

Drought Alerts in Southeast and West

Only two years after the worst recorded drought in the southeastern United States, weather patterns are emerging that may lead to another disastrously dry summer for northern Alabama and Georgia, eastern Tennessee and the western Carolinas. On the opposite side of the country, parts of California and the Northwest are suffering from the second dry year in a row. In both regions, officials are preparing for what may be record-breaking summer water shortages.

Last week, a committee of officials from Alabama, Georgia, Florida and the Army Corps of Engineers issued a water-shortage alert for the Apalachicola-Chat-tahoochee-Flint river basin — a 450-mile-long system of three rivers supplying water to major parts of these states. "It's grim," says Sam Green of the Mobile (Ala.) District Corps of Engineers. "We have advised about the worst situation that we can."

In the storage reservoirs of the Tennessee Valley Authority (TVA), water supplies have dwindled to their lowest levels ever. Some reservoirs are 38 feet below normal, says Larry Richardson of the TVA in Knoxville.

So far this year, the parched Southeast has received less than half the normal amount of precipitation. The dry winter appears linked to an unusual pattern of atmospheric pressure that developed over eastern North America this winter, says David Miskus of the National Weather Service (NWS) Climate Analysis Center in Camp Springs, Md.

During most winters, a trough of low pressure centered over Hudson Bay extends over the southern Appalachians, drawing winter storms to this area from the Gulf of Mexico. But this year, the low pressures didn't reach that far south, says Miskus. As a result, Gulf storms bypassed the Southeast and traveled directly northward, dropping precipitation on the center of the country.

This recent pattern is only the latest blow in a long stretch of dry weather for the Southeast.

"We're in our fourth year of below-normal rainfall," says the TVA's Richardson. By now, parts of the Tennessee Valley have accumulated a rainfall deficit of 55 inches, which is more than a year's worth of precipitation.

If the next few months fail to bring above-average rainfall, the water shortages in the Southeast this summer could surpass all previous records. Certain areas may have to restrict and even ration water as they did in 1986. In addition, officials are concerned about water quality, which declines as river levels drop.

Although the Southeast has seen four

relatively dry years in a row, meteorologists do not see a coherent pattern emerging. The varied factors that control precipitation change with each season. Therefore, the consecutive dry years are probably coincidental, says NWS meteorologist Donald Gilman.

Unusually dry skies also have plagued the West, particularly California, central Oregon, central Washington and parts of Idaho and Montana. Officials in San Joaquin County, Calif., already have declared a state of emergency after a disappointing rainy season, and Washington State recently appropriated \$3.7 million to drought relief. Aside from affecting municipal supplies and agriculture, water

shortages will hurt fisheries and the hydropower industry. There is fear that forest fires will increase, perhaps topping 1987's record, which was the worst in 30 years.

Along the West Coast, the problem has been a ridge of high pressure that sat over the coastal states during most of the rainy season. This ridge blocked Pacific storms that were traveling southeast from Alaska and deflected them into central Canada, says Gilman.

Rain last week in the West Coast states and this week in the Southeast is granting some short-term relief, but it will not significantly cut the multi-year water deficits. — R. Monastersky

Fetal-cell transplants put on hold

The U.S. government has decided to prohibit, at least temporarily, any federally funded cell transplant experiments that call for the use of tissues from intentionally aborted human fetuses. The decision comes as scientists at the National Institutes of Health (NIH) are preparing to perform the first U.S. experimental transplant of human fetal cells into the brain of an adult with Parkinson's disease.

The moratorium is called for in a letter from Robert E. Windom, assistant secretary of health, to James B. Wyngaarden, head of the NIH. According to a spokesman for Windom, the letter is in response to a proposal by NIH researchers to perform the experimental therapy.

"The concern was that there might be some legal and ethical issues that should be looked at," the spokesman told SCIENCE NEWS. He says a commission will be appointed to examine the issues and come up with a policy.

Scientists' reactions to the government move were mixed. Several researchers voiced concern that the decision represents an inappropriate imposition of the conservative administration's politics on the direction of medical research. Anti-abortion groups object to the experimental use of fetal cells, claiming that it desecrates the fetus and encourages abortion.

Other researchers and biomedical ethicists praised the government action, saying open discussion of the controversial research is long overdue.

"There's no doubt that the topic is fraught with terrifyingly difficult ethical problems, and I'm all for committees and groups who want to discuss and debate these matters," says Arthur Cap-

lan, head of the Center for Biomedical Ethics at the University of Minnesota at Minneapolis. Among the issues in need of discussion, he says, are the impact of fetal-cell research on abortion, questions of consent and control of fetal tissues, issues of payment and questions of who may get to do these experiments and for what purposes.

"I think some people hoped that if we didn't talk about it it would go away," says Fred Gage, a research neurologist at the University of California at San Diego. "The ban is temporary. I think it's going to result in what should have happened before: a careful evaluation of the situation."

The government decision applies only to experiments involving human fetal-cell transplants, and not to other experiments that use human fetal cells. Animal studies suggest such transplants may be useful for a variety of illnesses — most notably Parkinson's disease — but conclusive results of the first human trials in Sweden, Mexico and England have yet to be reported.

It's possible, some researchers warn, that if the government is slow to approve the procedure, private institutions without NIH funding may move ahead with their own experiments.

"A moratorium on federal support for these studies may mean instead that they will simply be done in foreign countries which do not have the same resources and expertise, or they may be done less adequately with private funding in the United States," says D. Eugene Redmond Jr., director of the neurobehavior laboratory at Yale University School of Medicine, where fetal-cell transplants are in the planning stages.

— R. Weiss