing	*0*	*0*	*0*	*0*	*0*	*177*
- Livestock	*1196*	*96*	*0*	*0*	*0*	*42*

Table 2-2 (continued)

2000 Statewide Emission Inventory by Sub-Category

Division Major Category Sub-Category	Emissions (tons/day, annual average) TOG	ROG	CO	NOx	SOx	PM_{10}
Area-Wide Sources (division total) (continued)						
Miscellaneous Processes (major category) (continued)						
- Construction and Demolition (sub-category total)	-	-	-	-	-	205
- Building	*0*	*0*	*0*	*0*	*0*	*110*
- Road Construction Dust	*0*	*0*	*0*	*0*	*0*	*95*
- Paved Road Dust	-	-	-	-	-	386
- Unpaved Road Dust	-	-	-	-	-	644
- Fugitive Windblown Dust (sub-category total)	-	-	-	-	-	293
- Farm Lands	*0*	*0*	*0*	*0*	*0*	*164*
- Pasture Lands	*0*	*0*	*0*	*0*	*0*	*15*
- Unpaved Roads	*0*	*0*	*0*	*0*	*0*	*114*
- Fires	1	1	10	0	-	1
- Waste Burning and Disposal (sub-category total)	142	79	1338	21	1	139
- Agricultural Burning	*43*	*25*	*269*	*5*	*0*	*36*
- Non-Agricultural Burning	*98*	*54*	*1066*	*15*	*1*	*102*
- Other	*1*	*1*	*2*	*1*	*0*	*1*
- Cooking	8	6	-	-	-	22
- Other (Miscellaneous Processes)	0	0	1	0	-	1

Table 2-2 (continued)

2000 Statewide Emission Inventory by Sub-Category

Division Major Category Sub-Category	Emissions (tons/day, annual average)					
	TOG	ROG	CO	NOx	SOx	PM_{10}
Mobile Sources (division total)	**2082**	**1900**	**17898**	**2873**	**188**	**125**
On-Road Motor Vehicles (major category total)	1595	1463	14691	1862	31	56
- Light Duty Passenger (sub-category total)	847	780	6515	587	7	19
- Non-Evaporative	*508*	*441*	*6512*	*580*	*7*	*19*
- Evaporative	*336*	*336*	*0*	*0*	*0*	*0*
- Diesel	*4*	*3*	*4*	*7*	*0*	*1*
- Light Duty Trucks(<3750 lbs.) (sub-category total)	184	170	1786	149	1	3
- Non-Evaporative	*115*	*101*	*1785*	*148*	*1*	*3*
- Evaporative	*68*	*68*	*0*	*0*	*0*	*0*
- Diesel	*1*	*1*	*1*	*1*	*0*	*0*
- Light Duty Trucks (>3750 lbs) (sub-category total)	171	155	1718	243	2	11
- Non-Evaporative	*116*	*100*	*1718*	*242*	*2*	*11*
- Evaporative	*55*	*55*	*0*	*0*	*0*	*0*
- Diesel	*0*	*0*	*0*	*1*	*0*	*0*
- Medium Duty Trucks (sub-category total)	149	136	1498	148	2	5
- Non-Evaporative	*105*	*93*	*1494*	*139*	*1*	*4*
- Evaporative	*40*	*40*	*0*	*0*	*0*	*0*
- Diesel	*4*	*3*	*4*	*9*	*1*	*1*
- Light Heavy Duty Gas Trucks (<10000 lbs) (sub-category total)	90	83	1295	79	0	0
- Non-Evaporative	*62*	*56*	*1295*	*79*	*0*	*0*
- Evaporative	27	27	0	0	0	0
- Light Heavy Duty Gas Trucks (>10000 lbs) (sub-category total)	7	7	87	16	0	0
- Non-Evaporative	*6*	*5*	*87*	*16*	*0*	*0*
- Evaporative	*2*	*2*	*0*	*0*	*0*	*0*
- Medium Heavy Duty Gas Trucks (sub-category total)	65	60	1062	60	0	0
- Non-Evaporative	*54*	*49*	*1062*	*60*	*0*	*0*
- Evaporative	*11*	*11*	*0*	*0*	*0*	*0*

Table 2-2 (continued)

2000 Statewide Emission Inventory by Sub-Category

Division Major Category Sub-Category	Emissions (tons/day, annual average) TOG	ROG	CO	NOx	SOx	PM_{10}
Mobile Sources (division total) (continued)						
On-Road Motor Vehicles (major category) (continued)						
- Heavy Heavy Duty Gas Trucks (sub-category total)	16	14	284	10	0	0
- Non-Evaporative	*14*	*12*	*284*	*10*	*0*	*0*
- Evaporative	*2*	*2*	*0*	*0*	*0*	*0*
- Light Heavy Duty Gas Trucks (<10000 lbs)	1	1	2	8	0	0
- Light Heavy Duty Gas Trucks (>10000 lbs)	1	1	2	13	0	0
- Medium Heavy Duty Diesel Trucks	6	5	32	137	5	5
- Heavy Heavy Duty Diesel Trucks	25	22	100	348	12	12
- Motorcycles (Mcy) (sub-category total)	20	19	87	3	0	0
- Non-Evaporative	*10*	*9*	*87*	*3*	*0*	*0*
- Evaporative	*10*	*10*	*0*	*0*	*0*	*0*
- Heavy Duty Diesel Urban Buses	2	1	7	31	1	1
- Heavy Duty Gas Urban Buses (sub-category total)	4	4	91	7	0	0
- Non-Evaporative	*4*	*4*	*91*	*7*	*0*	*0*
- Evaporative	*0*	*0*	*0*	*0*	*0*	*0*
- School Buses (sub-category total)	2	1	32	6	0	0
- Non-Evaporative	*1*	*1*	*31*	*2*	*0*	*0*
- Evaporative	*0*	*0*	*0*	*0*	*0*	*0*
- Diesel	*0*	*0*	*1*	*5*	*0*	*0*
- Motor Homes (sub-category total)	5	5	94	17	0	0
- Non-Evaporative	*5*	*4*	*94*	*15*	*0*	*0*
- Evaporative	*0*	*0*	*0*	*0*	*0*	*0*
- Diesel	*0*	*0*	*0*	*2*	*0*	*0*

