

## Climate Models Are Warming Earth Two Times Faster Than Reality

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Climate models show twice as much warming during the 21st Century than what's actually been observed, according to a new report highlighting the limitations of global climate models, or GCMs.

“So far in the 21st century, the GCMs are warming, on average, about a factor of 2 faster than the observed temperature increase,” Dr. Judith Curry, a former Georgia Tech climate scientist who now runs her own climate forecasting company, wrote in a report for the U.K.-based Global Warming Policy Foundation.

Curry has been one of the foremost critics of climate models, arguing that while they can be useful, there are too many uncertainties and issues to rely on models for public policy decisions.

Curry's report gives a detailed rundown of why models can be useful for modeling complex climate systems, but also points out that GCMs fail to capture natural variability in the climate.

“The reason for the discrepancy between observations and model simulations in the early 21st century appears to be caused by a combination of inadequate simulations of natural internal variability and oversensitivity of the models to increasing carbon dioxide,” wrote Curry.

Climate models assume carbon dioxide is the control knob for average global temperature and fail to take into account “the patterns and timing of multidecadal ocean oscillations” and “future solar variations and solar indirect effects on climate,” Curry explains.

Models also “neglect of the possibility of volcanic eruptions that are more active than the relatively quiet 20th century” and suffer from an “apparent over-sensitivity to increases in greenhouse gases,” Curry continues.

Global warming skeptics have been pointing out problems with climate models for years, but only recently have scientists taken a hard look at modeling's actual predictive powers.

A group of scientists admitted in early 2016 that the 15-year “pause” in global warming threw a wrench into climate model predictions, forcing some to go back to the drawing board to see what went wrong.

“There is this mismatch between what the climate models are producing and what the observations are showing,” John Fyfe, Canadian climate modeler, told Nature in 2016. “We can’t ignore it.”

But climate model problems predate the recent warming “pause.” Chip Knappenberger and Patrick Michaels, climate scientists at the libertarian Cato Institute, have long criticized most climate models, which they say have not accurately predicted global temperature rises for the past six decades.

In late 2015, Michaels and Knappenberger published research comparing observed rates of global surface temperature warming since 1950 to predictions made by 108 climate models.

They found the models predicted much higher warming rates than actually occurred from rising carbon dioxide emissions.

Even the recent string of “record warm” years are below what most climate models predicted. A recent El Nino temporarily brought global average temperature in agreement with most climate models, but the globe is expected to cool in the coming years as the tropics cool.

And that’s only surface temperature readings. A similar mismatch exists between satellite-derived temperature readings and model predictions.

Climate scientists John Christy and Roy Spencer manage a prominent satellite-derived temperature data set out of the University of Alabama, Huntsville. Their data showed no warming for about two decades — a streak only broken by the recent El Nino warming event.