Climate report struggles with temperature quirks (Update)

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In this Tuesday Aug, 16, 2005 file photo an iceberg melts in Kulusuk, Greenland near the arctic circle. Scientists who are fine-tuning a landmark U.N. report on climate change are struggling to explain why global warming appears to have slowed down in the past 15 years even as greenhouse gas emissions keep rising. Leaked documents show there is widespread disagreement among governments over how to address the contentious issue in Sept. 23-26 stock-taking report by the Intergovernmental Panel on Climate Change. (AP Photo/John McConnico, File)

Scientists working on a landmark U.N. report on climate change are struggling over how to address a wrinkle in the meteorological data that has given ammunition to global-warming skeptics: The heating of Earth's surface appears to have slowed in the past 15 years even though greenhouse gas emissions keep rising.

For years, skeptics have touted what looks like a slowdown in surface warming since 1998 to cast doubt on the scientific consensus that humans are cooking the planet by burning coal, oil and natural gas.

Scientists and statisticians have dismissed the purported slowdown as a statistical mirage, arguing among other things that it reflects random climate fluctuations and an unusually hot year picked as the starting point for charting temperatures. They also say the data suggests the "missing" heat is simply settling—temporarily—in the ocean.

But as scientists study the issue, the notion of a slowdown has gained more mainstream attention, putting pressure on the authors of the new U.N. report to deal with it.

The Intergovernmental Panel on Climate Change report is expected to assert that global warming is continuing. It is also expected to affirm with greater certainty than ever before the link between global warming and human activity.

Leaked documents obtained by The Associated Press show there are deep concerns among governments over how to address the purported slowdown ahead of next week's meeting of the IPCC.

"I think to not address it would be a problem because then you basically have the denialists saying, 'Look, the IPCC is silent on this issue,'" said Alden Meyer of the Washington-based advocacy group Union of Concerned Scientists.

In a leaked June draft of the report's summary for policymakers, the IPCC said that while the rate of warming between 1998 and 2012 was about half the average rate since 1951, the globe is still heating up. As for the apparent slowdown, it cited natural variability in the climate system, as well as cooling effects from volcanic eruptions and a downward phase in solar activity.

But in comments to the IPCC obtained by the AP, several governments that reviewed the draft objected to how the issue was tackled.

In this July 19, 2007 file photo an iceberg melts off Ammassalik Island in Eastern Greenland. Scientists who are fine-tuning a landmark U.N. report on climate change are struggling to explain why global warming appears to have slowed down in the past 15 years even as greenhouse gas emissions keep rising. Leaked documents show there is widespread disagreement among governments over how to address the contentious issue in Sept. 23-26 stock-taking report by the Intergovernmental Panel on Climate Change. (AP Photo/John McConnico, File)

Germany called for the reference to the slowdown to be deleted, saying a time span of 10 to 15 years was misleading in the context of climate change, which is measured over decades and centuries.

The U.S. also urged the authors to include the "leading hypothesis" that the reduction in warming is linked to more heat being transferred to the deep ocean.

Belgium objected to using 1998 as a starting year for any statistics. That year was exceptionally warm, so any graph showing global temperatures starting with 1998 looks flat. Using 1999 or 2000 as a starting year would yield a more upward-pointing curve. In fact, every year after 2000 has been warmer than the year 2000.

Hungary worried the report would provide ammunition for skeptics.

Many skeptics claim that the rise in global average temperatures stopped in the late 1990s, and their argument has gained momentum among some media and politicians, even though the scientific evidence of climate change is piling up: The previous decade was the warmest on record and, so far, this decade is even warmer, albeit slightly. Meanwhile, Arctic sea ice shrank to a record low last year, and the IPCC draft said sea levels have risen by 7.5 inches (19 centimeters) since 1901.

Many researchers say the slowdown in warming is related to the natural ocean warming and cooling cycles known as El Nino and La Nina. Also, a 2013 study by Kevin Trenberth at the National Center for Atmospheric Research found dramatic recent warming in the deeper oceans, between 2,300 and 6,500 feet.

"The heat is not missing," said University of Victoria climate scientist

Andrew Weaver, who is also a Green Party member of the British Columbia parliament. "The heat is there. The heat is in the ocean."

The idea is that the energy trapped by carbon dioxide and greenhouse gases has to go somewhere on Earth, said Princeton University climate scientist Michael Oppenheimer. But that heat energy will eventually make its way to the ocean surface and the air, putting surface warming back on the increasing track, he said.

In this July 19, 2007 file photo, an iceberg melts off the coast of Ammasalik, Greenland. Scientists who are fine-tuning a landmark U.N. report on climate change are struggling to explain why global warming appears to have slowed down in the past 15 years even as greenhouse gas emissions keep rising. Leaked documents show there is widespread disagreement among governments over how to address the contentious issue in the Sept. 23-26 stock-taking report by the Intergovernmental Panel on Climate Change. (AP Photo/John McConnico, File)

"Energy will hide out in the ocean for a while before it pops out into the atmosphere," Oppenheimer said.

For scientists studying the last 10 years, what's been happening "is a cool question," said U.S. National Oceanic and Atmospheric Administration scientist Gabriel Vecchi. But "anybody who tries to use the past 10 years to argue about the reality of global warming—which is based upon century-scale data—is just being distracting."

Jonathan Lynn, a spokesman for the IPCC, declined to comment on the content of the report because it hasn't been made final, but said it would provide "a comprehensive picture of all the science relevant to climate change."

The IPCC draft report says it is "extremely likely" that human influence caused more than half of the warming observed since the 1950s, an upgrade from "very likely" in the last IPCC report in 2007.

A final version will be presented at the end of the panel's meeting in Stockholm next week.

The IPCC's conclusions are important because they serve as the scientific basis for U.N. negotiations on curbing emissions of CO2 and other greenhouse gases. A global climate treaty is supposed to be adopted in 2015.