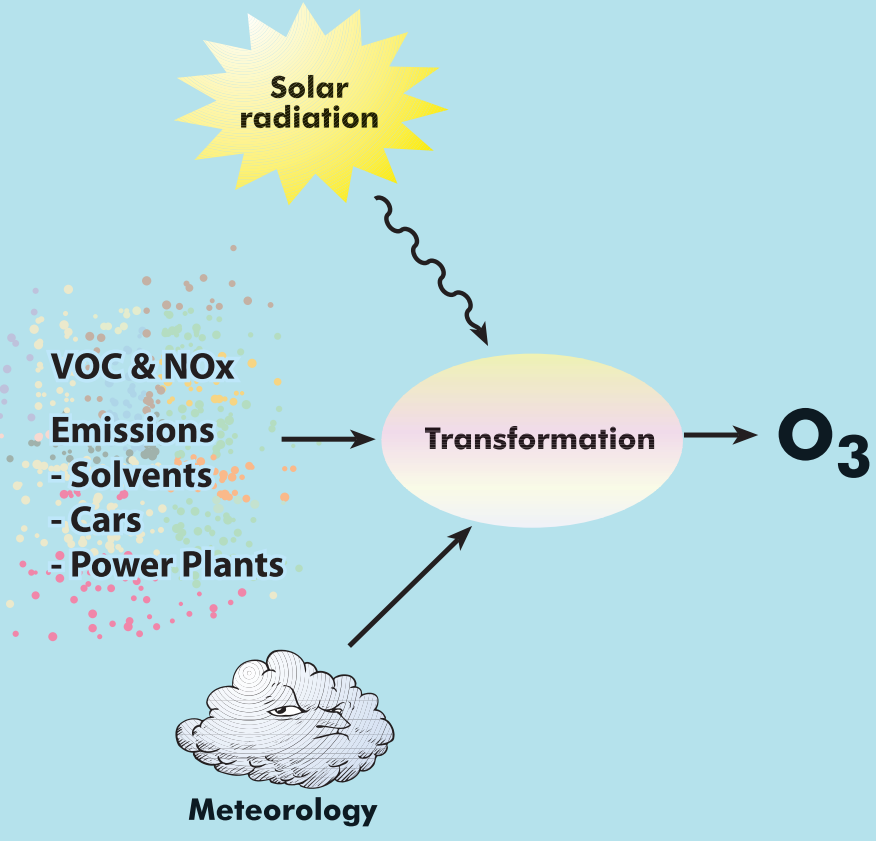


Tucson Area Air Quality Trends

OZONE

Description:

