

BAY AREA AIR POLLUTION SUMMARY — 2010

—See NOTES on
second page

MONITORING STATIONS	OZONE						CARBON MONOXIDE			NITROGEN DIOXIDE			SULFUR DIOXIDE				PM ₁₀				PM _{2.5}				
	Max 1-Hr	Cal 1-Hr Days	Max 8-Hr	Nat 8-Hr Days	Cal Days	3-Yr Avg	Max 1-Hr	Max 8-Hr	Nat/Cal Days	Max 1-Hr	Ann Avg	Nat/Cal Days	Max 1-Hr	Max 24-Hr	Nat/Cal Days	Ann Avg	Max 24-Hr	Nat Days	Cal Days	Ann Avg	Max 24-Hr	Nat Days	3-Yr Avg	Ann Avg	3-Yr Avg
North Counties	(ppb)		(ppb)				(ppm)			(ppb)			(ppb)				(µg/m ³)				(µg/m ³)			(µg/m ³)	
Napa	106	1	89	2	2	66	2.3	1.4	0	56.0	9	0	-	-	-	17.4	37	0	0	-	-	-	-	-	-
San Rafael*	83	0	69	0	0	54	1.7	1.1	0	57.0	12	0	-	-	-	16.7	51	0	1	46.5	4	*	10.7	*	
Santa Rosa	84	0	68	0	0	54	2.5	1.1	0	42.0	8	0	-	-	-	-	-	-	-	26.6	0	26	7.2	8.1	
Vallejo	91	0	80	1	2	63	2.9	1.9	0	55.0	9	0	11.0	2.4	0	-	-	-	-	29.5	0	31	7.7	9.1	
Coast & Central Bay																									
Berkeley*	75	0	49	0	0	44	2.5	1.5	0	53.4	13	0	9.0	2.4	0	21.0	43	0	0	-	-	-	-	-	
Oakland	97	1	58	0	0	53	3.0	1.6	0	64.1	13	0	11.0	3.7	-	-	-	-	-	25.2	0	23	7.8	8.9	
Oakland West	-	-	-	-	-	-	2.7	1.7	0	68.6	16	0	-	-	-	-	-	-	-	-	-	-	-	-	
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	26.0	6.5	0	-	-	-	-	-	-	-	-	-	
San Francisco	79	0	51	0	0	47	1.8	1.4	0	92.9	13	0	-	-	-	19.9	40	0	0	45.3	3	26	10.5	10.0	
San Pablo*	97	1	81	1	1	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-	-	-	-	
Eastern District																									
Bethel Island	106	3	86	4	7	76	1.4	0.8	0	32.3	6	0	19.0	3.3	0	18.7	70	0	1	-	-	-	-	-	
Concord	103	2	87	1	4	74	1.2	1.0	0	42.0	8	0	9.0	2.4	0	13.7	41	0	0	36.4	1	30	7.1	8.3	
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	16.3	4.1	0	-	-	-	-	-	-	-	-	-	
Fairfield	103	1	81	2	3	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Livermore	150	3	97	3	6	80	-	-	-	58.4	11	0	-	-	-	-	-	-	-	34.7	0	30	7.6	9.0	
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	37.0	5.5	0	-	-	-	-	-	-	-	-	-	
South Central Bay																									
Fremont*	120	1	81	1	1	62	*	*	*	*	*	*	-	-	-	-	-	-	-	*	*	*	*	*	
Hayward*	*	*	*	*	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Redwood City	113	2	77	1	1	57	3.3	1.7	0	52.7	12	0	-	-	-	-	-	-	-	36.5	1	25	8.3	8.7	
Santa Clara Valley																									
Gilroy	94	0	81	5	7	74	-	-	-	-	-	-	-	-	-	-	-	-	-	29.9	0	23	8.2	8.6	
Los Gatos	109	2	87	2	3	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
San Jose Central	126	5	86	3	3	66	2.8	2.2	0	64.0	14	0	4.9	1.8	0	19.5	47	0	0	41.5	3	30	8.8	10.1	
San Martin	109	2	87	5	8	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Bay Area Days over Standard	8		9 11				0			0			0				0 2				6				

*See NOTES on second page

2010 NOTES

The annual Bay Area Air Pollution Summary summarizes pollutant concentrations for comparison to the national and California air pollution standards.

*Station Information (see asterisks on front page)

The Fremont site was closed on October 31, 2010. Therefore, statistics are not available for all but the summer peak ozone season.

The Berkeley site was closed on December 31, 2010 at the conclusion of a 3-year air monitoring study.

The San Pablo site was temporarily closed from March 2009 to May 2010 due to damage from a building fire. Therefore, 2010 statistics are not available for all but the summer peak ozone season. 3-year average ozone statistics are not available.

The Hayward site was temporarily closed during 2010 due to a major construction project adjacent to the site. Therefore, annual and three-year average statistics for ozone are not available.

PM_{2.5} monitoring began at San Rafael in October 2009. Therefore, three-year average PM_{2.5} statistics are not available.

A new site was opened in Cupertino on September 1, 2010 for a one-year air monitoring study. Due to the brief period of monitoring in 2010, Cupertino data are not shown in the table.

