

Models look good when predicting climate change

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The accuracy of computer models that predict climate change over the coming decades has been the subject of debate among politicians, environmentalists and even scientists. A new study by meteorologists at the University of Utah shows that current climate models are quite accurate and can be valuable tools for those seeking solutions on reversing global warming trends. Most of these models project a global warming trend that amounts to about 7 degrees Fahrenheit over the next 100 years.

The study titled "How Well do Coupled Models Simulate Today's Climate?" is due to be published this Friday in the Bulletin of the American Meteorological Society. In the study, co-authors Thomas Reichler and Junsu Kim from the Department of Meteorology at the University of Utah investigate how well climate models actually do their job in simulating climate. To this end, they compare the output of the models against observations for present climate.

The authors apply this method to about 50 different national and international models that were developed over the past two decades at major climate research centers in China, Russia, Australia, Canada, France, Korea, Great Britain, Germany, and the United States. Of course, also included is the very latest model generation that was used for the very recent (2007) report of the Intergovernmental Panel on Climate Change (IPCC).

"Coupled models are becoming increasingly reliable tools for



understanding climate and climate change, and the best models are now capable of simulating present-day climate with accuracy approaching conventional atmospheric observations," said Reichler. "We can now place a much higher level of confidence in model-based projections of climate change than in the past."

The many hours of studying models and comparing them with actual climate changes fulfills the increasing wish to know how much one can trust climate models and their predictions. Given the significance of climate change research in public policy, the study's results also provide important response to critics of global warming. Earlier this year, working group one of the IPCC released its fourth global warming report. The University of Utah study results directly relate to this highly publicized report by showing that the models used for the IPCC paper have reached an unprecedented level of realism.

Another important aspect of the research is that climate models built in the U.S. are now some of the best models worldwide. Increased efforts in the U.S. over the past few years to build better climate models have paid off, and according to the authors' measure of reliability, one of the U.S. models is now one of the leading climate models worldwide.

Although model-based projections of future climate are now more credible than ever before, the authors note they have no way to say exactly how reliable those projections are. There are simply too many unknowns involved in the future evolution of climate, such as how much humans will curb their future greenhouse gas emissions.

To view the full study on climate models, please visit: www.inscc.utah.edu/~reichler/p ... ler 07 BAMS CMIP.pdf

Source: University of Utah



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