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**SENATE FUNDS MAJOR RESEARCH EFFORT
TO FIND CAUSES, SOLUTIONS FOR OZONE
POLLUTION PROBLEMS IN SOUTHERN U.S.**

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Photography, Video Available

The U.S. Senate has approved \$3.5 million for fiscal 1991 to fund a significant research effort that will examine the causes, effects and possible solutions for ozone pollution problems in the Southern United States. Known as the Southern Oxidants Study, the project will involve a consortium of 25 universities including the University of Georgia and the Georgia Institute of Technology.

"Our unique ozone problem in the Southeast requires innovative control techniques," Georgia Senator Wyche Fowler, Jr., said in announcing the funding. "It is imperative that we move quickly with the Southern Oxidants Study so we can identify the factors contributing to the region's ozone problem and develop effective strategies to control this type of pollution."

In urban areas, ozone pollution is a significant human health hazard, causing breathing difficulties and lung damage. In rural areas, ozone pollution causes \$6 billion worth of crop losses nationwide each year.

Despite costly control measures undertaken over the past decade, more than 100 U.S. cities still exceed federal standards for ozone pollution. Many of those cities are in the South, and scientists suspect that the high summertime temperatures, large proportion of forest land and other unique regional factors may worsen the problem there.

"Ozone is a very difficult pollutant to control," explained Dr. C. S. Kiang, a Georgia Tech professor who will serve as director of the study. "This intensive study can help us understand not only our own regional situation, but it may also shed some light on the national situation."

Ozone forms in the atmosphere through a chemical reaction between hydrocarbon compounds and nitrogen oxide compounds in the presence of sunlight.

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Hydrocarbons and nitrogen oxides are emitted by man-made sources such as automobiles. Within the last few years, however, Dr. William L. Chameides and colleagues at Georgia Tech's School of Earth and Atmospheric Sciences have suggested that trees and other vegetation may be significant sources of natural hydrocarbons which contribute to ozone formation.

These natural sources potentially undermine current control strategies which are largely based on restricting hydrocarbon emissions from automobiles and certain manufacturing facilities. In regions such as the South with large emission of natural hydrocarbons, controls on man-made nitrogen oxide emissions may be more beneficial.

Efforts to control urban ozone through limiting hydrocarbon emissions have been costly, amounting to approximately \$750 million in the Atlanta area alone. These urban control costs, combined with the human and economic losses, make finding solutions to the ozone problem important to the South's economic future.

The impact on Georgia foresters and farmers is also substantial.

Scientists know that ozone reduces the productivity of agricultural crops and slows the growth of forests, said Dr. Ron Pulliam, director of the Institute of Ecology at the University of Georgia. The study, which involves the Institute and the university's School of Forest Resources, would provide a better picture of the pollutant's true impact.

"We know that ozone affects crops by reducing productivity 20 to 30 percent," Pulliam explained. "We don't know the impact on forest growth. We do know forests are not growing as fast as they used to."

The Southern Oxidant Study has five major objectives, including:

- * Establishing a network of monitoring sites throughout the South to obtain data on ozone and the chemicals which form it.

- * Determining the roles played by natural and man-made compounds in forming ozone, in both urban and rural areas.

- * Improving the techniques for measuring the compounds involved in ozone formation, and expanding the understanding of how ozone affects forests, crops and engineering materials.

- * Characterizing the ozone exposure of humans in both urban and rural environments.

- * Evaluating alternate strategies for managing ozone and other photochemical oxidants.

In cooperation with the U.S. Environmental Protection Agency, the Study will be managed by the University Corporation for Atmospheric Research (UCAR), a nonprofit consortium of 58 U.S. and Canadian universities.

The funding was approved by the Senate October 3. The House of Representatives must also approve it.

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