



## EARTH DAY INTENSIFIES GLOBAL WARMING DEBATE

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*While the U.S. government has chosen to focus on clean air, land conservation and water quality this Earth Day, an international organizing body is featuring global warming, an issue that has gained momentum in recent months.*

The winter of 2005-2006 will go on record as one of the warmest in recent history and 2005 was the warmest year on record, according to NASA.

And although not all scientists agree, most experts studying Earth's recent climate past believe that human activities such as the release of heat-trapping gas are a dominant factor in the warming trend.

Earthday Network, Earth Day's international organizing body, has chosen to feature global warming as the theme for Earth Day, April 22, taking the issue head on and hoping to encourage activism.

Meanwhile, the Bush administration, which has been skeptical of the human influence on climate change, saying more study is needed, has designated the theme of Earth Day 2006 as "cleaning the air, promoting land conservation, and improving water quality."

### **What is global warming?**

Across the world, people burn fossil fuels, like coal and oil, for energy. The energy created provides electricity and heat for our homes and businesses, but the burning process, called combustion, also releases gases into the air.

Some of the gases can trap heat near the Earth instead of letting it pass through the atmosphere into space. These gases are known as greenhouse gases because they reflect heat and warm the Earth the same way a greenhouse creates a warm environment for plants to grow, even in the middle of winter.

The most common greenhouse gas is carbon dioxide, which is an odorless, colorless and naturally occurring compound.

The question is how to measure the effect of human activity on the naturally occurring greenhouse effect, and take into account the planet's long history of rising and falling average temperatures and carbon dioxide levels.

### **A heated debate**

The question of human impact has sparked intense debate from the scientific community to the halls of Congress.

The focus in recent years has been on climate change models that show a sharp increase in average temperature in the last 100 years after a long period of stability -- creating a graph that looks like a hockey stick.

The model was incorporated into the international standard for assessment of climate change, the Climate Change 2001 report produced by the U.N. Intergovernmental Panel on Climate Change.

In 2005, 11 national science academies, including those from the United States, United Kingdom, China and Russia, signed a statement renewing their support for the document, asserting that climate change is "real" and a result of human activities.

However, skeptics charge that the models forming the basis of Climate Change 2001 haven't been sufficiently scrutinized.

A 2003 report criticized the simplicity of the mathematical models used to create the "hockey stick" graph and suggested using local data instead of global averages. Skeptics say other climate change indicators account for local temperature anomalies like a Medieval Warm Period that occurred about 1,000 years ago and a Little Ice Age that ended about 100 years ago.

In the U.S. Congress, Republican Representative Joe Barton of Texas, the chairman of the House Committee on Energy and Commerce, condemned the "hockey stick" research and asked for the raw data and a review of the methodology behind it.

This spurred a passionate response from the National Academies of Sciences, National Science Foundation and 20 scientists, who wrote to Barton supporting the validity of the research and its conclusion.

One of those researchers was James Hansen, NASA's leading climate scientist, who has pointed to ocean warming as the "smoking gun" for global warming. Last year, he concluded that temperatures could rise by 5 degrees Celsius over the next century. Hansen has accused the federal government of censoring him and NASA documents to align with policy.

## **Earth Day**

Earth Day was founded in 1970 by Wisconsin Senator Gaylord Nelson, an outspoken advocate for the environment.

The first Earth Day was organized by grassroots organizations from across the country. Over the years these groups spread Earth Day to 174 countries, organizing events with schools, businesses and governments.

While originally started to build support for a political cause, Earth Day has been seen by many to represent a respect for the planet and a desire to care for it.

*-- Compiled by Bryan Hayes and Adnaan Wasey for NewsHour Extra*

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