

More reasons to hate humidity: It expands global warming, prof says

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Here's yet another reason to hate humidity: it expands global warming, says a Texas A&M University professor.

Andrew Dessler, a professor in the Department of Atmospheric Sciences who specializes in research on climate, says that warming due to increases in greenhouse gases will lead to higher humidity in the atmosphere. And because water vapor itself is a greenhouse gas, this will cause additional warming. This process is known as water vapor feedback and is responsible for a significant portion of the warming predicted to occur over the next century.

"It's a vicious cycle - warmer temperatures mean higher humidity, which in turn leads to even more warming," Dessler explains.

The perspective by Dessler and co-author Steven Sherwood of the Climate Change Research Centre at the University of New South Wales is published in the current issue of *Science* magazine. In the article, they review and summarize the peer-reviewed evidence in support of a strong water vapor feedback and conclude that the evidence supporting it is overwhelming.

"For years, there was a debate over this mechanism, with some even questioning if the water vapor feedback existed at all. But recent work on this feedback has moved its existence and strength beyond argument," Dessler adds.

Predictions of significant global warming over the next 100 years by climate models require a strong water vapor feedback. Recent estimates suggest the earth will warm from 2 to 4 degrees Celsius (4 to 8 degrees Fahrenheit) over the next century - a scenario that could have devastating long-term consequences.

"Everything shows that the climate models are probably getting the water vapor feedback right,

which means that unless we reduce emissions, it is going to get much, much warmer on our planet by the end of the century," he adds.

Many scientists believe such warming rates are already happening.

They can point to the summer of 2003, when a prolonged heat wave gripped Europe. According to the Earth Policy Institute, more than 35,000 people died that summer, with France recording over 14,000 deaths and Germany more than 7,000.

Additionally, warmer temperatures are having an adverse effect in the Arctic, where rapid loss of ice is now occurring.

"The only possible way future warming won't be significant is if there exists some sort of off-setting negative feedback, which has yet to be discovered," Dessler notes.

"Most scientists, myself included, judge that to be a pretty unlikely possibility."

Source: Texas A&M University

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