California Ambient Air Quality Standards

California Ambient Air Quality Standards (CAAQS)

CATEGORIES

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CONTACT

Research Division

Email research@arb.ca.gov

Phone (916) 445-0753

Hundreds of scientific studies published over the past 50 years point to the harmful effects of air pollution. Air pollution harms people's health, damages agricultural crops, forests, ornamental and native plants, and creates the haze that reduces visibility. Ambient air quality standards are designed to prevent these impacts on health and the environment.

What is a California ambient air quality standard?

Ambient air quality standards (AAQS) define clean air, and are established to protect the health of the most sensitive groups in our communities. An air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without any harmful effects on people or the environment. In 1959 California enacted legislation requiring the state Department of Public Health to establish air quality standards and necessary controls for motor vehicle emissions. California law continues to mandate California ambient air quality standards (CAAQS), which are often more stringent than national standards. Learn more about our brief history of standard setting in California.

How are California ambient air quality standards developed?

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

When were California ambient air quality standards last updated?

In June of 2002, the Air Resources Board adopted revisions to the PM10 standard and established a new PM2.5 annual standard. The new standards became effective in June 2003. Visit our web page for more information regarding the PM and Sulfates Standards Review.

Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the Air Resources Board adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. Please follow these links for more information about the Ozone Standard Review and the Nitrogen Dioxide Standards Review.

What are the health and environmental effects of the air pollutants for which there are California ambient air quality standards?

Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing.

Below is the list of pollutants for which CAAQS were established and more information on the health and environmental effects specific to each pollutant.

- Particulate Matter (PM10 and PM2.5)
- Ozone (O_3)
- Nitrogen Dioxide (NO_2)
- Sulfate
- Carbon Monoxide (CO)
- Sulfur Dioxide (SO_2)
- Visibility Reducing Particles
- Lead
- Hydrogen Sulfide (H_2S)
- Vinyl Chloride

Download the PDF for more information on the current levels and averaging times for each California ambient air quality standard.

CAAQS vs. NAAQS

In 1959 the California Legislature directed the State Department of Public Health to develop CAAQS. The original CAAQS were established in 1962. The Air Resources Board was created by the legislature in 1967, and the CAAQS that had been set by the Department of Public Health were subsequently adopted by the Air Resources Board (ARB) in 1969. Thus, the CAAQS predate the national ambient air quality standards (NAAQS) set by the U.S. Environmental Protection Agency (U.S. EPA), which was created in 1970, and issued its first NAAQS in 1971. California law continues to mandate CAAQS, although attainment of the NAAQS has precedence over attainment of the CAAQS due to federal penalties for failure to meet federal attainment deadlines.

Attainment of Air Quality Standards

California law does not require that CAAQS be met by specified dates as is the case with NAAQS. Rather, it requires incremental progress toward attainment.

Additional Information

- View state and federal designation maps showing which geographical areas of California meet the NAAQS and/or CAAQS

- California's State Implementation Plans and State Maintenance Plans for NAAQS
- An overview of the NAAQS

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(800) 242-4450 | helpline@arb.ca.gov
1001 I Street, Sacramento, CA 95814
P.O. Box 2815, Sacramento, CA 95812