
Ozone

Ozone is a colorless gas with a pungent odor. It is the chief component of urban smog. Ozone is not directly emitted as a pollutant, but is formed in the atmosphere when hydrocarbon and NO_x precursor emissions react in the presence of sunlight. Meteorology and terrain play major roles in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and cloudless skies provide for the optimum conditions. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often impacts a widespread area.

Ozone impacts lung function by irritating and damaging the respiratory system. In addition, ozone causes damage to vegetation, buildings, rubber, and some plastics. Recognizing the health impacts of day-long exposure, the United States Environmental Protection Agency promulgated an 8-hour ozone standard in 1997 as a successor to the 1-hour standard which was established in 1979. However, the transition to the 8-hour standard is just beginning, and the 1-hour standard is the primary focus of this almanac.

State Ozone Standard:

0.09 ppm for 1 hour,
not to be exceeded.

National Ozone Standards:

0.12 ppm for 1 hour,
not to be exceeded more
than once per year *and*
0.08 ppm for 8 hours,
not to be exceeded,
based on the fourth highest
concentration averaged
over three years.

Table 1-2