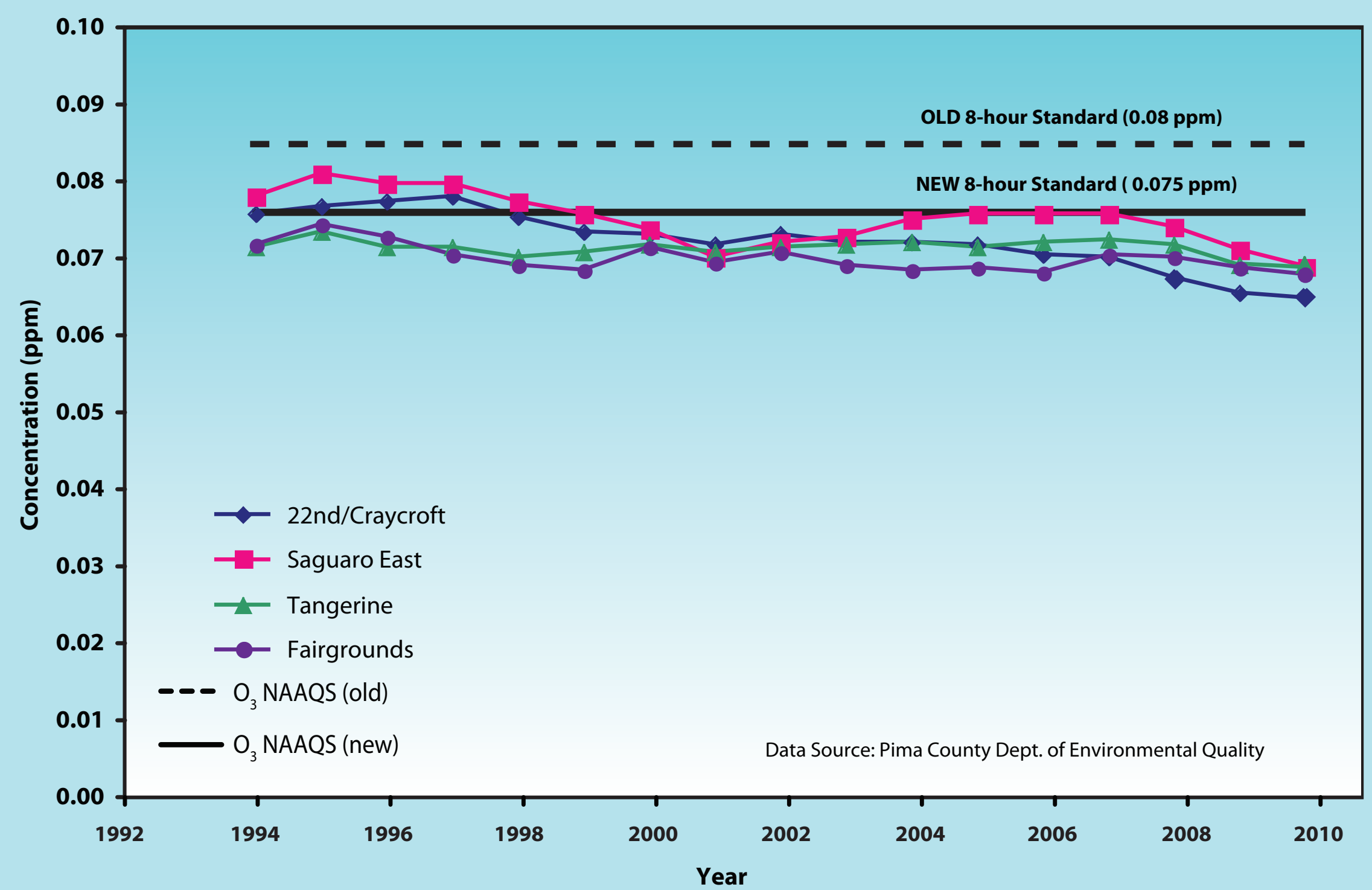
Ozone (O₃) is a gas formed in the atmosphere when three oxygen atoms combine. It is the major component of smog and is formed when volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) react in the presence of sunlight.