Table 2-2 (continued)

2000 Statewide Emission Inventory by Sub-Category

Division Major Category Sub-Category	Emissions (tons/day, annual average) TOG	ROG	CO	NOx	SOx	PM_{10}
Mobile Sources (division total) (continued)						
Other Mobile Sources (major category total)	487	437	3207	1011	157	69
- Aircraft	47	42	267	64	4	8
- Trains	7	7	23	146	7	3
- Ships and Commercial Boats	11	9	19	100	69	8
- Recreational Boats	190	175	1105	38	1	7
- Off-Road Recreational Vehicles (sub-category total)	57	53	259	4	0	0
- Snowmobiles	*43*	*40*	*127*	*2*	*0*	*0*
- Motorcycles	*6*	*5*	*51*	*0*	*0*	*0*
- All-Terrain Vehicles	*5*	*5*	*46*	*0*	*0*	*0*
- Four-Wheel Drive Vehicles	*3*	*3*	*34*	*1*	*0*	*0*
- Off-Road Equipment	152	131	1394	507	56	32
- Lawn And Garden Equipment	*54*	*49*	*444*	*7*	*0*	*1*
- Commercial & Industrial Equipment	*98*	*82*	*950*	*500*	*56*	*31*
- Farm Equipment	23	20	139	152	19	10
Natural (Non-Anthropogenic) Sources (division total)	**108**	**40**	**442**	**20**	**-**	**86**
Natural Sources* (major category total)	108	40	442	20	-	86
- Geogenic Sources	79	23	-	-	-	-
- Wildfires	29	16	442	20	-	86
Total Statewide - All Sources	**6923**	**3311**	**21034**	**3591**	**333**	**2402**

*Does not include biogenic sources. These summaries do not include emissions from wind blown dust - exposed lake beds from Owens and Mono Lakes. These emissions are estimated to be about 800 tons/day.

Table 2-2 (continued)

(This page intentionally left blank)

Ozone

2000 Statewide Emission Inventory - Ozone Precursors by Category

NO_x Sources - Statewide

NO_x is a group of gaseous compounds of nitrogen and oxygen, many of which contribute to the formation of ozone, PM_{10}, and $PM_{2.5}$. Most NO_x emissions are produced by the combustion of fuels. Industrial sources report NO_x emissions to local air districts and to the Air Resources Board. Other sources of NO_x emissions are estimated by the local air districts and the ARB. Mobile sources (including on-road and other) make up about 80 percent of the total statewide NO_x emissions. The category of other mobile sources includes emissions from aircraft, trains, ships, recreational boats, industrial and construction equipment, farm equipment, off-road recreational vehicles, and other equipment. Stationary sources of NO_x include both internal and external combustion processes in industries such as manufacturing, food processing, electric utilities, and petroleum refining. Area-wide sources, which include residential fuel combustion, waste burning, and fires, contribute only a small portion of the total NO_x emissions.

NOx Emissions (annual average)		
Emissions Source	**tons/day**	**Percent**
Stationary Sources	603	17%
Area-wide Sources	94	3%
On-Road Mobile	1862	52%
Gasoline Vehicles	1301	36%
Diesel Vehicles	561	16%
Other Mobile	1011	28%
Total Statewide	**3570**	**100%**

Table 2-3

ROG Sources - Statewide

Reactive organic gases (ROG) are volatile organic compounds that are photochemically reactive and contribute to the formation of ozone, as well as PM_{10} and $PM_{2.5}$. These emissions result primarily from incomplete fuel combustion and the evaporation of chemical solvents and fuels. On-road mobile sources are the largest contributors to statewide ROG emissions. This category includes emissions from cars, trucks, and motorcycles powered by gasoline and diesel fuels. Stationary sources of ROG emissions include processes that use solvents (such as dry cleaning, degreasing, and coating operations) and petroleum-related processes (such as petroleum refining and marketing, and oil and gas extraction). Area-wide ROG sources include consumer products, pesticides, aerosol and architectural coatings, asphalt paving and roofing, and other evaporative emissions.

ROG Emissions (annual average)		
Emissions Source	**tons/day**	**Percent**
Stationary Sources	629	19%
Area-wide Sources	744	23%
On-Road Mobile	1463	45%
Gasoline Vehicles	1426	44%
Diesel Vehicles	37	1%
Other Mobile	437	13%
Total Statewide	**3273**	**100%**

Table 2-4

Largest Stationary Sources Statewide

Largest Stationary Sources of NO_x Statewide

Air Basin	Facility Name	City	**NOx** (Tons/Year)
San Francisco Bay Area	Martinez Refining Company	Martinez	5354
Mojave Desert	Riverside Cement Co.	Oro Grande	5030
Mojave Desert	Southdown (Cement)	Apple Valley	4483
San Francisco Bay Area	Chevron Products Company	Richmond	3031
San Francisco Bay Area	Southern Energy California	Pittsburg	2995
San Francisco Bay Area	Tosco Corp, Avon Refinery	Martinez	2643
San Francisco Bay Area	Exxon Corporation	Benicia	2625
Mojave Desert	Cal Portland Cement Co.	Mojave	2246
Mojave Desert	IMC Chemicals, Inc.	Trona	2101
Mojave Desert	Southern California Gas Company	Needles	2056

Facility total emissions are the most recent available. Some facilities may have reduced or increased emissions since these data were collected. These changes will be reflected in subsequent almanacs.
The lists of facilities do not include military bases, landfills, or airports.

