

Oceans signal warmer decade ; Shorter prediction span in new climate model allows for better policy decisions on warming; DAN VERGANO USA Today
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The next decade will be a hot one, according to scientists unveiling the first 10-year projection of global warming.

The climate projection, published in Thursday's online edition of the journal Science, suggests that a natural cooling trend in eastern and southern Pacific ocean waters has kept a lid on warming in recent years.

And it will continue to do so, scientists say, but not for long.

The projection spans 2007 to 2017. "At least half of the years after 2009 are predicted to be warmer than 1998, the warmest year currently on record," the researchers say in their report. Globally, that means a typical year will be about half a degree warmer than in the previous 10 years, a projection in line with findings this year by the Intergovernmental Panel on Climate Change. The panel's report, the work of thousands of scientists, also predicts steadily rising temperatures.

The decade covering 1996 to 2006 contained the warmest years ever recorded, with temperatures peaking in 1998 and nearly reaching that height in 2005.

The significance of the new study is that over the last century, global warming has contributed to about a one-degree rise in average temperatures. The new projection suggests that in a short time - just one-tenth of that time span - the average temperature will be another half a degree higher still.

The climate models used by scientists normally cover a century. One that covers a decade is an innovation that will allow more precision, says the study team led by Doug Smith of the United Kingdom's Hadley Centre for Climate Prediction and Research.

Improved regional projections, including a prediction that there will be a general warming over North America, have resulted from combining fresh weather data with the state-of-the-art climate model, Smith says.

"In the climate-modeling world, a short prediction is considerably harder than a long one," says climate

researcher John Drake of the Energy Department's Oak Ridge (Tenn.) National Laboratory. That's because natural variability in weather has a stronger effect in the short term than when averaged out over 100 years.

But the ability to produce accurate, 10-year predictions will be important for world leaders charged with making climate-related decisions, Drake says.

Global warming is an increase in atmospheric temperatures tied to industrial activities, particularly the burning of fossil fuels like coal that release such heat-trapping "greenhouse" gases as carbon dioxide. The creators of older climate models are most confident about their projections for the years around 2040, making a new decade projection especially important to politicians and other decision-makers, agrees Gavin Schmidt of NASA's Goddard Institute for Space Studies in New York. "If this works, it is a good step forward," he says, but cautions that ocean temperature measurements vital to the decadal model are limited. Such measures are now fairly low tech, using boats and thermometers.

Improved ocean measurements should soon improve the reliability of the decadal forecast, Smith says. And he adds one caveat the model can't account for. "Any major volcanic eruptions would cool the climate compared with our forecast."

Climate models have critics, such as renowned Princeton physicist Freeman Dyson. But the Hadley Centre projections have been run backward, so-called "hindcasts" that closely reproduce climate in past decades to check accuracy.

Illustrations/Photos:

Chart

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