

BAY AREA AIR POLLUTION SUMMARY – 2018

MONITORING STATIONS	OZONE						CARBON MONOXIDE			NITROGEN DIOXIDE				SULFUR DIOXIDE				PM ₁₀				PM _{2.5}								
	Max 1-Hr	Cal 1-Hr	Max 8-Hr	Nat 8-Hr	Cal 8-Hr	3-Yr Avg	Max 1-Hr	Max 8-Hr	Nat/Cal Days	Max 1-Hr	Ann Avg	Nat 1-Hr	Cal 1-Hr	Max 1-Hr	Max 24-Hr	Nat 1-Hr	Cal 24-Hr	Ann Avg	Max 24-Hr	Nat 24-Hr	Cal 24-Hr	Max 24-Hr	Nat 24-Hr	3-yr Avg	Ann Avg	3-yr Avg				
North Counties	(ppb)		(ppb)			(ppb)	(ppm)			(ppb)				(ppb)				(µg/m ³)				(µg/m ³)	(µg/m ³)		(µg/m ³)					
Napa*	47	0	42	0	0	*	1.6	1.1	0	39	*	0	0	-	-	-	-	-	-	-	-	30.2	0	*	*	*				
Napa Valley College*	83	0	68	0	0	*	1.4	1.1	0	43	*	0	0	-	-	-	-	*	26	0	0	117.9	12	*	*	*				
San Rafael	72	0	53	0	0	54	2.0	1.6	0	55	9	0	0	-	-	-	-	19.0	166	1	2	167.6	13	42	11.1	9.1				
Sebastopol	71	0	53	0	0	51	1.4	1.3	0	65	4	0	0	-	-	-	-	-	-	-	-	175.3	13	34	8.3	7.0				
Vallejo	70	0	55	0	0	56	2.8	2.4	0	57	8	0	0	6.7	1.8	0	0	-	-	-	-	197.2	13	48	13.3	10.8				
Coast & Central Bay																														
Berkeley Aquatic Park*	59	0	49	0	0	*	2.6	2.2	0	73	15	0	0	-	-	-	-	-	-	-	-	165.5	13	*	11.9	*				
Laney College Freeway	-	-	-	-	-	-	2.1	1.6	0	73	17	0	0	-	-	-	-	-	-	-	-	168.2	14	45	14.4	11.6				
Oakland	61	0	52	0	0	51	3.3	2.4	0	73	10	0	0	-	-	-	-	-	-	-	-	172.1	13	43	11.8	9.1				
Oakland-West	63	0	50	0	0	46	3.6	3.1	0	76	12	0	0	11.9	2.5	0	0	-	-	-	-	169.2	14	45	14.4	12.0				
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	-	24.3	6.3	0	0	-	-	-	-	-	-	-	-	-				
San Francisco	65	0	49	0	0	47	1.9	1.6	0	69	11	0	0	-	-	-	-	20.1	43	0	0	177.4	14	44	11.7	9.6				
San Pablo	61	0	52	0	0	49	1.9	1.7	0	60	8	0	0	10.2	2.1	0	0	21.4	200	1	2	195.4	14	44	12.7	10.5				
Eastern District																														
Bethel Island	93	0	78	1	1	67	2.2	2.0	0	43	5	0	0	6.1	2.1	0	0	21.5	151	0	2	-	-	-	-	-				
Concord	77	0	61	0	0	60	1.9	1.6	0	38	6	0	0	9.6	2.0	0	0	16.3	105	0	1	180.0	14	40	13.4	10.5				
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	-	28.9	4.8	0	0	-	-	-	-	-	-	-	-	-				
Fairfield	78	0	66	0	0	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Livermore	99	2	78	3	3	73	-	-	-	56	9	0	0	-	-	-	-	-	-	-	-	172.6	14	40	11.3	9.1				
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	-	24.8	4.4	0	0	-	-	-	-	-	-	-	-	-				
Pleasanton*	-	-	-	-	-	-	2.3	2.0	0	64	*	0	0	-	-	-	-	-	-	-	-	164.7	13	*	*	*				
San Ramon	86	0	76	2	2	65	-	-	-	45	6	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-				
South Central Bay																														
Hayward	75	0	66	0	0	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Redwood City	67	0	49	0	0	53	2.5	1.7	0	77	11	0	0	-	-	-	-	-	-	-	-	120.9	13	36	10.3	9.3				
Santa Clara Valley																														
Gilroy	97	1	65	0	0	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97.5	12	28	7.7	6.3				
Los Gatos	82	0	67	0	0	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
San Jose	78	0	61	0	0	63	2.5	2.1	0	86	13	0	0	6.9	1.1	0	0	23.1	122	0	4	133.9	15	42	12.8	10.2				
San Jose Freeway	-	-	-	-	-	-	2.8	2.3	0	88	17	0	0	-	-	-	-	-	-	-	-	138.4	15	42	12.3	10.7				
San Martin	92	0	80	1	1	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total Bay Area	2		3			3	0			0				0				1				6				18				
Days over Standard	*See NOTES on second page. Dash (-) indicates pollutant is not monitored at the site.																													