Table 2-5

Largest Stationary Sources of ROG Statewide

Air Basin	Facility Name	City	**ROG** (Tons/Year)
San Francisco Bay Area	Chevron Products Company	Richmond	3255
San Francisco Bay Area	Martinez Refining Company	Martinez	2189
San Francisco Bay Area	Tosco Corp, Avon Refinery	Martinez	2128
South Coast	Arco Products Co.	Carson	1180
San Francisco Bay Area	Tosco Rodeo Refinery	Rodeo	1040
South Coast	Chevron Products Co.	El Segundo	1033
San Francisco Bay Area	New United Motor Manufacturing	Fremont	931
San Diego	Kelco / Nutrasweet Kelco (Pharmaceuticals)	San Diego	914
San Francisco Bay Area	Exxon Corporation	Benicia	699
South Coast	Filtrol Corp. (Chemicals)	Vernon	678

Facility total emissions are the most recent available. Some facilities may have reduced or increased emissions since these data were collected. These changes will be reflected in subsequent almanacs.
The lists of facilities do not include military bases, landfills, or airports.

Table 2-6

Ozone - 1999 Air Quality

Air quality as it relates to ozone has improved greatly in California over the last several decades, and 1999 was no exception. However, despite aggressive emission controls, maximum measured ozone concentrations are still above the level of the State standard in 12 of the 15 air basins. Maximum measured values exceed the national 1-hour standard in eight air basins. California's highest ozone concentrations occur in the South Coast Air Basin, where the peak 1-hour indicator is more than two times the level of the State standard.

Ozone concentrations are generally lower near the coast than they are inland, and rural areas tend to be cleaner than urban areas. This can be explained in part by the characteristics of ozone, including pollutant reactivity, transport, and deposition. Based on current ozone concentrations, substantial additional emission control measures will be needed to attain the standards throughout the State.

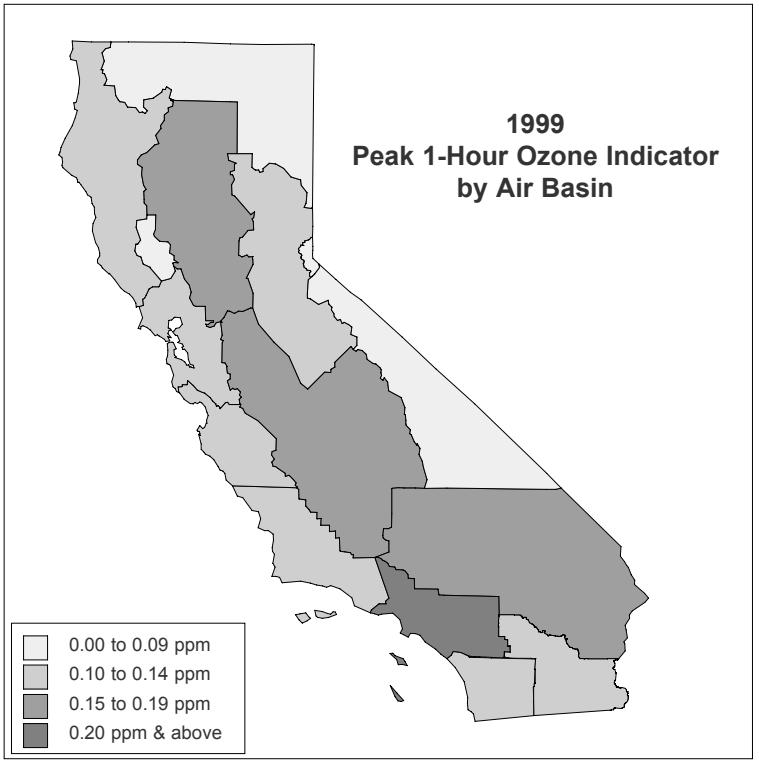

Figure 2-3

Ozone - 1999 Air Quality Tables

Maximum Peak 1-Hour Indicator by Air Basin

AIR BASIN	1999 Maximum Peak 1-Hour Indicator in parts per million	Number of Days in 1999 above State Standard	Number of Days in 1999 above National 1-Hour Standard
Great Basin Valleys Air Basin	0.09	0	0
Lake County Air Basin	0.09	0	0
Lake Tahoe Air Basin	0.08	1	0
Mojave Desert Air Basin	0.16	83	4
Mountain Counties Air Basin	0.14	66	7
North Central Coast Air Basin	0.10	3	0
North Coast Air Basin	0.11	4	0
Northeast Plateau Air Basin	0.08	0	0
Sacramento Valley Air Basin	0.15	59	7
Salton Sea Air Basin	0.14	66	10
San Diego Air Basin	0.13	27	0
San Francisco Bay Area Air Basin	0.14	20	3
San Joaquin Valley Air Basin	0.16	122	28
South Central Coast Air Basin	0.14	33	2
South Coast Air Basin	0.21	111	39

Table 2-7

Sites with 1-Hour Peak Indicator Values above the State Ozone Standard

Mojave Desert Air Basin
- Phelan-Beekley Rd. & Phelan Rd.
- Hesperia-Olive Street
- Victorville-Armagosa Road
- Joshua Tree-National Monument
- Lancaster-W Pondera Street

Mountain Counties Air Basin
- Cool-Highway 193
- Jackson-Clinton Road
- Placerville-Gold Nugget Way
- San Andreas-Gold Strike Road
- Jerseydale-6440 Jerseydale

North Central Coast Air Basin
- Hollister-Fairview Road
- Pinnacles National Monument

North Coast Air Basin
- Healdsburg-Municipal Airport

Sacramento Valley Air Basin
- Sloughhouse
- Folsom-Natoma Street
- Roseville-N Sunrise Blvd
- Sacramento-Del Paso Manor
- Auburn-Dewitt C Avenue

Salton Sea Air Basin
- Calexico-Ethel Street
- Palm Springs-Fire Station
- Calexico-East
- Indio-Jackson Street

San Diego Air Basin
- Alpine-Victoria Drive
- El Cajon-Redwood Avenue
- San Diego-Overland Avenue
- Camp Pendleton
- Chula Vista

San Francisco Bay Area Air Basin
- Livermore-Old 1st Street
- Concord-2975 Treat Blvd
- San Martin-Murphy Avenue
- Fairfield-Bay Area AQMD
- Bethel Island Road

San Joaquin Valley Air Basin
- Clovis-N Villa Avenue
- Edison
- Parlier
- Fresno-1st Street
- Fresno-Sierra Parkway #2

South Central Coast Air Basin
- Simi Valley-Cochran Street
- Thousand Oaks-Moorpark Road
- Paso Robles-Santa Fe Avenue
- Ventura County-W Casitas Pass Rd.
- Ojai-Ojai Avenue

Table 2-8

Sites with 1-Hour Peak Indicator Values above the State Ozone Standard

South Coast Air Basin

- Crestline
- Glendora-Laurel
- Redlands-Dearborn
- Upland
- San Bernardino-4th Street

Sites with 1-hour peak indicator values above the level of the State ozone standard during 1999. The top five sites in each air basin are listed in descending order of their peak indicator value. If an air basin is not listed, peak indicator values in that air basin were not above the State ozone standard.

