pennsylvania
DEPARTMENT OF HEALTH

AIR QUALITY

Air is essential to life. Everyone needs to breathe air, which makes air quality a pressing environmental public health issue. Air may become polluted by natural and manmade sources. Natural pollution sources come from wildfires, volcanoes, windblown dust, and pollen. Manmade sources are things like power plants, factories, vehicles, emissions from farming and mining operations, and second-hand smoke. Pennsylvania has unique geographical features that can affect air quality. In 1948, a weather event in Donora, PA trapped air pollution in the town, resulting in deaths and sparking the creation of air pollution laws across the nation.

HOW AIR QUALITY AFFECTS HEALTH

Poor air quality is linked with health problems, such as heart disease, asthma, and other breathing problems. Air pollution is also associated with reproductive problems and reduced fetal growth and preterm birth. The risk of developing a specific disease from breathing polluted air depends on many factors such as the contaminating substance, the level and potency of the substance, and how sensitive to pollution a person is. Children, pregnant women, the elderly, and people with chronic lung diseases are highly sensitive groups. They are vulnerable to air pollution-related health problems and exacerbations.

LEARN MORE ABOUT AIR QUALITY & HEALTH

- Read the National Ambient Air Quality Standards[1] for six outdoor air pollutants set by the Environmental Protection Agency (EPA): ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide.
- Explore the Ambient Air Monitoring Data Reports[2] for recent air quality data from statewide air monitors.
- Check local air quality on the AirNow[3] website.
- Limit outdoor activities and keep windows closed when air quality is poor.
- Avoid using wood stoves or switch to a clean-burning wood stove.
- Discuss air quality with a health care provider.

MONITORING AIR QUALITY IN PENNSYLVANIA

Pennsylvania tracks air quality based on two air pollutants (which can adversely affect health) regulated in outdoor air by the EPA. Data are on the Enterprise Data Dissemination Informatics Exchange[4] (EDDIE) by county. The data come from the Bureau of Air Quality[5] within the Department of Environmental Protection.

- Ground-level Ozone (O_3) is called “bad ozone.” It is created by chemical reactions between nitrogen oxides and volatile organic compounds (VOCs) in the presence of sunlight. Major sources of nitrogen oxides and VOCs include emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents.
- Particulate Matter (PM) is a mixture of very small particles and liquid droplets. Pennsylvania specifically tracks $PM_{2.5}$, fine particles that have a diameter of 2.5 micrometers or smaller. When inhaled, the particles can enter small areas of the lungs and pass into the bloodstream. These particles are directly emitted from forest fires, power plants, factories, and cars.

If you have questions or concerns about air quality, please contact the
Division of Environmental Health Epidemiology at dehe@pa.gov or 717-787-3350.

August 2023

1. https://www.epa.gov/criteria-air-pollutants
2. http://www.ahs.dep.pa.gov/aq_apps/aadata/
3. http://www.airnow.gov/
4. https://www.health.pa.gov/topics/HealthStatistics/EDDIE/Pages/EDDIE.aspx
5. https://www.dep.pa.gov/Business/Air/BAQ/Pages/default.aspx