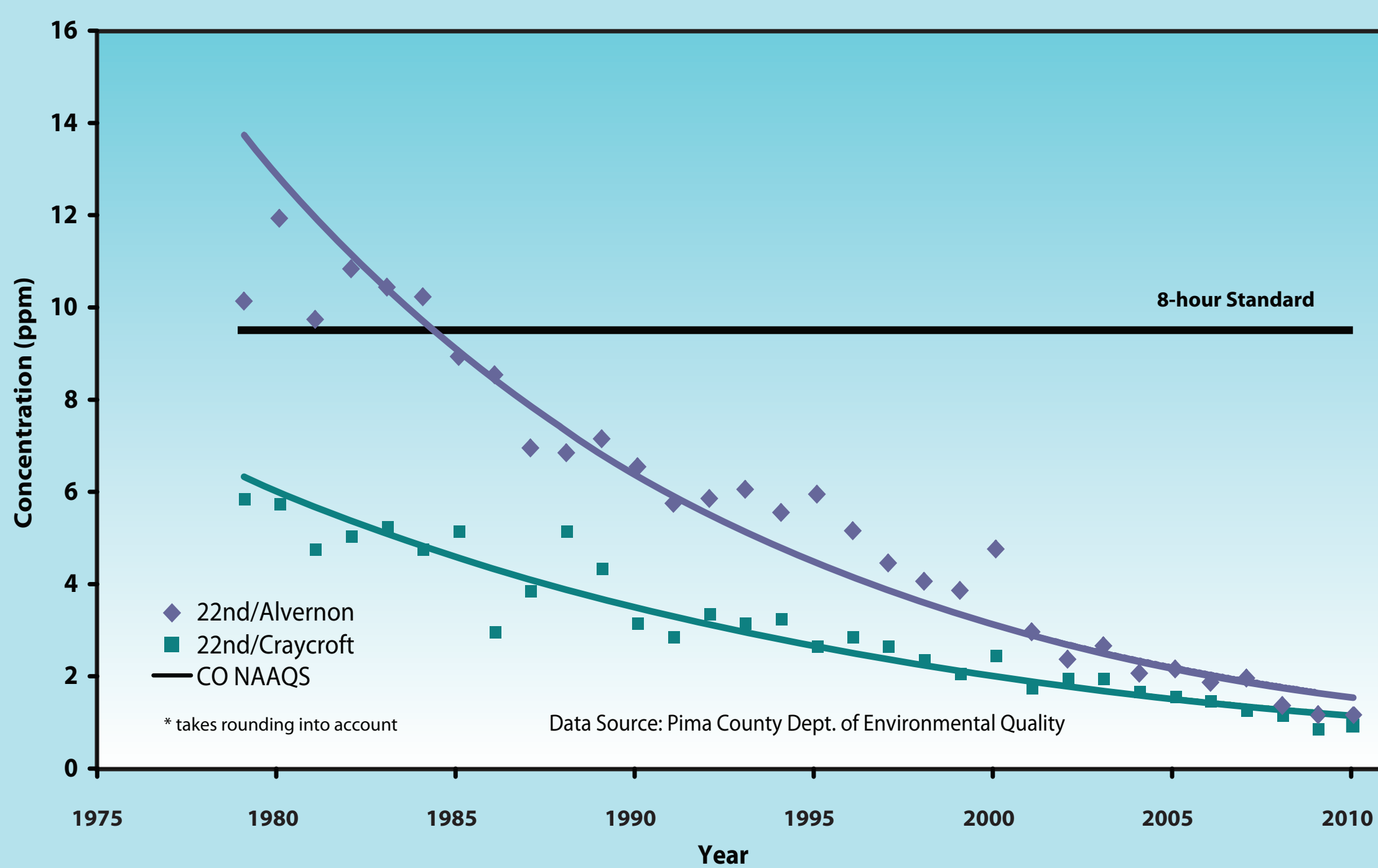
Effects:

Ozone is a severe irritant to the respiratory system and can cause shortness of breath, coughing, wheezing and stinging eyes. It can damage lung tissue and make people more susceptible to respiratory infections. Ozone is especially harmful to children, the elderly and those with impaired health. It also inhibits plant growth and can cause damage to crops and forests.

3-Year Average of the 4th Highest 8-Hour Ozone Concentration



2nd Maximum 8-Hour Average CO Concentration



CARBON MONOXIDE

Description:

Carbon monoxide (CO) is a colorless, odorless gas emitted by motor vehicles. It is the result of incomplete combustion of fossil fuels. CO is found in high concentrations along the roadside, especially where there is heavy traffic.

Effects:

CO is a poisonous gas that replaces oxygen in the blood and affects the cardiovascular and nervous systems. Carbon monoxide enters the blood via the lungs and permanently binds to hemoglobin, the iron-containing protein in red blood cells, replacing the oxygen needed to sustain life. Lower concentrations of CO have been shown to affect people with heart disease. It also causes dizziness, headaches and fatigue. In high concentrations it can cause death.