Table 2-8 (continued)

2000 Preliminary Ozone Data

Although ozone concentrations are monitored continuously at the air quality monitoring sites, there is a delay between the time the concentrations are measured and the time they are quality assured and approved for final use. Because 1999 is the last year for which complete and approved data are available, that is the end year used for the air quality trends presented in this almanac. However, preliminary data for January through October 2000 are available and are summarized in Table 2-9. The table includes several statistics based on preliminary data, including the maximum *measured* 1-hour ozone concentration, the number of days above the State ozone standard, and the number of days above both the national 1-hour and the national 8-hour ozone standards. These statistics are summarized for the five most populated areas of California: South Coast Air Basin, San Francisco Bay Area Air Basin, San Joaquin Valley Air Basin, San Diego Air Basin, and Sacramento Metropolitan Area. Because data for all of 2000 were not complete at the time this almanac was published, no annual statistics are included. Furthermore, because the indicators presented here were based on preliminary data, they are subject to change.

Area	Maximum 1-Hour (ppm)	Days Exceeding the Standard		
		State 1-Hour	National 1-Hour	National 8-Hour
South Coast	0.19	120	40	113
San Francisco Bay Area	0.15	12	3	4
San Joaquin Valley	0.17	109	31	89
San Diego	0.12	24	0	16
Sacramento Metro Area	0.14	44	7	37

Table 2-9

(This page intentionally left blank)

PM_{10}
2000 Statewide Emission Inventory - Directly Emitted PM_{10} by Category

The PM_{10} emission inventory includes only directly emitted particulate emissions. However, particulate matter can also be formed in the atmosphere. This secondary PM_{10} is formed by reactions that are driven by emissions of ROG, NO_x, and SO_x. In urban areas (or on a seasonal basis), secondary particulate matter may be the dominant contributor to PM_{10} levels. As a result, PM_{10} control strategies need to account for the relative contribution of both secondary and directly emitted particles.

Area-wide sources account for almost 90 percent of the statewide emissions of directly emitted PM_{10}. The major area-wide source of PM_{10} is fugitive dust, especially dust from unpaved and paved roads, agricultural operations, and construction and demolition. Fugitive dust emissions from unpaved and paved roads are related to motor vehicle population levels due to vehicular travel on both types of roads. Other sources of PM_{10} emissions include brake and tire wear, residential wood burning, and industrial sources. Exhaust emissions from mobile sources contribute only a very small portion of directly emitted PM_{10} emissions, but are a major source of the ROG and NO_x that form secondary particles.

PM_{10} Emissions (annual average)		
Emissions Source	**tons/day**	**Percent**
Stationary Sources	137	6%
Area-wide Sources	2051	89%
On-Road Mobile	56	2%
Gasoline Vehicles	38	2%
Diesel Vehicles	18	1%
Other Mobile	69	3%
Total Statewide	**2313**	**100%**

Table 2-10

Largest Stationary Sources Statewide

Largest Stationary Sources of PM_{10} Statewide

Air Basin	Facility Name	City	PM_{10} (Tons/Year)
San Francisco Bay Area	ADM Inc. (Wood Products)	Benicia	1376
Mojave Desert	U.S. Borax	Boron	614
San Joaquin Valley	Kern Oil & Refining Co.	Bakersfield	544
San Joaquin Valley	Port Of Stockton	Stockton	536
Mojave Desert	IMC Chemicals, Inc.	Trona	526
Mojave Desert	Mitsubishi Cement	Lucerne Valley	472
South Coast	Chevron Products Co.	El Segundo	472
South Coast	Arco Products Co.	Carson	452
Mountain Counties	Ampine (Wood Products)	Martell	447
San Francisco Bay Area	Martinez Refining Company	Martinez	433

Facility total emissions are the most recent available. Some facilities may have reduced or increased emissions since these data were collected. These changes will be reflected in subsequent almanacs.
The lists of facilities do not include military bases, landfills, or airports.

Table 2-11

PM_{10} - 1999 Air Quality

PM_{10} is California's most complex air pollution problem. PM_{10} is not a single substance, but a mixture of a number of highly diverse types of particles and liquid droplets. The chemical make-up of ambient PM_{10} and the origins of the PM_{10} particles vary widely from one area to another. In addition, although there is not a single "PM_{10} season," the cause of PM_{10} can vary by season. Furthermore, the high PM_{10} season can vary from one area to another.

Most areas of California have either 24-hour or annual PM_{10} concentrations that exceed the State standards and pose a serious health problem. Some areas exceed both standards. Several areas also exceed the national standards. The highest annual values occur in the Salton Sea and South Coast Air Basins. In contrast to the annual values, the highest 24-hour concentrations occur in the desert areas where wind-blown dust contributes to local PM_{10} problems. Particles resulting from combustion contribute to high PM_{10} in a number of urban areas. While many of the control programs implemented for ozone will also reduce PM_{10}, more controls specifically for PM_{10} will be needed to reach attainment.

