

New climate study deals blow to skeptics - CNN.com

By Matthew Knight, CNN

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A new study backs up previous research which say that global temperatures are rising.

London (CNN) -- An independent study of global temperature records has reaffirmed previous conclusions by climate scientists that global warming is real.

The new analysis by the Berkeley Earth Surface Temperature project examined 1.6 billion temperature reports from 15 data archives stretching back over 200 years in an effort to address scientific concerns raised by climate skeptics about the data used to inform reports published by the Intergovernmental Panel on Climate Change (IPCC).

Researchers found "reliable evidence" of a rise in average world land temperatures of one degrees Celsius -- or 1.8 degrees Fahrenheit -- since the mid-1950s.

"Our biggest surprise was that the new results agreed so closely with the warming values published previously by other teams in the United States and the UK," professor Richard A. Muller, Berkeley Earth's scientific director said in a statement.

"This confirms that these studies were done carefully and that potential biases identified by climate change skeptics did not seriously affect their conclusions," Muller added.

Climate skeptics have consistently challenged the findings of studies by NASA, the National Oceanic and Atmospheric Administration (NOAA) and the UK's University of East Anglia's Climate Research Unit, whose research is used by the IPCC.

Many skeptics argue that the urban heat island effect may be distorting temperature rises and too much data gathered from weather stations is of poor quality.

They also contend that data selection has been biased -- a charge which gained credence during the so-called "Climategate" scandal in 2009, when thousands of private emails from the UK's University of East Anglia's Climate Research Unit (CRU) were published on the Internet.

'Climategate' explained

The charge that CRU scientists and other climate scientists had manipulated data was rejected by an independent review in July 2010.

But doubts persisted in many climate skeptic's minds.

Addressing these concerns directly, the new study has concluded that while the urban heat island effect is "locally large and real" it "does not contribute significantly to the average land temperature rise."

This is because urban regions amount to less than 1% of total land area, according to the study.

On the issue of data from poor stations the study found that they showed "the same pattern of global warming as stations ranked 'ok'" and "that there is not any undue bias from including poor stations in the survey."

Learn more about the study

Lead scientist at Berkeley Earth, Robert Rohde said that the study was the first to address issues concerning data bias and used nearly all available data, which amounted to five times more station locations (39,000 compared to 7,280) than reviewed by prior groups.

In total, around one third of temperature sites around the world reported global cooling since the 1950s but the remaining two thirds showed warming, according to the study.

It is extremely difficult to measure weather consistently over decades and centuries, but the presence of sites reporting cooling is a symptom of the local variations that can creep in, according to researchers.

The study has now been submitted for peer review.

Professor Phil Jones, the director of research at CRU who considered suicide during the furore over the "Climategate" scandal, said he looked forward to reading the finalized paper when it is published.

"These initial findings are very encouraging and echo our own results and our conclusion that the impact of urban heat islands on the overall global temperature is minimal," Jones said in a statement.

Muller conceded that the study's remit did not extend to questions about how much warming has been influenced by human activity.

"It's a very interesting piece of research," said David Whitehouse, science advisor to the Global Warming Policy Foundation -- a charity set up by former UK government finance minister and vocal critic of climate change policy, Nigel Lawson.

"But it's not the main question that skeptics are talking about. The important question is what is the mixture of natural and human-induced effects that contribute to that warming?" Whitehouse said.

The IPCC's most recent assessment maintains that humans are "very likely" responsible for recent global warming.

Berkeley Earth plan to address ocean temperatures (which the IPCC state has not warmed as much as land) in their next study, with a view to gaining a more accurate view of the total amount of observable global warming.

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