PARTICULATE MATTER

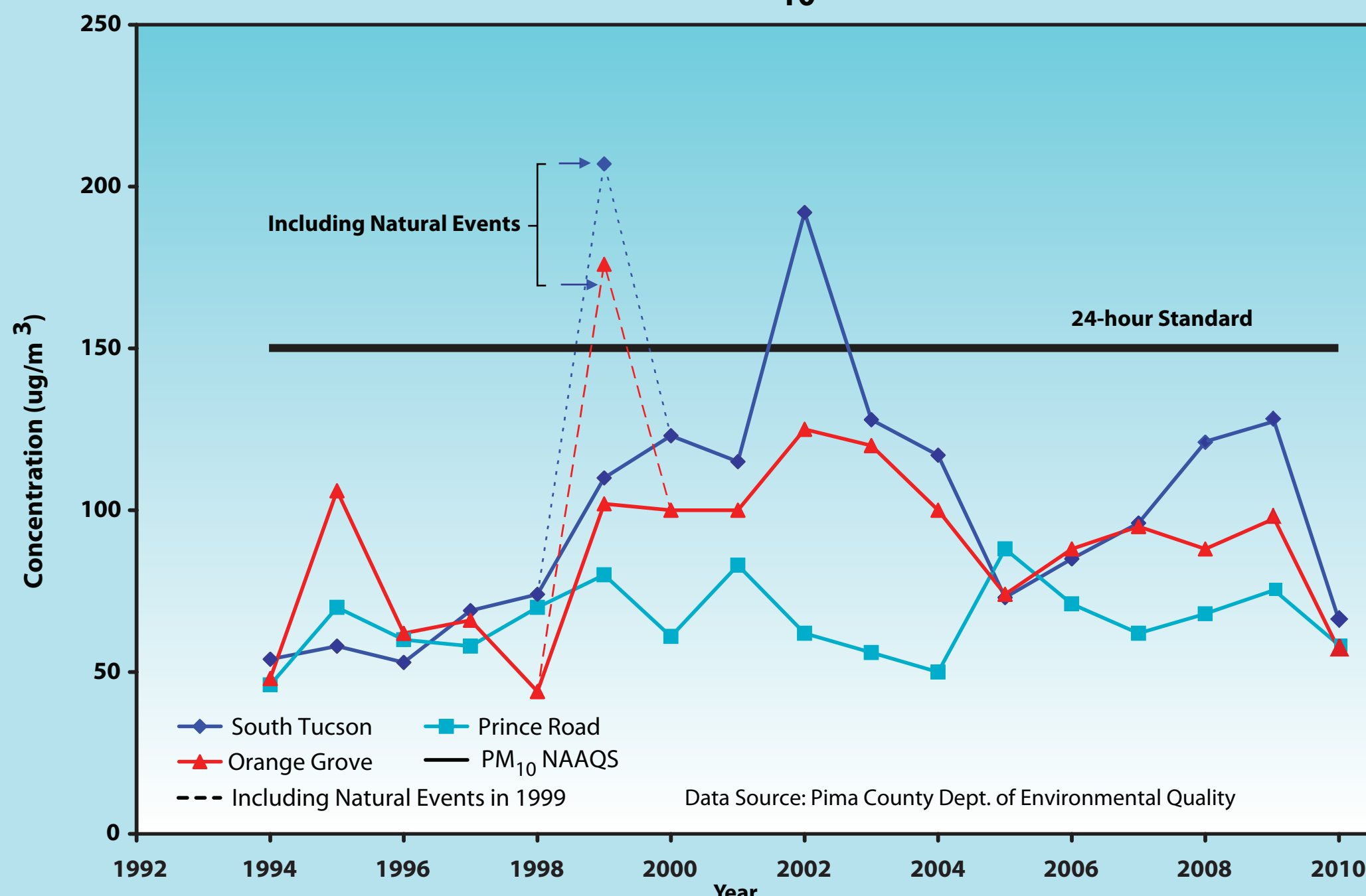
Description:

Particulate matter consists of small, solid particles or liquid droplets from smoke, dust, fly ash and condensing vapors. Coarse particles PM₁₀ (≤ 10 micrometers in diameter) come from wind-blown dust and earth-moving activities such as mining, construction and agriculture. Fine particles PM_{2.5} (≤ 2.5 micrometers in diameter) are mostly emitted from burning wood or other fuels, such as diesel. Particulate matter, especially the smaller, more dangerous elements, can be suspended in air for long periods of time.