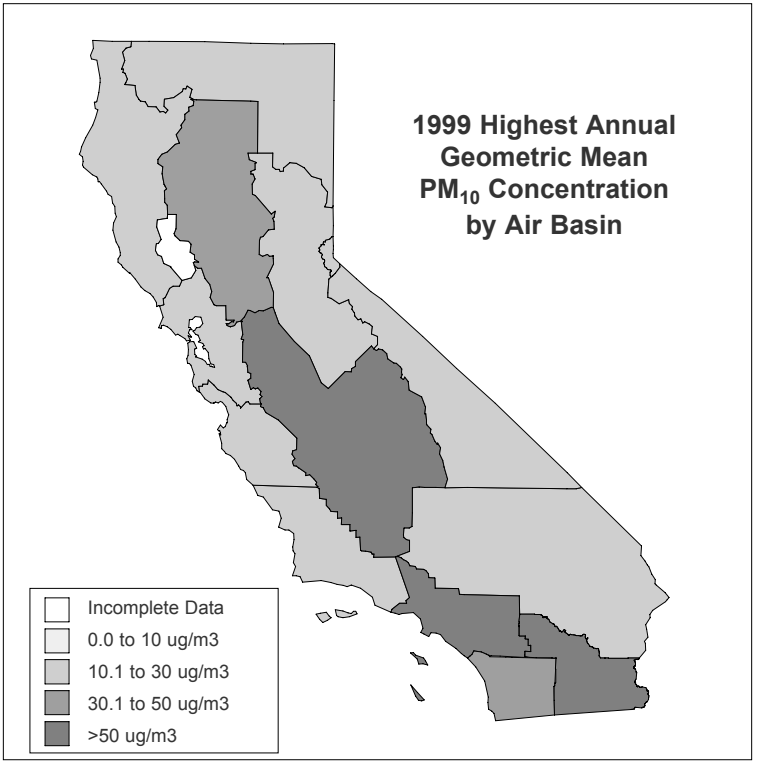

Figure 2-4

PM_{10} - 1999 Air Quality Tables

Maximum Annual Geometric Mean PM_{10} Concentration by Air Basin

AIR BASIN	1999 Maximum Annual Geometric Mean in micrograms/cubic meter
Great Basin Valleys Air Basin	14.0
Lake County Air Basin	Incomplete Data
Lake Tahoe Air Basin	17.4
Mojave Desert Air Basin	27.9
Mountain Counties Air Basin	22.5
North Central Coast Air Basin	27.6
North Coast Air Basin	21.2
Northeast Plateau Air Basin	22.2
Sacramento Valley Air Basin	30.3
Salton Sea Air Basin	66.3
San Diego Air Basin	47.5
San Francisco Bay Area Air Basin	25.4
San Joaquin Valley Air Basin	50.3
South Central Coast Air Basin	28.1
South Coast Air Basin	64.9

Table 2-12

Sites with Annual Geometric Mean Concentrations Violating the State PM_{10} Standard

Sacramento Valley Air Basin
- Yuba City-Almond Street

Salton Sea Air Basin
- Calexico-East
- Calexico-Ethel Street
- Calexico-Grant Street
- Indio-Jackson Street
- Westmorland-W 1st Street

San Diego Air Basin
- Otay Mesa-Paseo International
- San Diego-Logan Avenue
- El Cajon-Redwood Avenue
- San Diego-12th Avenue

San Joaquin Valley Air Basin
- Bakersfield-Golden State Highway
- Visalia-N Church Street
- Fresno-Drummond Street
- Hanford-S Irwin Street
- Corcoran-Patterson Avenue

South Coast Air Basin
- Riverside-Rubidoux
- Ontario-1408 Francis Street
- Fontana-Arrow Highway
- Azusa
- San Bernardino-4th Street

Sites with annual geometric mean PM_{10} concentrations violating the State PM_{10} standard during 1999. The top five sites in each air basin are listed in descending order of their maximum annual concentration. If an air basin is not listed, annual PM_{10} concentrations in that air basin were not above the State annual PM_{10} standard.

Table 2-13

California's $PM_{2.5}$ Monitoring Program

As explained in the Introduction section of Chapter 1, the United States Environmental Protection Agency promulgated new national standards for particulate matter (PM) during July 1997. The national PM standards apply to the mass concentrations of particles with aerodynamic diameters less than 2.5 microns ($PM_{2.5}$) and less than 10 microns (PM_{10}). At this time, there is some uncertainty about the future of the national PM standards. The standards have been challenged in court, and implementation of the $PM_{2.5}$ standards is on hold as the publication date of this almanac. However, the U.S. EPA is continuing to move forward with its $PM_{2.5}$ monitoring program which requires the states to establish and operate a network of $PM_{2.5}$ mass and speciation monitors.

During 1998 and 1999, the ARB and local air pollution control districts and air quality management districts established a comprehensive network of community-representative $PM_{2.5}$ monitoring sites. California's $PM_{2.5}$ monitoring network now comprises 82 monitoring sites. (One site in the northwest portion of the Lake Tahoe Air Basin is expected to be in place in 2001.)

In addition to the current $PM_{2.5}$ mass and speciation monitors, the ARB and local air districts plan to deploy other types of instruments at sites throughout the network, including continuous $PM_{2.5}$ mass samplers and different types of speciation samplers. Approximately 37 continuous mass monitors are expected to be deployed throughout the State by the end of 2001. These samplers collect hourly data that are useful for public reporting, understanding the daily and episodic behavior of fine particles, background monitoring, and transport assessment. The $PM_{2.5}$ speciation network will be phased in over the next several years, allowing time to evaluate newly emerging measurement technologies. The specifics of the existing and proposed $PM_{2.5}$ monitoring network are detailed in an ARB report titled *"2000 California Particulate Matter Monitoring Network Description"* (June 2000). The report is available on the web at: *www.arb.ca.gov/aqd/pm25/pmfnet00.htm*.

The majority of sites in California's $PM_{2.5}$ network began sampling in early 1999 and now have sufficient data for making some comparisons among the sites. The 1999 data are summa-

rized in Table 2-14. Each site in the $PM_{2.5}$ network is listed, regardless of the amount of data that have been collected. Table 2-14 lists the Monitoring Planning Area, the site name, the highest 24-hour average $PM_{2.5}$ mass concentration, the average of quarters (annual average), an indication of data completeness, the number of months represented, the number of quarters represented, and the total number of valid observations during the year. The national $PM_{2.5}$ standards are based on three years of data and percentile averages. As a result, the data in Table 2-14 are not sufficient for determining which areas are attainment and which areas are nonattainment.

