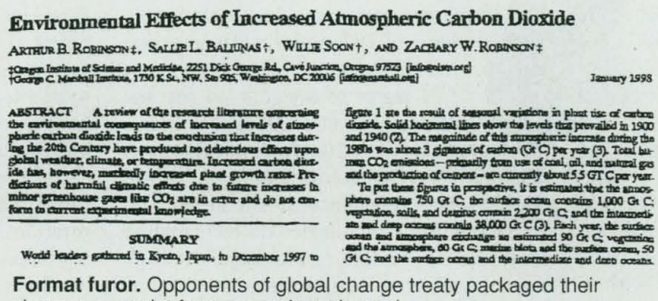
CLIMATE CHANGE

Advocacy Mailing Draws Fire

In early March, tens of thousands of U.S. scientists received a bulk-mailed letter from Frederick Seitz, a former president of the National Academy of Sciences (NAS) and of Rockefeller University in New York City. It invited them to sign an enclosed petition urging lawmakers to reject the 1997 Kyoto climate treaty (*Science*, 19 December, p. 2048), which awaits approval by the U.S. Senate.

The substance of the mailing might have attracted little notice in the flurry of position papers that the treaty has spawned. But some scientists and environmentalists are crying foul because its centerpiece is an article that looks like—but is not—a reprint from the *Proceedings of the National Academy of Sciences*. "The mailing is clearly designed to be deceptive by giving people the impression that the article, which is full of half-truths, is a reprint and has passed peer review," says Raymond Pierrehumbert, an atmospheric chemist at the University of Chicago.

The eight-page review article concludes that predictions of global warming "are in error" and that rising levels of carbon dioxide in the atmosphere are "a wonderful and unexpected gift from the Industrial Revolution," because they have produced "an increasingly lush environment of plants and animals." Its co-authors are chemist Arthur Robinson of the Oregon Institute of Science and Medicine in Cave Junction; Robinson's 22-year-old son, Zachary; and astrophysicists Sallie Baliunas and Willie Soon of the George C. Marshall Institute, a Washington, D.C., think tank and vocal critic of any government efforts to curb greenhouse gas emissions.



Environmental Effects of Increased Atmospheric Carbon Dioxide

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ABSTRACT A review of the research literature concerning the environmental consequences of increased levels of atmospheric carbon dioxide leads to the conclusion that increases during the 20th Century have produced no deleterious effects upon global weather, climate, or temperature. Increased carbon dioxide has, however, markedly increased plant growth rates. Predictions of harmful climatic effects due to future increases in minor greenhouse gases like CO_2 are in error and do not conform to current experimental knowledge.

SUMMARY

World leaders gathered in Kyoto, Japan, in December 1997 to figure 1 are the result of seasonal variations in plant use of carbon dioxide. Solid horizontal lines show the levels that prevailed in 1900 and 1940 (2). The magnitude of this atmospheric increase during the 1980s was about 3 gigatons of carbon (Gt C) per year (3). Total human CO_2 emissions—primarily from use of coal, oil, and natural gas and the production of cement—are currently about 5.5 GT C per year.

To put these figures in perspective, it is estimated that the atmosphere contains 750 Gt C; the surface ocean, contains 1,000 Gt C; vegetation, soils, and detritus contain 2,200 Gt C; and the intermediate and deep oceans contain 38,000 Gt C (3). Each year, the surface ocean and atmosphere exchange an estimated 90 Gt C; vegetation and the atmosphere, 60 Gt C; marine biota and the surface ocean, 50 Gt C; and the surface ocean and the intermediate and deep oceans.

Format furor. Opponents of global change treaty packaged their views as a reprint from a prominent journal.

Pierrehumbert says he became concerned when a colleague, confused by Seitz's affiliations, called to ask whether the academy had indeed taken a stand against the Kyoto treaty. The call moved Pierrehumbert to post an e-mail harshly criticizing the mailing to several scientific mailing lists. He was not the only scientist angered by the faux reprint. "We've gotten several hundred calls from scientists asking what we are going to do about this," reports Darren Goetze of the Union of Concerned Scientists (UCS) in Boston, an advocacy group that last year signed up 1558 scientists in urging the federal government to take action on global warming. Officials at the Sierra Club and the NAS say they, too, have gotten a flurry of complaints. Researchers "are wondering if someone is trying to hoodwink them," says atmospheric chemist F. Sherwood Rowland, NAS foreign secretary.

Robinson admits it is no coincidence that the article, which he designed on his computer, looks like one published by the academy. "I used the *Proceedings* as a model," he says, "but only to put the information in a format that scientists like to read, not to fool people into thinking it is from a journal." He says he plans to submit a version shortly to a peer-reviewed journal.

Robinson says he didn't want to wait for formal publication of his article, for fear that the Senate might vote on the Kyoto treaty before he could distribute his petition. The goal, he says, is to counter the perception created by the UCS petition and other statements that there is a scientific consensus in favor of the Kyoto treaty. "Scientists who have spoken out [against the treaty] keep getting marginalized as nuts. I want to demonstrate that there is no consensus," he says. Critics are attacking his mailing's style, he believes, to sidestep a debate on its scientific substance.

Robinson says his petition has gathered 15,000 signatures. But Pierrehumbert and others say that Robinson's views on climate change are suspect, because he has never published research in the field.

–David Malakoff

David Malakoff is based in Bar Harbor, Maine.

ENERGY DEPARTMENT

Peña Quits; Moler Seen Moving Up

Energy Secretary Federico Peña was pegged by some as a short-timer even before he took office in March 1997. Last week, barely a year later, he proved those rumors true by announcing his resignation, effective the end of June. The departure of a Cabinet official typically signals a shake-up, but Administration officials say this transition is likely to prove quite smooth, because a leading candidate is only a few doors down the hall.

That would be Deputy Secretary Elizabeth Moler, former chair of the Federal Energy Regulatory Commission and a one-time Senate counsel. "I'm very confident Betsy's name is right up there" on the list of potential successors, Peña said on 6 April.

Despite the frequent rumors, Peña's announcement took even his staff by surprise. Moler, for example, was on vacation. And last month Peña gave no hint of his impending resignation at a press gathering to discuss his accomplishments. The secretary explained last week that he was leaving to spend more time with his family and pursue a job in the private sector. He also hinted that he had agreed to serve only 1 year at the Department of Energy (DOE) post. He had served more than 5 years in Clinton's Cabinet, the first four as secretary of transportation.

Peña may be best known among scientists for his decision last spring to fire the longtime operator of Brookhaven National Laboratory in Upton, New York, over environmental problems and poor relations with the neighboring community. A new contractor is in place, and Peña says he's pleased with the lab's progress. He has also brought in Ernest Moniz, a physicist from the Massachusetts Institute of Technology, to serve as undersecretary and focus on science-related issues.

Also under Peña's tenure, work began on the $1.2 billion National Ignition Facility at Lawrence Livermore National Laboratory in California after a lengthy court case. And DOE won White House backing for a $1.1 billion Spallation Neutron Source at Oak Ridge National Laboratory in Tennessee. Less successful has been his advocacy of the Comprehensive Test Ban Treaty and technologies to reduce the threat of global warming.

–Andrew Lawler

AP PHOTO / BRIAN K. DIGGS

Family matters. Peña seeks more time with his family, shown last year during his swearing-in.