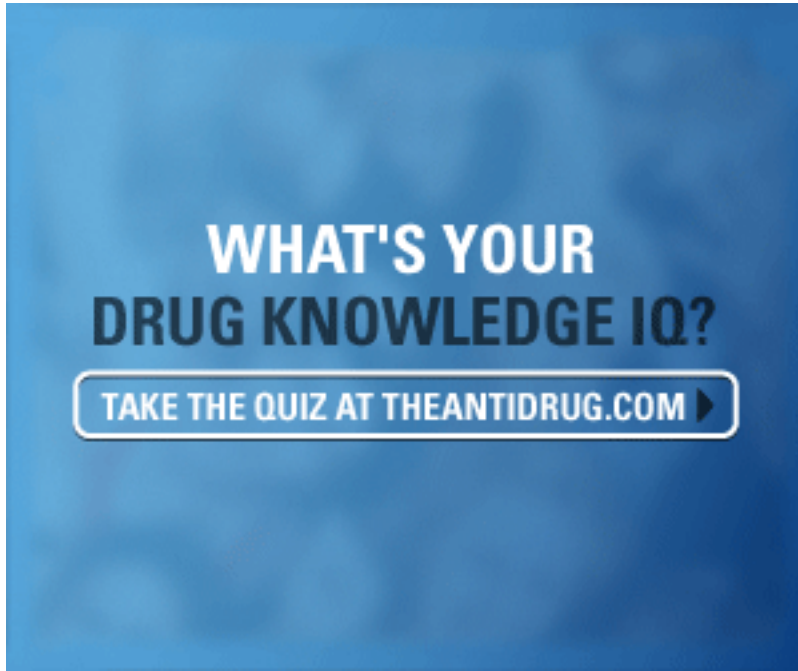


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## Warming to Cause Harsher Weather, Study Says

By Juliet Eilperin Washington Post Staff Writer Tuesday, October 18, 2005; A02

Extreme weather events -- including heat waves, floods and drought -- are likely to become more common over the next century in the United States because of human-generated greenhouse gas emissions, according to a new study by Purdue University researchers.

The analysis, which is being published online this week in the Proceedings of the National Academies of Science, examines how heat-trapping gases linked to climate change may intensify precipitation, drought and other weather conditions. Instances of extreme heat will probably increase throughout the country, the scientists concluded, and many areas will experience heavier downpours even if rain becomes less frequent.

"I would be thrilled to be wrong," said Noah S. Diffenbaugh, a climate scientist at the Purdue Climate Change Research Center and the university's department of earth and atmospheric sciences. "It's definitely going to be more extreme hot temperatures."

The four-person research team, which included two scientists from the Earth Systems Physics Group at the Abdus Salam International Center for Theoretical Physics in Trieste, Italy, compared U.S. weather patterns from 1961 to 1985 with models of future weather patterns from 2071 to 2095.

Under this scenario, which assumes the amount of carbon dioxide in the air will roughly double over the next 100 years, the coldest days of the year in the Northeast will be as much as 18 degrees Fahrenheit warmer, and the temperatures currently experienced on the 18 hottest days of the year in the Washington

area will prevail for two months.

The Southwest will become drier and hotter, the paper predicts, while the Gulf Coast will become warmer and experience less frequent, but more intense, rains.

Last month, three scientists from the National Center for Atmospheric Research in Boulder, Colo., published a paper suggesting that precipitation around the world is likely to become more intense as global warming continues. One of the authors of that study, Gerald A. Meehl, said the Purdue paper is consistent with his findings.

"This is what you'd expect to see," Meehl said. "As the climate continues to warm, you'd see more precipitation intensity [because] the warmer air can hold more moisture."

Kevin Trenberth, who heads the Colorado center's climate analysis section, said the two separate findings highlight "the need to examine not just the precipitation amount but also the intensity, frequency, duration and type" of rain or snow that may stem from climate change.

But Patrick J. Michaels, a senior fellow in environmental studies at the Cato Institute, questioned the Purdue paper because the scientists assumed carbon dioxide concentrations would double.

"That's not going to happen," said Michaels, who has accepted funding from coal, gas and mining interests opposed to mandatory curbs on greenhouse gas emissions. "These are very high assumptions that are not borne out by reality."

Diffenbaugh said his team did choose "a high-end scenario" in predicting future greenhouse gas emissions. He said it took five months to run the climate model on a supercomputer, and said he and other scientists did not have the time to calculate the impact of less carbon dioxide pollution.

Catastrophic weather events have taken an increasingly heavy financial toll on American homeowners and businesses in recent years. Over the past three decades, the country has experienced a 15-fold increase in insured losses from extreme weather events, according to a report issued last month by Ceres, a coalition of investors that lobbies businesses to be environmentally responsible. Increased development in flood-prone areas has contributed to those losses.

"We're in an era of escalating climate change impacts on governments and the public that can cause substantial financial risks," said Ceres President Mindy S. Lubber. "The government needs to step in and act, and call for policy changes that will reduce the risks."

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