The high 24-hour $PM_{2.5}$ mass concentrations measured throughout California during 1999 reflect a wide range of values. The highest 24-hour concentrations among sites with valid data range from 20 $\mu g/m^3$ at San Luis Obispo-Marsh Street to 136 $\mu g/m^3$ at Fresno-1st Street. The average of quarters, or annual average, concentrations among sites with valid data range from 7.9 $\mu g/m^3$ at Alturas-W 4th Street to 31.2 $\mu g/m^3$ at Bakersfield-5558 California Avenue. In general, both the highest 24-hour and annual average $PM_{2.5}$ concentrations are found at sites in the South Coast Air Basin and San Joaquin Valley Air Basin. Relatively high 24-hour measurements are also found in the San Francisco Bay Area Air Basin, the Sacramento Valley Air Basin, and certain parts of the Mountain Counties Air Basin. While the annual concentrations at sites in these areas are substantially lower than in the South Coast and San Joaquin Valley Air Basins, the 1999 annual average concentrations at some sites in the Sacramento Valley Air Basin exceed 15 $\mu g/m^3$ which is the level of the national $PM_{2.5}$ standard.

On average, the highest 24-hour concentrations occurred in January, November, and December, while the lowest occurred between March and August. Most areas follow this seasonal pattern to some degree. The seasonality is most pronounced in the San Joaquin Valley Air Basin, where the January-November-December concentrations were on the order of 4 to 5 times greater than those for March through August. Less pronounced seasonality following this pattern occurred in the San Francisco Bay Area Air Basin, the San Diego Air Basin, the Sacramento Valley Air Basin, the North Coast Air Basin, the Mojave Desert Air Basin, and Imperial County. In other areas, the highest $PM_{2.5}$ concentrations occurred throughout the year, though in most cases, the "high" values for these areas were low, when compared with those areas showing seasonality. The two exceptions are the South Coast Air Basin and Coachella Valley. In these two areas, fairly high $PM_{2.5}$ concentrations occurred throughout the year.

Similar to PM_{10}, the contrast in $PM_{2.5}$ concentrations makes the $PM_{2.5}$ problem in California difficult and complex. The emission sources can be very diverse from one area to another. Furthermore, because of the variety of sources and the size and chemical composition of the particles, both the nature and causes of the problem can vary considerably from area-to-area. As a result, even though two areas may have similar $PM_{2.5}$ concentrations, they may have very different $PM_{2.5}$ problems. To add to the complexity, a single area may have a different type of PM problem during different times of the year. Monitoring programs will help in making strides toward understanding and controlling the $PM_{2.5}$ problem.

1999 $PM_{2.5}$ Air Quality Data

Monitoring Planning Area / Site Name	High 24-Hour Conc. ug/m3	*Average of Quarters ug/m3	*Valid?	†Number of Months	†Number of Quarters	‡Number of Observations
Bay Area AQMD						
Concord-2975 Treat Blvd	55.4	11.7	No	10	4	105
Fremont-Chapel Way	56.5	13.9	No	12	4	76
Livermore-793 Rincon Avenue	63.1	28	No	1	1	8
Redwood City	59.7	12.1	No	11	4	68
San Francisco-Arkansas Street	71.2	12.6	No	11	4	121
San Jose-Tully Road	77	14.5	No	10	4	117
San Jose-4th Street	69.3	12	No	10	4	117
Santa Rosa-5th Street	54.9	11.7	No	12	4	69
Vallejo-304 Tuolumne Street	90.5	14.1	No	10	4	63
Coachella Valley						
Indio-Jackson Street	29.6	12.8	No	10	4	83
Palm Springs-Fire Station (open 1/00)			No	0	0	0
Great Basin Unified APCD						
Keeler-Cerro Gordo Road	40.7	7.2	No	10	4	69
Mammoth Lakes-Gateway HC (open 6/00)			No	0	0	0
Imperial County APCD						
Brawley-Main Street	44.2	10.8	No	9	4	70
Calexico-Ethel Street	51.6	15.2	Yes	12	4	107
El Centro-9th Street	52.5	11.5	No	12	4	109
Lake County Air Basin						
Lakeport-Lakeport Blvd	14.5	4.4	No	12	4	47

* Average of Quarters and Valid? are calculated according to the methods specified in 40 CFR Part 50, Appendix N. Typically, a year is complete, and the Average of Quarters is therefore valid, if 75% or more of the expected measurements are available in each quarter. Under certain circumstances, however, an Average of Quarters can be deemed valid with fewer measurements (see 40 CFR Part 50, Appendix N for details).
† Number of Months and Number of Quarters are the number of months and number of quarters, respectively, that include at least one measurement.
‡ Number of Observations is the total number of 24-hour measurements represented at each site.

Table 2-14

1999 $PM_{2.5}$ Air Quality Data

Monitoring Planning Area / Site Name	High 24-Hour Conc. ug/m3	*Average of Quarters ug/m3	*Valid?	†Number of Months	†Number of Quarters	‡Number of Observations
Lake Tahoe Air Basin						
Echo Summit (opened 1/00)			No	0	0	0
North Lake Tahoe (planned site)			No	0	0	0
South Lake Tahoe-Sandy Way	21	8.3	Yes	12	4	59
Mojave Desert Air Basin						
Lancaster-W Pondera Street	25.5	10.8	Yes	12	4	112
Mojave-923 Poole Street	15.8	8.3	No	10	4	89
Ridgecrest-Las Flores Avenue	22.9	8.5	No	7	3	46
Victorville-Armagosa Road	24.3	11.8	Yes	12	4	112
Monterey Bay Unified APCD						
Salinas-Natividad Road #2	17	8.1	No	8	3	61
Santa Cruz-2544 Soquel Avenue	31.4	9.4	No	6	3	52
Mountain Counties Air Basin						
Grass Valley-Litton Building	31	7.6	No	12	4	52
Portola-Commercial Street	70	13.9	No	10	4	73
Quincy-N Church Street	92	13.3	No	10	4	73
San Andreas-Gold Strike Road	33	11.1	Yes	12	4	59
Truckee-Fire Station	50	9	No	8	4	46

* Average of Quarters and Valid? are calculated according to the methods specified in 40 CFR Part 50, Appendix N. Typically, a year is complete, and the Average of Quarters is therefore valid, if 75% or more of the expected measurements are available in each quarter. Under certain circumstances, however, an Average of Quarters can be deemed valid with fewer measurements (see 40 CFR Part 50, Appendix N for details).
† Number of Months and Number of Quarters are the number of months and number of quarters, respectively, that include at least one measurement.
‡ Number of Observations is the total number of 24-hour measurements represented at each site.

