

What is air pollution ?

Ozone and Fine Particles

Georgia's ozone season is May 1 through September 30. Ozone concentrations tend to peak between 2 and 7 p.m.

All 20 metro Atlanta counties fail to meet the 8-hour ozone standard set by the U.S. Environmental Protection Agency (EPA).

In 2011 EPA is expected to strengthen the federal ozone standard. Some of Georgia's mid-sized cities may fail to meet the stricter standard.

27 Georgia counties or partial counties (22 in the Atlanta area) do not meet the EPA fine particle standard.

Unhealthy levels of fine particle pollution can occur at any time of the year but tend to be more common in the summer.



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FOR CLEAN AIR

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What is air pollution?

Air pollution consists of gases, solid particles and aerosols that change the natural composition of the atmosphere. The air pollutants of greatest concern in Atlanta are ground-level ozone and fine particulate matter. Air pollution is harmful to human health and can damage the environment, including soil, water, plants and animals.

Air pollution comes from two kinds of sources: natural and human (anthropogenic). Natural sources can include forest fires, trees and plants, and even sea salt in coastal areas. Anthropogenic pollution results from a wide range of human activities, such as car and truck exhaust, industrial processes, power plants, mining activities and landfills.

What governs air pollution?

The Clean Air Act (CAA) is the federal law that governs air pollution and efforts to improve air quality. The CAA requires EPA to set standards for how much of certain pollutants can be in the air. The *primary standard* is health-based, set at a level designed to protect public health. A *secondary standard* is set with the goal of protecting the environment.

What pollutes Georgia's air?

Roughly half of all Georgians live in areas with air that may be harmful to their health. Vehicle and truck traffic, coal-fired power plants and off-road heavy-duty diesel machinery, including construction equipment, are the largest human-generated contributors to air pollution in Georgia's urban areas.

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Ozone and Particulate Matter

Ground-Level Ozone (Smog)

Ozone can be good or bad depending on where it is located. Ozone in the stratosphere high above Earth protects human health and the environment, but ground-level ozone is a serious health concern. Ozone is produced by a combination of two kinds of compounds, nitrogen oxides (NO_x) and volatile organic compounds (VOCs). VOCs are produced by both natural and human processes, but NO_x come primarily from fossil fuel combustion — cars, trucks, diesel equipment, power plants and industry. These smog-forming pollutants react with one another in the atmosphere in the presence of intense sunlight to form ground-level ozone.

The 20-county Atlanta region fails to meet the 1997 8-hour standard for ozone set by the EPA. In 2011 EPA is expected to announce a new, stricter standard for ozone. Depending on where the new limit is set, some of Georgia's mid-sized cities also may become "nonattainment" for this pollutant.



Particulate Matter

Particles found in the air, including dust, dirt, soot, smoke and liquid droplets, are known as particulate matter (PM). Particles can be suspended in the air for long periods of time. Some particles are large or dark enough to be seen as soot or smoke, while others are so small that they can only be detected with an electron microscope.



Some particles are directly emitted into the air and come from a variety of sources such as cars, trucks, buses, factories, construction sites, tilled fields, unpaved roads and wood burning. Other kinds of particles are formed in the air when gases from burning fuels react with other compounds in the atmosphere. These particles are formed as the result of emissions from power plants, vehicles and industrial processes.

In 2008, EPA designated 22 counties in metro Atlanta and areas around Macon and Rome and in northwest Georgia as nonattainment for fine particulate matter.