

British study shows holes in ozone layer forming over Arctic

By Alia Smith
Staff Writer

Despite opposition from some research groups, a recent scientific study shows that holes in the ozone layer might be forming over the Arctic similar to those already evident over Earth's Antarctic regions.

John Austin, principal scientific officer at Britain's meteorological office in Bracknell, England, conducted the study. Austin said that the increased levels of carbon dioxide being emitted into the lower stratosphere were causing lower temperatures. These lower temperatures then cause an increased

production of chlorine, which is the agent that acts to destroy the ozone, he said.

"The holes that may form over the Arctic won't be nearly as severe as those already present over the Antarctic," Austin said in a telephone interview from England.

Austin's study has met opposition from other research institutions. Kent Jeffreys, director of environmental studies at the Competitive Enterprise Institute in Washington, D.C., said he disagreed with Austin's findings.

"It is essentially impossible for this to happen," Jeffreys said. "This report is extremely premature and wrong. It is

not based on empirical evidence but on computer simulations," he added.

"It's an interesting article, but there is no chance that it could occur. The theory flies in the face of well-established meteorological facts," he said.

Austin said a hole in the ozone layer existed when 50 percent of the ozone layer was depleted. However, any alteration of the ozone layer could cause increased levels of ultraviolet rays, Austin said.

He added that ultraviolet rays could cause cancer and be dangerous to wildlife, especially at the higher latitudes.

"Generally speaking, the UV rays would increase by a factor of two, providing there are no other factors that

might absorb it," he said.

But Jeffreys said that even if all the conditions were absolutely correct and such holes did begin to form, the ultraviolet radiation would be insignificant.

Britain's study used a simplified computer model of Earth's stratosphere and a simulation of winter and spring seasons over the Arctic if levels of carbon dioxide were increased, Austin said.

"If the holes do form, I expect them in the next 50 to 75 years. However, after that, holes, according to our study, will only form once every five winters," Austin said.

Despite the importance of further ozone studies, Jeffreys said he thought

many researchers were using this new theory in order to receive more funding. "It insults me to see scientists conduct this kind of 'research' for more money and funding in the future," he said. "This study is rather tenuous scientifically."

Although the research fields disagree on the information's validity, the new ozone studies are receiving direct attention from various environmental groups.

"Ozone depletion is definitely a reality and this study needs to be taken very seriously," said Mark Glyde, a member of Greenpeace's ozone campaign.

"A study by NASA predicted a 30 to 40 percent depletion in the ozone which

will begin to take effect in the next five to 20 years," he said. "We expect that it may reach as far south as the northeast United States."

Glyde said one of Greenpeace's top projects was to stop the production of chlorine-bearing pollutants. "But none of the reduction of chlorine policies are set to take effect until 1996," he said. "And every year, more and more chlorine is sent up there, and it hangs around for years."

"If you talk to people in southern Australia or Antarctica, they will tell you how real the effects of ozone depletion are. UV rays are a serious, serious problem."

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Tenure

areas prior to receiving tenure. He has received tenure twice — once at the University of Kentucky in 1983 and at UNC in 1989. Lowery came to UNC in 1985.

Lowery also has published three books about his findings and approximately 70 journal and magazine articles.

Lowery said he thought the political science department's tenure policy gave a great deal of weight to both research and teaching.

"The department has a very strong teaching reputation," he said.

"At the same time, we are one of the most productive research units in the country. We think that we emphasize both and do both very well."

Stewart and Michael Follo, another assistant professor of geology, have done numerous amounts of field work in their departments and are working together on the research that earned Stewart the

\$50,000 grant.

Both Stewart and Follo, who was denied tenure last year, currently are preparing work on the project, in which they will study rock formations in the Appennine Mountains of Italy.

Follo also has done research on rock formations in North Carolina and along the Tennessee border.

He said he hoped to use his study of sedimentary rock to explain different aspects of tectonic evolution.

Every summer since coming to UNC, Follo, who won the 1991 Undergraduate Teaching Award, has done field work with graduate students or on his own for approximately one month to six weeks.

During the academic year, Follo also does field work with his students by taking them on trips to places such as the Grand Canyon.

"I think it is very important to try to get out and take field trips with my

students," he said.

Follo said he took an average of two field trips per semester, and during spring break, he accompanies a group of students to the Grand Canyon.

"That requires a huge amount of preparation, and I think it is a great experience for my students, seeing geology first hand," he said.

"It's a huge investment of time, and unfortunately that's time that doesn't really count for anything that leads to tenure."

Some of the research Follo currently is doing was initiated by some of his student field trips.

"I have gone back to Southern Utah and have done research on my own that was sort of initiated by field trips," he said.

In addition to grant work, Stewart has done field work in New Mexico, studying a large fault block mountain range, a formation common in the Rocky Mountains.

The studies of the mountains might help explain the formation of the rocks, Stewart said.

His research in northern New Mexico has been going for one and a half years, and the \$50,000 grant is the result of three years work in the Appennines.

But Mary Sue Coleman, vice chancellor for graduate studies and research, said the University gained very little financially from the grants received by professors.

