

Breathe deeply, Santa Feans.

The City Different and Santa Fe County has some of the cleanest air in America, according to the American Lung Association.

That's excellent news for children, elderly and people with asthma, cardiovascular disease and emphysema who are most at risk of health problems when they breathe polluted air. An estimated third of Santa Fe County's population falls into one of those categories.

The association analyzed data from 2007 to 2010 related to ozone and particles emitted from vehicle tailpipes, power generating stations, mining, manufacturing and more. The association has analyzed air quality in U.S. cities for the last dozen years and published the results in annual State of the Air reports.

The reports rank cities based on levels of ozone, short-term particle pollution and long-term particle pollution. Santa Fe joined Honolulu as the only cities that were on the association's "cleanest air" list in all three categories from 2007-2010, the period for which data was analyzed.

Santa Fe earned an A for low ozone and 24-hour particle pollution, and it passed the annual particle pollution category.

Particles are mixtures of chemicals and materials floating around in air. Some are so tiny they can't be seen without an electron microscope. Some are thinner than a strand of hair.

Smoke, dust, pollen and gas fumes are just a few of the particles launched into the air by wind, plants, power generation and wildfires. People inhale the particles with air. People cough out the larger particles, but smaller particles can get trapped in lung tissue, causing illness.

Ozone, another dangerous lung irritant analyzed by the American Lung Association, also comes from a mixture of gases produced by cars, smokestacks and burning coal. The gases -- nitrogen oxides and volatile organic compounds -- when combined with sunlight and warmth, produce harmful ozone in the lower atmosphere.

Children, people older than 65, those who like to exercise outdoors and people who have existing lung problems such as asthma are more susceptible to the ill effects of elevated ozone levels. People exposed to high levels of ozone can suffer wheezing, chest pain, asthma attacks and respiratory infections.

The American Lung Association report notes that while air quality has improved overall around the country, 1 in 17 Americans (18.5 million total) live around unhealthy levels of ozone and particles.

Data for the report came from the U.S. Environmental Protection Agency's Air Quality System database.

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