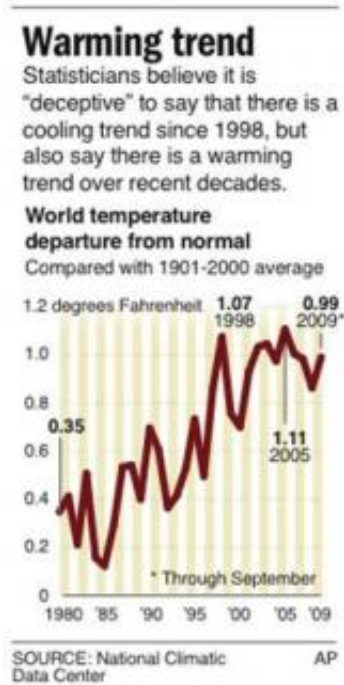


Statistics experts reject global cooling claims

October 26 2009, By SETH BORENSTEIN , AP Science Writer



Graphic shows the departure from normal annual world temperature

(AP) -- Have you heard that the world is now cooling instead of warming? You may have seen some news reports on the Internet or heard about it from a provocative new book.

Only one problem: It's not true, according to several independent statisticians who analyzed [temperature](#) data for The Associated Press.

The case that the Earth might be cooling partly stems from recent

weather. Last year was cooler than previous years. It's been a while since the super-hot years of 1998 and 2005. So is this a longer climate trend or just weather's normal ups and downs?

In a blind test, the AP gave temperature data to four independent statisticians and asked them to look for trends, without telling them what the numbers represented. The experts found no true temperature declines over time.

"If you look at the data and sort of cherry-pick a micro-trend within a bigger trend, that technique is particularly suspect," said John Grego, a professor of statistics at the University of South Carolina.

Yet the idea that things are cooling has been repeated in opinion columns, a BBC news story posted on the Drudge Report and in a new book by the authors of the best-seller "Freakonomics." Last week, a poll by the Pew Research Center found that only 57 percent of Americans now believe there is strong scientific evidence for global warming, down from 77 percent in 2006.

Global warming skeptics base their claims on an unusually hot year in 1998. Since then, they say, temperatures have dropped - thus, a cooling trend. But it's not that simple.

Since 1998, temperatures have dipped, soared, fallen again and are now rising once more. Records kept by the British meteorological office and satellite data used by climate skeptics still show 1998 as the hottest year. However, data from the [National Oceanic and Atmospheric Administration](#) and NASA show 2005 has topped 1998. Published peer-reviewed scientific research generally cites temperatures measured by ground sensors, which are from NOAA, NASA and the British, more than the satellite data.

The recent Internet chatter about cooling led NOAA's climate data center to re-examine its temperature data. It found no cooling trend.

"The last 10 years are the warmest 10-year period of the modern record," said NOAA climate monitoring chief Deke Arndt. "Even if you analyze the trend during that 10 years, the trend is actually positive, which means warming."

The AP sent expert statisticians NOAA's year-to-year ground temperature changes over 130 years and the 30 years of satellite-measured temperatures preferred by skeptics and gathered by scientists at the University of Alabama in Huntsville.

Statisticians who analyzed the data found a distinct decades-long upward trend in the numbers, but could not find a significant drop in the past 10 years in either data set. The ups and downs during the last decade repeat random variability in data as far back as 1880.

Saying there's a downward trend since 1998 is not scientifically legitimate, said David Peterson, a retired Duke University statistics professor and one of those analyzing the numbers.

Identifying a downward trend is a case of "people coming at the data with preconceived notions," said Peterson, author of the book "Why Did They Do That? An Introduction to Forensic Decision Analysis."

One prominent skeptic said that to find the cooling trend, the 30 years of satellite temperatures must be used. The satellite data tends to be cooler than the ground data. And key is making sure 1998 is part of the trend, he added.

It's what happens within the past 10 years or so, not the overall average, that counts, contends Don Easterbrook, a Western Washington

University geology professor and global warming skeptic.

"I don't argue with you that the 10-year average for the past 10 years is higher than the previous 10 years," said Easterbrook, who has self-published some of his research. "We started the cooling trend after 1998. You're going to get a different line depending on which year you choose.