Table 2-14 (continued)

1999 $PM_{2.5}$ Air Quality Data

Monitoring Planning Area / Site Name	High 24-Hour Conc. ug/m3	*Average of Quarters ug/m3	*Valid?	†Number of Months	†Number of Quarters	‡Number of Observations
North Coast Air Basin						
Eureka-Health Dept 6th and I Street	36.9	9	Yes	12	4	58
Ukiah-County Library	35.6	8.7	Yes	12	4	58
Northeast Plateau Air Basin						
Alturas-W 4th Street	40	7.9	Yes	12	4	56
Sacramento Valley Air Basin						
Chico-Manzanita Avenue	73	17.5	Yes	12	4	59
Colusa-Sunrise Blvd	55	13.2	No	12	4	85
Redding-Health Dept Roof	57	12.9	Yes	12	4	57
Roseville-N Sunrise Blvd	79	13.4	Yes	12	4	59
Sacramento-Del Paso Manor	86	23.7	No	7	3	66
Sacramento-Health Dept Stockton Blvd	86	16.2	Yes	11	4	158
Sacramento-T Street	108	17	Yes	12	4	264
Woodland-Gibson Road	70	16.3	Yes	11	4	98
Yuba City-Almond Street	58	15.9	Yes	12	4	58
San Diego County APCD						
Chula Vista	47.1	15.2	Yes	12	4	102
El Cajon-Redwood Avenue	63.9	16.6	Yes	12	4	319
Escondido-E Valley Parkway	56.8	17.6	Yes	12	4	248
San Diego-Overland Avenue	43.5	13.7	Yes	12	4	99
San Diego-12th Avenue	46.4	17.4	Yes	12	4	290

* Average of Quarters and Valid? are calculated according to the methods specified in 40 CFR Part 50, Appendix N. Typically, a year is complete, and the Average of Quarters is therefore valid, if 75% or more of the expected measurements are available in each quarter. Under certain circumstances, however, an Average of Quarters can be deemed valid with fewer measurements (see 40 CFR Part 50, Appendix N for details).
† Number of Months and Number of Quarters are the number of months and number of quarters, respectively, that include at least one measurement.
‡ Number of Observations is the total number of 24-hour measurements represented at each site.

Table 2-14 (continued)

1999 $PM_{2.5}$ Air Quality Data

Monitoring Planning Area / Site Name	High 24-Hour Conc. ug/m3	*Average of Quarters ug/m3	*Valid?	†Number of Months	†Number of Quarters	‡Number of Observations
San Joaquin Valley Unified APCD						
Bakersfield-Golden State Highway	133.9	26.2	Yes	12	4	84
Bakersfield-Southeast (opened 2/00)			No	0	0	0
Bakersfield-5558 California Avenue	134.8	31.2	Yes	12	4	294
Clovis-N Villa Avenue	97.7	19.8	Yes	12	4	82
Corcoran-Patterson Avenue	113.5	23.1	Yes	12	4	79
Fresno-Hamilton & Winery (opened 1/00)			No	0	0	0
Fresno-1st Street	136	27.7	Yes	12	4	275
Merced-2334 M Street	108.7	22.6	No	9	3	53
Modesto-14th Street	108	24.9	Yes	12	4	117
Stockton-Hazelton Street	101	19.7	Yes	12	4	117
Visalia-N Church Street	123	27.6	Yes	12	4	117
San Luis Obispo County APCD						
Atascadero-Lewis Avenue	27.5	9.6	Yes	12	4	59
San Luis Obispo-Marsh Street	20	8.2	Yes	12	4	54
Santa Barbara County APCD						
Santa Barbara-W Carillo Street	31	13.4	Yes	12	4	56
Santa Maria-Broadway	19.3	10.2	No	3	1	14

* Average of Quarters and Valid? are calculated according to the methods specified in 40 CFR Part 50, Appendix N. Typically, a year is complete, and the Average of Quarters is therefore valid, if 75% or more of the expected measurements are available in each quarter. Under certain circumstances, however, an Average of Quarters can be deemed valid with fewer measurements (see 40 CFR Part 50, Appendix N for details).
† Number of Months and Number of Quarters are the number of months and number of quarters, respectively, that include at least one measurement.
‡ Number of Observations is the total number of 24-hour measurements represented at each site.

Table 2-14 (continued)

1999 $PM_{2.5}$ Air Quality Data

Monitoring Planning Area / Site Name	High 24-Hour Conc. ug/m3	*Average of Quarters ug/m3	*Valid?	†Number of Months	†Number of Quarters	‡Number of Observations
South Coast Air Basin						
Anaheim-Harbor Blvd	68.6	25.9	No	8	4	92
Azusa	81.3	25	Yes	12	4	144
Big Bear City-501 W. Valley Blvd	32.1	10.3	Yes	11	4	97
Burbank-W Palm Avenue	79.4	22.9	Yes	12	4	106
Fontana-Arrow Highway	97.9	25.7	Yes	12	4	121
Los Angeles-North Main Street	69.3	23	Yes	12	4	136
Lynwood	67.7	24.3	Yes	12	4	110
Mission Viejo-26081 Via Pera	56.6	17	No	7	3	65
North Long Beach	66.9	20.7	Yes	12	4	148
Ontario-1408 Francis Street	85.8	25.4	Yes	12	4	96
Pasadena-S Wilson Avenue	73	19.9	No	10	4	95
Pico Rivera	85.6	25.7	Yes	12	4	111
Reseda	79	17.3	Yes	10	4	71
Riverside-Magnolia	89.9	26.7	Yes	12	4	110
Riverside-Rubidoux	111.2	31	Yes	12	4	137
San Bernardino-4th Street	121.4	25.6	Yes	12	4	104
Ventura County APCD						
El Rio-Rio Mesa School #2	36.7	12.2	No	12	4	92
Piru-Pacific Avenue (to open 8/00)			No	0	0	0
Simi Valley-Cochran Street	64.6	13.8	Yes	12	4	109
Thousand Oaks-Moorpark Road	53.2	11.8	Yes	12	4	110

