



Jan Davidson

Jan Davidson
(Photo by Tom Cox)

North Carolina Found Susceptible To Acid Rain

A recent study by the National Wildlife Federation has named North Carolina as a state which is extremely vulnerable to the harmful effects of acid rain.

These findings have already been confirmed by actual occurrences, says Dr. Ellis B. Cowling, the N. C. State University scientist who coordinates the National Atmospheric Deposition Network (NADN) headquartered at NCSU.

Acid rain refers to a phenomenon which occurs when gases of nitrogen oxide and sulfur oxide are combined in the atmosphere with water vapor molecules to form microscopic drops of nitric and sulfuric acids.

When these acids are returned to the earth in drops of liquid precipitation or even "dry" deposits, they can alter the pH (acid level) in soil and water. (pH is

measured on a scale from 0 to 14, with 7 being neutral. Readings above 7 are alkaline; below 7, acidic.) Water with a pH below 5.6 is considered by biologists to be potentially harmful to animal life.

Because the gases are carried along by wind currents, acid rain in North Carolina may be caused by industrial pollution from as far away as New York.

The 84-station NADN monitors effects of acid rain on productivity of lakes, streams, fields and forests in North Carolina and other regions of the U.S.

"This spring three pools of rainbow trout in a fish hatchery on the Cherokee Indian reservation near Asheville were killed by acid rain," Cowling said. "Once the trout pools had been acidified the pH dropped and the rainbow trout (an extremely

sensitive fish) died immediately.

He explained that aluminum dissolved in rain-acidified stream waters irritates the gills of the fish and causes them to secrete a protective mucus. If too much mucus is formed over the gills, the fish's ability to breathe is cut off, and in short time it dies.

The acid rain problem in North Carolina is most evident in its streams and river systems, he stated.

"Run-offs from municipal, agricultural and industrial wastes as well as pollutants from acid rains are contaminating rivers like the Chowan," he said. "We tend to blame local sources of pollution but in many cases, problems originate from distant sources."

North Carolina NADN stations checking acid precipitation at Clinton,

Salisbury, Louisburg, Franklin and Raleigh are helping scientists monitor the Chowan and other stream and river systems. "Acid levels tend to be higher in the headwater regions of most North Carolina rivers, with less acid downstream or in the sounds," he said.

In his research at NCSU, Cowling and fellow researchers found that plants exposed to acid rain lost protective wax from leaves, were less able to fix atmospheric nitrogen, and were predisposed to disease. They also observed adverse effects on trees and other forest vegetation.

Although no major damage to North Carolina forests by acid rain has been documented, Cowling said that possibility exists of damage in the future, and that North Carolina should be prepared to deal with it.

Cowling says the 84-station network and the 100-plus scientists involved nationally in the state and federally funded NADN program is an important first step toward assuring "an American environment we can live in."

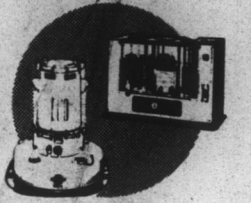
"Nature's natural exchanges between air, water, vegetation and soil are being accelerated. And, as we depend more and more on the use of fossil fuels, the acceleration will continue," Cowling noted. "The better we're able to monitor our environment, the more proficient we'll be at protecting it for the future."



The gardenia was named after a Scottish naturalist, Alexander Garden.

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Davidson To Perform

Capping off Saturday's activities of the Edenton Tea Party Celebration is a variety show at 8:00 in the old Courthouse. The entertainment will include Jan Davidson, a musician from Murphy, N.C., who plays various instruments and sings traditional and original American music.

Also entertaining will be Patrick Mead and Scott Rogers, singers of Scottish folklore and Ross Inglis. So, come and have a plate of Brunswick stew prior to a couple of hours of entertainment by these fine performers. The admission will be a donation to Historic Edenton.

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developing. Though Democratic Rep. Charlie Rose is the acknowledged floor leader of North Carolina tobacco interests in the House, he wasn't coming in for the type of criticism that Helms had received in the Senate process.

At the governor's office, Hunt spokeswoman Stephanie Bass said "Rose doesn't have the position of influence in the House that

Helms supposedly has in the Senate."

"The northern Democrats are seeing their social welfare programs slipping away and they just don't understand why the farmers in the South should have the commodity programs," Bass said.

This may have been an allusion to Helms' fight against food stamp and other welfare fraud, but Bass also blamed lobbying by the candy manufacturers, the AFL-CIO, and the U. S. Chamber of Commerce for the peanut vote.

The political reality may be that there just isn't a whole lot of vote-getting mileage for potential Democratic Senate candidate Hunt to blame Democrat Rose and a Democrat-controlled House over any loss of allotments.

And then too, what if Helms is able to somehow regain the allotments or some semblance thereof after the Democrats have almost scuttled the same?

There is absolutely no doubt that the on-going struggle over the tobacco and peanut support programs in Washington will have a tremendous impact on the North Carolina Senate race in 1984. Hunt accelerated that impact with his August statements.

It may be that Gov. Hunt will eventually wish he had not tossed the tobacco support "monkey" on the tenacious "back" of Jesse Helms.

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