2018 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)

Air monitoring at Napa was discontinued on March 31, 2018. Therefore, annual and 3-year averages for ozone and PM_{2.5} statistics are not available.

Air monitoring at Napa Valley College began on April 1, 2018. Therefore, annual and 3-year averages for ozone and PM_{2.5}, and PM₁₀ statistics are not available, where applicable.

Near-road air monitoring at Berkeley Aquatic Park began on July 1, 2016. Therefore, 3-year averages for ozone and PM_{2.5} statistics are not available.

Near-road air monitoring at Pleasanton began on April 1, 2018. Therefore, annual and 3-year averages for NO₂ and PM_{2.5} statistics are not available, where applicable.

Explanation of Terms

State and national exceedances occur when pollutant concentrations exceed 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 pollutant 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 pollutant concentrations exceeding the national standard.

CAL DAYS

The number of days during the year for which the station recorded pollutant concentrations exceeding the California standard.

TOTAL BAY AREA DAYS OVER STANDARD

is not a sum of exceedances at individual stations, but rather the number of days where at least one site recorded an exceedance.

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

The 3-year average of the fourth highest 8-hour average ozone concentrations for each monitoring station. A 3-year average greater than 70 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 sampled every third day at San Jose and every sixth or twelfth day at all other sites.

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 12.0 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 Standard	National Standard
Ozone*	1 Hour	0.09 ppm	–
	8 Hour	0.070 ppm	0.070 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	12.0 µg/m ³

* In October 2015, the U.S. EPA implemented a new 8-hour ozone standard of 70 ppb. Exceedances are based on this standard (note that national and state numbers can differ due to data-handling conventions).

Concentrations

ppm

parts per million

ppb

parts per billion

µg/m³

micrograms per cubic meter

TEN-YEAR BAY AREA AIR QUALITY SUMMARY

DAYS OVER CURRENT STANDARDS

YEAR	OZONE			CARBON MONOXIDE				NITROGEN DIOXIDE		SULFUR DIOXIDE		PM ₁₀		PM _{2.5}
	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	1-Hr	24-Hr	24-Hr	24-Hr	24-Hr	
	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat
2009	11	11	13	0	0	0	0	0	0	0	0	0	1	11
2010	11	8	11	0	0	0	0	0	0	0	0	0	2	6
2011	9	5	10	0	0	0	0	0	0	0	0	0	3	8
2012	8	3	8	0	0	0	0	1	0	0	0	0	2	3
2013	3	3	3	0	0	0	0	0	0	0	0	0	6	13
2014	9	3	10	0	0	0	0	0	0	0	0	0	2	3
2015	12	7	12	0	0	0	0	0	0	0	0	0	1	9
2016	15	6	15	0	0	0	0	0	0	0	0	0	0	0
2017	6	6	6	0	0	0	0	1	0	0	0	0	6	18
2018	3	2	3	0	0	0	0	0	0	0	0	1	6	18