

Researcher finds higher summer ozone concentrations in southeast metro Atlanta

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(PhysOrg.com) -- A Georgia State University researcher has found that the highest concentrations of summertime ozone -- a major air pollutant and respiratory health hazard — tended to occur in the southeastern part of metro Atlanta during the past eight years.

Jeremy Diem, associate professor of geography at Georgia State, evaluated data from ozone monitoring stations around metro Atlanta from 2000 through 2007, in combination with weather data to evaluate the atmospheric characteristics that are conducive to high-ozone days in metro Atlanta.

“This is the first study to look at ozone concentrations southeast of the city, where ozone monitoring stations were put in place starting in 2000, where I found some of the highest ozone concentrations at those stations,” Diem said.

The highest concentration was found at a monitoring station near McDonough, located in Henry County. The pollution is not generated by McDonough itself, but instead, is carried by winds from Atlanta proper.

Ground-level ozone presents a respiratory hazard to those sensitive to these conditions. This often results in advisories for people to remain indoors during the hottest parts of the day, when concentrations are very high, with officials urging the public to use forms of alternate commutes.

High ozone days happen when the weather turns hot and dry under certain meteorological conditions.

“When we have conditions conducive to high ozone, the airflow is typically from the north-northwest, because that’s when you have very dry and hot conditions,” Diem explained. “Ozone is a photochemical pollutant, and you also need a lot of sunshine to have high concentrations.”

In the past, researchers have focused almost exclusively on July through September in evaluating Atlanta’s [air pollution](#). Diem’s study also examines data from March to June, and he found that concentrations were higher in June than they are in July.

It is possible that pollution not only from local contributors play a role in [ozone](#) levels— including some of Atlanta’s nearby coal-powered electricity plants — but also pollutants from power plants in the Ohio River Valley on certain days, though further research is needed in this area, Diem cautioned.

Also, further research activity must be done to see how far afield metro Atlanta’s pollution is carried — including locations farther to the southeast, such as Macon, as well as those east of the city, in places like Augusta and South Carolina.

Diem’s research, “Atmospheric Characteristics Conducive to High-Ozone Days in the Atlanta Metropolitan Area,” will appear in a forthcoming edition of the journal *Atmospheric Environment*.

Provided by Georgia State University ([news](#) : [web](#))

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