

5-17-2002

Carbon Dioxide, Not Quirk of Nature, Responsible for Increasingly Volatile Weather, Cautions University of Dayton Biologist

University of Dayton

Follow this and additional works at: https://ecommons.udayton.edu/news_rls

Recommended Citation

University of Dayton, "Carbon Dioxide, Not Quirk of Nature, Responsible for Increasingly Volatile Weather, Cautions University of Dayton Biologist" (2002). *News Releases*. 10040.
https://ecommons.udayton.edu/news_rls/10040

This News Article is brought to you for free and open access by the Marketing and Communications at eCommons. It has been accepted for inclusion in News Releases by an authorized administrator of eCommons. For more information, please contact frice1@udayton.edu, mschlangen1@udayton.edu.



NEWS TIPS

CARBON DIOXIDE, NOT QUIRK OF NATURE, RESPONSIBLE FOR INCREASINGLY VOLATILE WEATHER, CAUTIONS UNIVERSITY OF DAYTON BIOLOGIST

In the 1970s, a margarine commercial warned that "it's not nice to fool Mother Nature." But humans have not taken heed and, by fooling with Mother Nature, Mother Nature is increasingly fooling with us, says a University of Dayton scientist.

This weekend the Miami Valley is facing temperatures 20 degrees colder than average, according to statistics from the National Weather Service. If temperatures fall to 35 degrees Saturday and Sunday eve as predicted, they'll be within just a couple of degrees of the record low of 33 degrees set in 1895. The term "global warming" hardly seems to fit the chilly atmosphere.

But global warming, a term that is quickly evolving to "global climate change," is greatly responsible for the roller coaster weather that continues not only in Ohio but around the world, according to Brother Don Geiger, S.M., professor of biology at the University of Dayton.

The current cold spell is inconvenient, but above average rainfall for the month has been more than just an inconvenience to local farmers, who are late getting crops in the ground because of the excess rain. The culprit? Carbon dioxide, Geiger said.

"When the earth was formed, there were very high levels of carbon dioxide in the atmosphere," Geiger said. "But as plants and animals came along, they buried the CO₂ in fossil fuels, in animal shells and limestone formation. The level of CO₂ was lowered from tens of a percent in the atmosphere to about 270 parts per million, or about .027 percent."

The industrial revolution in the 1800s brought an increase in that level, Geiger said. "Since that time the level of carbon dioxide has increased to about 360 parts per million. That's a pretty significant increase — about 25 percent and continuing to grow. At this rate, we can expect to see that rate double before the next century."

What's happening is that people are taking stored CO₂ and burning it, which releases it into the atmosphere where it stays and creates a type of reflective blanket of heat, Geiger said. "Light from the sun hits optics on the earth, which re-radiates back out as heat. That's why sunlight on your car makes your car feel hot to the touch. When too much CO₂ is in the atmosphere, it doesn't allow heat to pass through and keeps in on the earth — that's why the term 'greenhouse effect' is appropriate."

The trapped heat doesn't just raise temperatures on earth, it also generates energy that moves air from one place to another, Geiger said. That moving air creates the winds and strange

-over-

weather patterns the planet has been experiencing on an increasing level. "'Global warming' isn't really an appropriate term because sometimes the weather becomes warmer, but sometimes it becomes colder. That's why the term 'global climate change' is more appropriate."

Regardless of the label, these weather phenomena — jet streams, El Niños and others — are all driven by the extra energy created from heat trapped by excessive levels of CO₂. Without action, the problems will only continue to grow worse, Geiger said.

Can anything be done to stop — and perhaps even reverse — the problem? Yes, but people have to quickly began to take steps to reduce the levels of carbon dioxide in the atmosphere, and the United States can play a large part in that reduction, Geiger said. The Bush administration, which passed on the Kyoto Treaty designed to address the problem on a cooperative global level, needs to understand the implications of global climate change and that the actions of one country effects the entire planet, he said.

"We now have the technology to address the problem," he said. "We're beginning to make hybrid automobiles, and we're moving closer to possibly using hydrogen fuel, which releases water into the atmosphere as opposed to carbon dioxide."

Individuals can also contribute to the solution, Geiger said, citing SUVs and other gas-guzzling automobiles as particularly problematic. "There are many things we can do to help by making changes in our lifestyles. We can conserve electricity and drive fuel-efficient cars."

For information and links to global climate change and ways to help, Geiger suggests visiting the Web sites of World Watch at www.worldwatch.org and the Union of Concerned Scientists at www.ucsusa.org.

For media interviews, contact **Brother Don Geiger** at (937) 229-2509 or via e-mail at Donald.Geiger@notes.udayton.edu.