"Should not the actual temperature be higher now than it was in 1998?" Easterbrook asked. "We can play the numbers games."

That's the problem, some of the statisticians said.

Grego produced three charts to show how choosing a starting date can alter perceptions. Using the skeptics' satellite data beginning in 1998, there is a "mild downward trend," he said. But doing that is "deceptive."

The trend disappears if the analysis starts in 1997. And it trends upward if you begin in 1999, he said.

Apart from the conflicting data analyses is the eyebrow-raising new book title from Steven D. Levitt and Stephen J. Dubner, "Super Freakonomics: Global Cooling, Patriotic Prostitutes and Why Suicide Bombers Should Buy Life Insurance."

A line in the book says: "Then there's this little-discussed fact about global warming: While the drumbeat of doom has grown louder over the past several years, the average global temperature during that time has in fact decreased."

That led to a sharp rebuke from the Union of Concern Scientists, which said the book mischaracterizes climate science with "distorted statistics."

Levitt, a University of Chicago economist, said he does not believe there

is a cooling trend. He said the line was just an attempt to note the irony of a cool couple of years at a time of intense discussion of [global warming](#). Levitt said he did not do any statistical analysis of temperatures, but "eyeballed" the numbers and noticed 2005 was hotter than the last couple of years. Levitt said the "cooling" reference in the book title refers more to ideas about trying to cool the Earth artificially.

Statisticians say that in sizing up climate change, it's important to look at moving averages of about 10 years. They compare the average of 1999-2008 to the average of 2000-2009. In all data sets, 10-year moving averages have been higher in the last five years than in any previous years.

"To talk about global cooling at the end of the hottest decade the planet has experienced in many thousands of years is ridiculous," said Ken Caldeira, a climate scientist at the Carnegie Institution at Stanford.

Ben Santer, a climate scientist at the Department of Energy's Lawrence Livermore National Lab, called it a "a concerted strategy to obfuscate and generate confusion in the minds of the public and policy-makers" ahead of international climate talks in December in Copenhagen.

President Barack Obama weighed in on the topic Friday at MIT. He said some opponents "make cynical claims that contradict the overwhelming scientific evidence when it comes to climate change - claims whose only purpose is to defeat or delay the change that we know is necessary."

Earlier this year, climate scientists in two peer-reviewed publications statistically analyzed recent years' temperatures against claims of cooling and found them not valid.

Not all skeptical scientists make the flat-out cooling argument.

"It pretty much depends on when you start," wrote John Christy, the Alabama atmospheric scientist who collects the [satellite data](#) that skeptics use. He said in an e-mail that looking back 31 years, temperatures have gone up nearly three-quarters of a degree Fahrenheit (four-tenths of a degree Celsius). The last dozen years have been flat, and temperatures over the last eight years have declined a bit, he wrote.

Oceans, which take longer to heat up and longer to cool, greatly influence short-term weather, causing temperatures to rise and fall temporarily on top of the overall steady warming trend, scientists say. The biggest example of that is El Nino.

El Nino, a temporary warming of part of the Pacific Ocean, usually spikes global temperatures, scientists say. The two recent warm years, both 1998 and 2005, were El Nino years. The flip side of El Nino is La Nina, which lowers temperatures. A La Nina bloomed last year and temperatures slipped a bit, but 2008 was still the ninth hottest in 130 years of NOAA records.

Of the 10 hottest years recorded by NOAA, eight have occurred since 2000, and after this year it will be nine because this year is on track to be the sixth-warmest on record.

The current El Nino is forecast to get stronger, probably pushing global temperatures even higher next year, scientists say. [NASA](#) climate scientist Gavin Schmidt predicts 2010 may break a record, so a cooling trend "will be never talked about again."

On the Net:

National Ocean And Atmospheric Administration's climate data center

on global temperatures:

<http://tinyurl.com/noaatemps>

National Air and Space Administration's global temperature data:

<http://tinyurl.com/nasatemps>

Britain's Hadley Meteorological Centre global temperature data:

<http://tinyurl.com/hadleytemps>

University of Alabama in Huntsville satellite measurement of temperatures: <http://climate.uah.edu/>

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