* Average of Quarters and Valid? are calculated according to the methods specified in 40 CFR Part 50, Appendix N. Typically, a year is complete, and the Average of Quarters is therefore valid, if 75% or more of the expected measurements are available in each quarter. Under certain circumstances, however, an Average of Quarters can be deemed valid with fewer measurements (see 40 CFR Part 50, Appendix N for details).
† Number of Months and Number of Quarters are the number of months and number of quarters, respectively, that include at least one measurement.
‡ Number of Observations is the total number of 24-hour measurements represented at each site.

Table 2-14 (continued)

Carbon Monoxide

2000 Statewide Emission Inventory - Carbon Monoxide by Category

Carbon monoxide (CO) gas is formed as the result of incomplete combustion of fuels and waste materials such as gasoline, diesel fuel, wood, and agricultural debris. Mobile sources generate over 85 percent of the statewide CO emissions. Diesel-powered, on-road vehicles are small CO contributors. Stationary and area-wide sources of CO are the same types of fuel combustion sources that also generate NO_x. The stationary source contribution to statewide CO is small, due in part to widespread use of natural gas as a fuel and the presence of combustion controls.

CO Emissions (annual average)		
Emissions Source	**tons/day**	**Percent**
Stationary Sources	349	2%
Area-wide Sources	2343	11%
On-Road Mobile	14691	71%
Gasoline Vehicles	14538	71%
Diesel Vehicles	153	1%
Other Mobile	3207	16%
Total Statewide	**20591**	**100%**

Table 2-15

Carbon Monoxide - 1999 Air Quality

The State and national carbon monoxide standards are now attained in most areas of California. The requirements for cleaner vehicles and fuels have been primarily responsible for the reductions in CO, despite significant increases in population and the number of vehicle miles traveled each day. However, there are still two problem areas: a limited portion of Los Angeles County and the city of Calexico in Imperial County. The CO problem in Calexico is unique in that this area shares a border with Mexico, and there is a high likelihood that cross-border traffic contributes to the local CO problem. More study is needed to determine the most effective control strategy for this area.

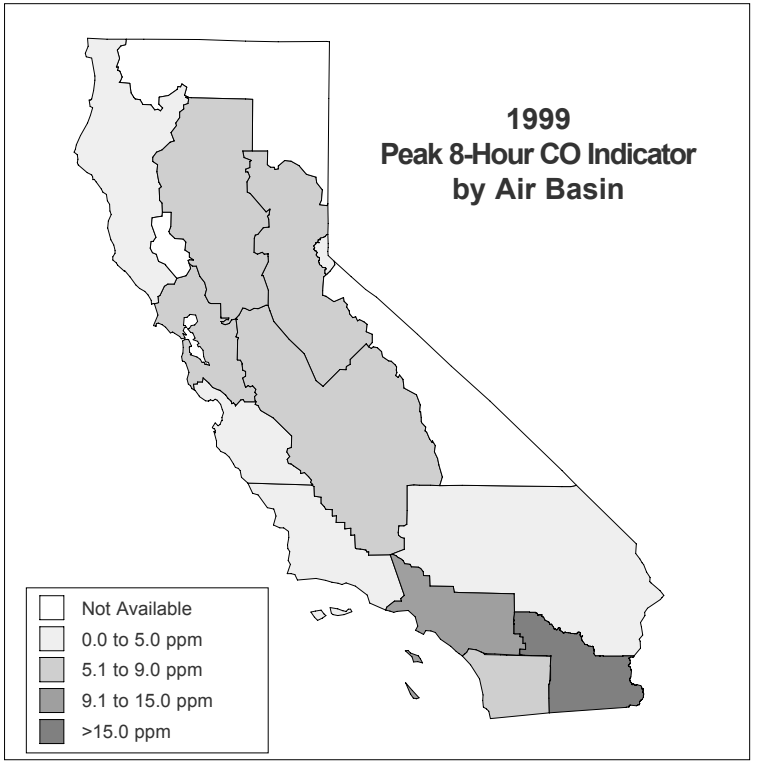

Figure 2-5

Carbon Monoxide - 1999 Air Quality Tables

Maximum Peak 8-Hour Indicator by Air Basin

AIR BASIN	1999 Maximum Peak 8-Hour Indicator in parts per million	Number of Days in 1999 above State 8-Hour Standard	Number of Days in 1999 above National 8-Hour Standard
Great Basin Valleys Air Basin	Incomplete Data	Incomplete Data	Incomplete Data
Lake County Air Basin	Incomplete Data	Incomplete Data	Incomplete Data
Lake Tahoe Air Basin	2.3	0	0
Mojave Desert Air Basin	4.4	0	0
Mountain Counties Air Basin	5.4	0	0
North Central Coast Air Basin	2	0	0
North Coast Air Basin	3.6	0	0
Northeast Plateau Air Basin	Incomplete Data	Incomplete Data	Incomplete Data
Sacramento Valley Air Basin	7	0	0
Salton Sea Air Basin	15.5	13	11
San Diego Air Basin	5.6	0	0
San Francisco Bay Area Air Basin	6.5	0	0
San Joaquin Valley Air Basin	8.5	0	0
South Central Coast Air Basin	4.5	0	0
South Coast Air Basin	13.7	11	7

Table 2-16

Sites with Maximum 8-Hour Concentrations Violating the State CO Standard

Salton Sea Air Basin

- Calexico-East
- Calexico-Ethel Street

South Coast Air Basin

- Lynwood

Sites with 8-hour average CO concentrations violating the State CO standard during 1999. Sites in each air basin are listed in descending order of their maximum 8-hour concentration. If an air basin is not listed, CO concentrations in that air basin did not violate the State CO standard.

Table 2-17