Explanation of Terms

State and national excesses occur when pollutant concentrations surpass the indicated standards. For comparison, values in ppb must be converted to ppm and rounded to the same number of decimal places as the original standard.

MAX HR / MAX 8-HR / MAX 24-HR

The highest average contaminant concentration over a one-hour period, an eight-hour period (on any given day), or a 24-hour period (from midnight to midnight).

ANN AVG

The yearly average (arithmetic mean) of the readings taken at a given monitoring station.

NAT DAYS

The number of days during the year for which the monitoring station recorded contaminant concentrations in excess of the national standard.

CAL DAYS

The number of days during the year for which the station recorded contaminant concentrations in excess of the California standard.

TOTAL BAY AREA DAYS OVER STANDARD

is not a sum of excesses at individual stations, but rather a sum of the number of days for which excesses occurred at any one or more stations.

3-YR AVG (Nat. 8-hr ozone standard)

The 3-year average of the fourth highest 8-hour average ozone concentration for each monitoring station. A 3-year average greater than 84

ppb at any monitoring station means that the region does not meet the standard and may be designated non-attainment by the EPA.

PM₁₀

Particulate matter ten microns or smaller in size. PM₁₀ is only sampled every sixth day. Actual days over standard can be estimated to be six times the number shown.

PM_{2.5}

Particulate matter 2.5 microns or smaller in size. PM_{2.5} is a sub-category of PM₁₀.

PM₁₀ ANN AVG and MAX 24-HR

This table shows PM₁₀ data reported at local temperature and pressure conditions, according to the California standards. National PM₁₀ data are converted to standard temperature and pressure conditions, which generally results in slightly lower readings.

3-YR AVG (PM_{2.5} 24-hour standard)

The 3-year average of the annual 98th percentiles of the individual 24-hour concentrations of PM_{2.5}. A 3-year average greater than 35 µg/m³ at any monitoring station means that the region does not meet the standard and may be designated non-attainment by the EPA.

3-YR AVG (PM_{2.5} annual standard)

The 3-year average of the quarterly averages of PM_{2.5}. A 3-year average greater than 15.0 µg/m³ at any monitoring station means that the region does not meet the standard and may be designated non-attainment by the EPA.

HEALTH-BASED AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Std	National Std
Ozone	1 Hour	0.09 ppm	—
	8 Hour	0.070 ppm	0.075 ppm
Carbon Monoxide	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9 ppm
Nitrogen Dioxide*	1 Hour	0.18 ppm	0.100 ppm
	Annual	0.030 ppm	0.053 ppm
Sulfur Dioxide*	1-Hour	—	0.075 ppm
	24 Hour	0.04 ppm	—
Particulates ≤ 10 microns	24 Hour	50 µg/m ³	150 µg/m ³
	Annual	20 µg/m ³	—
Particulates < 2.5 microns	24 Hour	—	35 µg/m ³
	Annual	12 µg/m ³	15.0 µg/m ³

* In 2010 the U.S. EPA implemented a new 1-hour nitrogen dioxide standard of 100 ppb, and a new 1-hour sulfur dioxide standard of 75 ppb. The previous 24-hour and annual sulfur dioxide standards were revoked.

Concentrations

ppm
parts per million

ppb
parts per billion

µg/m³
micrograms per cubic meter

TEN-YEAR BAY AREA AIR QUALITY SUMMARY

DAYS OVER STANDARDS

YEAR	OZONE			CARBON MONOXIDE				Nitrogen Dioxide		Sulfur Dioxide		PM ₁₀		PM _{2.5}
	8-Hr* Nat	1-Hr Cal	8-Hr Cal	1-Hr		8-Hr		1-Hr Nat** Cal	1-Hr Nat** Cal	24-Hr		24-Hr Nat	24-Hr*** Nat	
				Nat	Cal	Nat	Cal			Nat	Cal			
2001	7	15	-	0	0	0	0	-	0	-	0	10	5	
2002	7	16	-	0	0	0	0	-	0	-	0	6	7	
2003	7	19	-	0	0	0	0	-	0	-	0	6	0	
2004	0	7	-	0	0	0	0	-	0	-	0	7	1	
2005	1	9	9	0	0	0	0	-	0	-	0	6	0	
2006	12	18	22	0	0	0	0	-	0	-	0	15	10	
2007	1	4	9	0	0	0	0	-	0	-	0	4	14	
2008	12	9	20	0	0	0	0	-	0	-	0	5	12	
2009	8	11	13	0	0	0	0	-	0	-	0	1	11	
2010	9	8	11	0	0	0	0	0	0	0	0	2	6	

* On May 17, 2008, the U.S. EPA revised the 8-hour ozone standard from 0.08 ppm to 0.075 ppm.

** In 2010, the U.S. EPA implemented a new national 1-hour nitrogen dioxide standard of 100 ppb and a new national 1-hour sulfur dioxide standard of 75 ppb.

*** On Dec. 17, 2006, the U.S. EPA revised the national 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³. Starting in 2006, PM_{2.5} exceedance days reflect the new standard.