The University charges the foundations providing the grant overhead fees.

These fees go to supplying the materials needed for the research via the purchasing department and the maintenance of the facilities used, Coleman said.

Each amount allotted in the overhead

fees has to be justified by the University to the federal government and is negotiated during a three year period.

"The cost of doing the actual research is more than any of the overhead fees," Coleman said.

"It is a very good deal. We already have the resources here at the University, and what the agencies are doing is giving the money to tap into that brain power."

The state also takes a portion of these overhead fees from UNC and N.C. State University, the UNC-system's other research university.

The speech communication department's tenure policy recently came under fire by students in the wake of the denial of tenure to Assistant Professor Paul Ferguson.

Ferguson, who appealed his case to the Committee on Faculty Hearings, is expected to find out this week whether his contract will be terminated at the end of 1993.

Candidates for tenure in the speech communication department are evaluated on three criteria: research/publication, teaching and service to the profession.

Ferguson was denied tenure on two occasions and was recommended for tenure without promotion two times.

At the first meeting of the Speech Communication Advisory Committee in October 1991, he was denied tenure and promotion by a unanimous vote.

In the second and third meetings in March and April of 1992, the advisory committee voted unanimously to recommend tenure without promotion, but each time the recommendation was returned by Birdsall.

At the group's fourth meeting in September 1992, the advisory committee

denied Ferguson tenure and promotion. Ferguson said his contract stipulated that his research obligations would be in creative research.

"That means researching, writing, adapting and compiling scripts," he said. "After I produce the scripts, I audition, rehearse and produce a public performance."

His major projects are reviewed by other universities. Each year, Ferguson takes on a large creative research project and a number of minor projects.

In his first six years at the University, he either adapted or produced or performed in 46 creative research projects.

"I also get credit (toward tenure) for performing at national festivals as well as the number of productions I run," Ferguson said.

Ferguson said he had received more grants than anyone else in his department during the time he had been at UNC.

Ferguson said he thought the University tenure policy should be reformed.

He suggested that candidates for tenure should be allowed to make presentations before the advisory committee and that more people directly related to the candidates' field should be involved in the decision-making process.

But William Balthrop, associate professor and chairman of the speech communication department, said he thought that teaching was very highly valued in the department, despite the controversy about Ferguson's denial.

"Of course, teaching is involved in the evaluation in tenure, and teaching is very highly valued in our department," Balthrop said.

"We take a great deal of pride in the quality of the teaching we give, and we

make a lot of effort to make sure it remains high."

Balthrop has performed research on contemporary rhetorical theory and rhetorical criticism.

Prior to receiving tenure, he published approximately eight articles on rhetoric. Balthrop did not win a University teaching award until after receiving tenure.

"Certainly teaching was considered," he said.

"There were peer evaluations; faculty members who were making decisions about tenure visited my classes."

"They looked at Carolina course reviews, all of those kind of things."

Another aspect to the tenure decision is the amount and type of service an instructor has given to his or her department and to the University.

Balthrop said he believed that service and quality were important in his case.

"I think one of the other things that was important, at least in my case, while I may have not had as many publications as some other faculty members, three of those (articles) were recognized as outstanding research monographs or research articles in the field," Balthrop said.

Balthrop was active on committees within the Speech Communication Association and was chairman of the National Debate Tournament Committee.

Balthrop said he believed that particularly at UNC, research and teaching were extremely compatible.

"In fact, it is the research interest of the faculty that help make them such good teachers," he said.

"They are on the cutting edge, and they carry that enthusiasm into the classroom."

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The nation's cities today face problems of crisis proportions that require creative and often interdependent solutions. Against the backdrop of the twenty-fifth anniversary of the Report of the National Advisory Commission on Civil Disorders (the Kerner Commission), the UNC School of Law, the Graduate School and the College of Arts and Sciences, with financial support from the Professors Charles and Shirley Weiss Urban Livability Program, are jointly sponsoring the inaugural Weiss Urban Livability Symposium focusing on the deepening problems confronting our cities at the close of the twentieth century.

The theme of this national symposium to be held on campus on February 12-13, 1993 is The Urban Crisis of Racial Isolation—The Kerner Commission Report Revisited, which will also be the theme of the inaugural Weiss Essay Competition on Urban Livability.

This announcement solicits abstracts of no more than 500 words from students wishing to enter the essay contest. The abstracts will be reviewed by a faculty committee appointed by the Dean of the Graduate School, and authors of the most promising abstracts will be invited to prepare essays of no more than 5,000 words on their chosen topic.

Authors of the selected abstracts will be invited to participate in the Symposium, and the prize essay will be considered for publication in the symposium issue of the North Carolina Law Review that will contain the papers of other contributing authors.

Completed abstracts are due at 5 p.m. Monday, January 18, 1993, at the Office of the Dean of the Graduate School at 200 Bynum Hall. Abstracts selected for the Weiss Essay Competition will be announced on February 1, 1993, and completed essays will be due on Wednesday, March 31, 1993.

The essay competition is open to all enrolled undergraduate, graduate and professional school students at UNC-CH. The author of the winning essay will receive a cash prize of \$1,000.

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