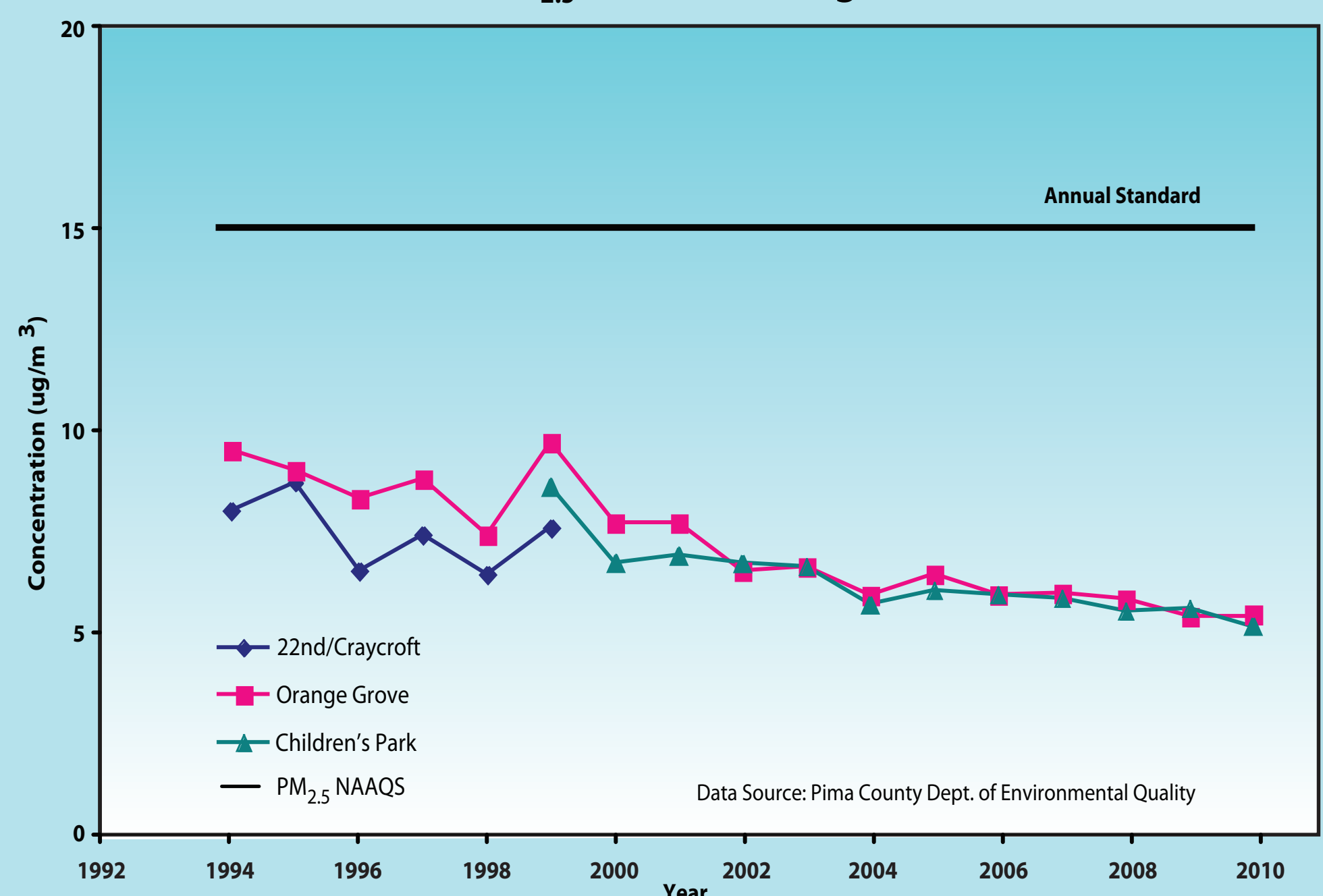
Effects:

Microscopic particles can affect breathing and respiration, cause lung damage and possibly cause premature death. When inhaled, the larger particles are usually deposited along the nasal passage. However, the smaller particles can pass through to the air sacs and membranes in the lungs. Suspended particles also can reduce visibility.

2nd Maximum 24-Hour PM₁₀ Concentration



PM_{2.5} Annual Averages



The Tucson area trends are compared to the National Ambient Air Quality Standards (NAAQS), nationally established maximum allowable concentrations of pollutants for the protection of public health and welfare.

2011

Pima Association of Governments

