KidsData

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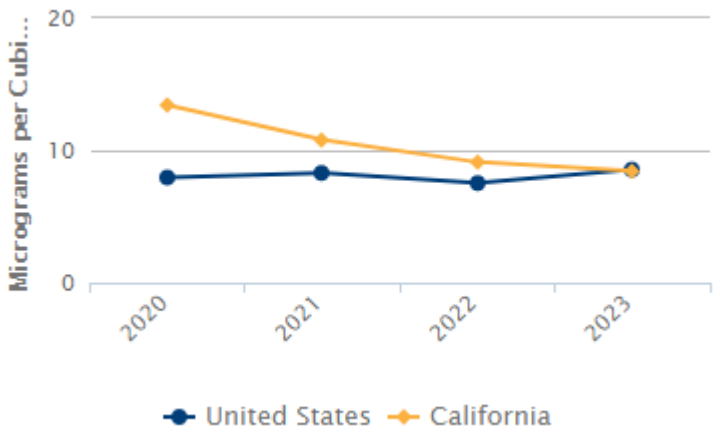
Air Quality in California

Annual Average Airborne Particulate Matter (PM2.5) Concentration: 2023

Locations	Micrograms per Cubic Meter
Alameda County	8.7
Contra Costa County	9.9
Fresno County	12.6
Kern County	13.6
Los Angeles County	11.1
Orange County	9.2
Riverside County	11.8
Sacramento County	9.4
San Bernardino County	12.3
San Diego County	9.0
Santa Clara County	8.2

Definition: Annual average concentration of fine particulate matter in the air (e.g., in 2023, the average concentration of fine particulate matter in the air in Los Angeles County was 11.1 micrograms per cubic meter).
Data Source: California Air Resources Board, custom tabulation (Oct. 2020) & iADAM: Air Quality Data Statistics (Mar. 2025); U.S. Environmental Protection Agency, Particulate Matter (PM2.5) Trends (Mar. 2025).

Annual Average Airborne PM2.5 Concentration



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Days with Ground-Level Ozone Concentrations Above National Standard: 2023

What It Is

Kidsdata.org offers two measures of outdoor air quality related to *criteria air pollutants*:

- The annual average concentration of fine particulate matter (PM2.5) in the air
- The number of days per year with unhealthy ground-level ozone concentrations (i.e., above the national standard of 0.070 parts per million)

Depending on the indicator, data are available for counties, the state (as averages across counties with data), and/or the nation (as averages across testing sites).

Why This Topic Is Important

Air pollution is a serious threat to children, with causal links to negative health impacts over the life course including adverse birth outcomes, impaired growth and development, obesity, cardiovascular and respiratory diseases, stroke, cancer, and disorders of the neurological, immune, and reproductive systems. Long-term effects also can extend beyond physical health—exposure to contaminants, especially at high concentrations and durations, is associated with cognitive, mental, and behavioral problems. Even at low levels of exposure, air pollution may harm children's health and growth, particularly during the prenatal, early childhood, and early adolescent stages of development. Children are more vulnerable to air pollution than adults because they breathe more air relative to their size, their bodies and organs are less fully developed, and they generally are more active and spend more time outdoors—resulting in greater proportionate exposure.

Air pollution can occur outdoors or indoors. Motor vehicles, power plants, industrial facilities, and wildfires are major sources of common outdoor air pollutants, such as ground-level ozone (a main component of smog), fine particulate matter, and noxious gases. These pollutants can flow indoors, where the air may be further polluted by appliances (fuel-burning or electric), emissions from cooking, smoke, mold, and chemical vapors from household products. Research has identified air pollution, especially fine particulate matter, as one of the greatest global threats to human health.

Children of color and those with lower household income are more likely than their peers to be exposed to air pollution and experience its related health impacts, as are children living in neighborhoods near industrial

Locations	Days
Alameda County	2
Contra Costa County	0
Fresno County	30
Kern County	52
Los Angeles County	70
Orange County	9
Riverside County	69
Sacramento County	9
San Bernardino County	91
San Diego County	27
Santa Clara County	3

Definition: Number of days per year with ground-level ozone concentrations above 0.070 parts per million (e.g., in 2023, unhealthy ozone concentrations were recorded on 70 days in Los Angeles County).
Data Source: California Air Resources Board, custom tabulation (Oct. 2020) & iADAM: Air Quality Data Statistics (Mar. 2025).

facilities or major highways, in agricultural areas, or in substandard housing. The increased risk of pollutant exposure for these children may lead to lower school achievement and attendance due to asthma and other health issues.

How Children Are Faring

In 2023, 17 California counties recorded an annual average airborne concentration of fine particulate matter (PM2.5) above the current national public health standard of 9 micrograms per cubic meter—down from 39 counties in 2020. A majority of counties in Southern California and the San Joaquin Valley averaged PM2.5 concentrations above the national standard in 2023.

Of the 49 California counties with ground-level ozone data in 2023, 19 did not record any days when ozone concentrations exceeded the national regulatory standard of 0.070 parts per million, whereas four (Kern, Los Angeles, Riverside, and San Bernardino) recorded 52 or more such days—the equivalent of at least one unhealthy day each week.

View references for this text and additional research on this topic:
https://kidsdata.org/topic/80/air-quality/summary