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## New Climate Model Sparks Debate

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An article in the journal *Science Bulletin*, “Why Models Run Hot: Results from an Irreducibly Simple Climate Model,” has introduced a new, simple model of the climate’s response to adding carbon-dioxide to the atmosphere.

The new model tracks temperatures and temperature trends more closely than the complex climate models used by the United Nations’ Intergovernmental Panel on Climate Change (IPCC).

### **Climate ‘Complexity’ Mistakes**

The authors note each of the complex climate models used by the IPCC significantly overstates the amount of warming the planet has experienced during approximately the past 120 years. In addition, based on the theory temperatures should rise right along with carbon-dioxide emissions, the complex models have missed a more than 18-year pause in temperature increase.

In the paper, authors Lord Christopher Monckton, Astrophysicist Willie Soon, Ph.D., climatologist and geologist David Legates, Ph.D., and statistician William Briggs, argue complex climate models get temperature projections wrong because they overestimate, or miscalculate entirely, the strength and direction of the feedback mechanisms built into the climate in response to increased carbon-dioxide concentrations.

As Lord Monckton told *Environment & Climate News* “The errors of the enormously complex climate models are attributable to a well-kept secret: Doubling atmospheric CO<sub>2</sub> concentrations should result in an average global warming of just 1 degree Celsius, and possibly less than half that, but climate modelers erroneously assume ‘temperature feedbacks’—climatic changes triggered by a direct warming such as from CO<sub>2</sub>—triple warming. Without the assumed tripling, there is no climate problem.”

Miroslav Kutilek, emeritus professor at Czech Technical University in Prague has come to a conclusion similar to that of Monckton et al. concerning the weaknesses in complex climate models. Kutilek said, “The results from complex computer models in common use do not agree with observations of reality. They lack validity because, when tested, they do not reflect well the climates of the past. In addition, they seem to underestimate some forcing factors while overestimating others. The complex models also entirely miss long-term processes, large scale, primary oceanic processes, driving regional climate.”

### **Popular but Under Attack**

The Science Bulletin article has received a great deal of coverage. Physics.org, for example, ran an article on the paper, titled “Peer-reviewed pocket-calculator climate model exposes serious errors in complex computer models.” In addition, the Daily Mail, the Christian Post, and the popular climate blog Watts Up With That have also given prominent coverage to the article.

Regarding the paper’s popularity, Monckton said, “The simple model presented in Science Bulletin has received extensive coverage and has been downloaded more than 10,000 times from the journal’s website, a near-unprecedented hit-rate for a scientific paper.”

Climate scientists hewing a more traditional line on climate models were quoted as criticizing the model as “simple” in a January 22 article on the website The Carbon Brief. They argued it fails because it doesn’t build in the complex forcings, amplifications, and feedback mechanisms used in the complex models employed by the IPCC.

Responding to this complaint, Monckton said, "Our model was deliberately designed to be as simple as possible. And, unlike the more complex models, it does not exaggerate future global warming. But as our peer reviewers discovered, it is not as simple as it looks. One of them challenged us to explain how the model could be set to study the notion that the missing heat that has not appeared as predicted in the atmosphere has gone into hiding in the deep oceans. We explained that our model incorporates several array variables that allow such behavior to be modeled, though we also supplied an appendix demonstrating that there is little support for the ocean notion in the learned journals."

### **Scientists Defend Simple Model**

A number of scientists stepped forward to defend the Science Bulletin paper. Ecosystem modeler David Stockwell, Ph.D., said, “The article by Monckton et al. shows with a conventional analysis that very low temperature sensitivity to CO2 doubling explains the available evidence much better than high sensitivity, and gives good examples of statistical biases underlying the IPCC claims.”

Tom Harris, executive director of the International Climate Science Coalition, said, “The new model comes far closer to actual temperature trends than do the complicated models held dear by climate alarmists.

“It is therefore obvious the simple model is far more useful for making meaningful future projections than are those employed by the IPCC,” Harris continued. “More scientists should question climate science doctrine, especially the magnitude of feedbacks influencing direct warming by greenhouse gas emissions. Are they really as high as the IPCC asserts, or are they in fact negative, as suggested in the new paper?”

Patrick J. Michaels, director of the Center for the Study of Science at the Cato Institute and past president of the American Association of State Climatologists, said, "Since 2011, the refereed literature contains at least 14 studies detailing 20 experiments by 45 scientists, all demonstrating the sensitivity of temperature to a doubling of carbon dioxide is considerably less than what is in

the ensemble of the UN's climate models. Monckton et al. simply contributes to this growing paradigm."