



Alpine Smog Trends

Is air quality monitored for the mountain slopes?

Yes. Measurements taken at the Alpine monitoring station reflect smog levels for all lower mountain slope areas of the county, from Palomar Mountain south to the Mexican border, at elevations between 1,500 to 3,000 feet.

Why are smog levels usually higher at Alpine?

Alpine's smog levels in the west-facing lower mountain slopes are usually higher than the rest of the county because of how and where smog is created. Emissions from motor vehicles and industry are generated in the populated coastal plain and blown inland by the onshore breeze to the lower mountain slopes. These precursor emissions react in the area's abundant sunshine to create ozone, commonly called smog.

When a temperature inversion occurs, it traps the pollutants against the mountain slopes and prevents them from rising. An inversion is formed when warm, dry inland air overlies the cool, moist marine air. The inversion layer hovers around 2,000 feet. The monitoring station at Alpine is also located at about 2,000 feet.

How many days does Alpine exceed the clean air standards?

In 2003, the Alpine monitoring station recorded levels exceeding the state one-hour ozone standard on 17 days (the total for the San Diego air basin was 23 days). All air basin exceedances of the federal ozone standards occurred in Alpine; the eight-hour standard was exceeded on 6 days and the one-hour on 1 day.

What are clean air standards?

Clean air standards are set by the state and federal governments to provide an adequate margin of safety in protecting public health and welfare. A standard is set for each criteria pollutant.

The federal one-hour standard for ozone, the primary component of smog, is 12 parts per hundred million (pphm) and the state one-hour standard is 9 pphm. The more recent federal eight-hour ozone standard is 8 pphm (measurement averaged over a eight-hour period).

What can I do to avoid exposure to smog?

The smog season generally runs from May through October. During the early afternoon, when smog levels exceed 12 pphm, persons who are sensitive should stay indoors and keep windows closed. Indoor levels are 50 to 75 percent lower than outdoors. When the levels reach 15 pphm or higher, a health advisory is issued and athletes and children should avoid vigorous outdoor exercise.

What about Alpine's future air quality?

Air quality has improved dramatically in the San Diego region because of effective reduction programs for motor vehicles and industry. Since 1995, there has been only one health advisory which occurred in Alpine on July 16, 1998. The county's last Stage I smog episode (when levels reach 20 pphm) occurred in 1991, although Alpine has not experienced a Stage I since March 31, 1989.