

## Climate expert takes on global warming

By Jeff Caldwell

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There are multiple schools of thought when it comes to climate change, global warming and how it's influenced by humans' increasing carbon footprints. But, just like Goldilocks and the 3 Bears, the extremes on either side of the argument are the outliers when it comes to the most likely outcomes climate data suggest. In other words, says one climate expert, the climate's changing, but not nearly as much as a considerable amount of attention the issue's received in the last decade.

"Surface temperature of the earth is higher than it was 100 years ago. How high? About 1 degree Celsius. Was that caused by human beings putting carbon dioxide in the atmosphere? If you look at the history of surface temp around the planet, what you'll see is that it warmed about half a degree between 1910 and 1940, then it cooled down a while, then warmed another half a degree between 1975-76 and 1997-98," says Dr. Patrick J. Michaels, a climate expert and director of the Center for the Study of Science at the Cato Institute. "Well, the first warming was not caused by putting carbon dioxide in the atmosphere, because we hadn't put any in. If the second one was caused by that, it was no larger than the first one...which leads you to a very interesting conclusion. How much of recent warming has been caused by pernicious economic activity?"

Michaels made his remarks at the Land Investment Expo on Friday, presented by Peoples Company. The event brought together experts on some of the factors surrounding the farmland investment sector and how those foreshadow the land market's future, which many see as having plateaued heading into 2014.

Farmland is the basis for an industry of massive economic influence in the U.S. and around the world, so by its very nature, it's at odds with the resounding popular school of thought in climate research as it addresses global warming, one that itself has a fundamentally economic base.

"One of the reasons we do what we do at the Cato Institute is we are interested in the way economic incentives influence behavior. When scientific issues are portrayed as the end of the world, you can be sure they're portrayed that way not for reality's sake, but for the sake of policy...so that you hear repeatedly that climate change will cause terrible problems for Iowa agriculture," Michaels says. "If there is a drought, it's caused by global warming. If it rains during May and you can't plant for a couple weeks, that's caused by global warming. If it's hot, it's climate change. If it's cold, it's the polar vortex. Al Gore would say that would be caused by global warming. There has been a polar vortex for as long as the earth has been rotating and has

had an atmosphere. If something explains everything, it cannot be tested to see if it is real. If something explains everything, it doesn't explain anything, because you cannot test it against what you can't explain."

Michaels says by a quick look at the last century's temperature, the level of surface temperature increase -- an overall 1-degree increase since the 1900s -- has come during 2 primary timeframes, the 1910s-1940s and the mid-1970s through the late-1990s. Both periods saw about a half-degree increase in general surface temperature, leading Michaels to the conclusion any increase in human-derived carbon dioxide in the atmosphere has not been responsible for the 1-degree step up.

"The surface temperature of the earth is higher than it was 100 years ago; how high? About 1 degree Celsius. Was that caused by human beings putting carbon dioxide in the atmosphere? The first warming (1910s-1940s) was not caused by putting carbon dioxide into the atmosphere, because we hadn't put any in. If the second one was caused by that, it was no larger than the first one, Which leads you to a very interesting conclusion," Michaels says. "How much of recent warming has been caused by pernicious economic activity? That's what the 'greens' are after. They don't like economic development."

Michaels breaks down climate change schools of thought into 3 groups: "Hotheads, Lukewarmers and Flatliners." The first group comprises much of the most widely publicized group, those who believe human beings are causing an increase in global warming via growing carbon dioxide emissions, while Flatliners deny global warming altogether. Michaels puts himself in the middle, the Lukewarmers.

"I am lukewarm. I believe there's a modest influence on greenhouse gases on the atmosphere, but that positive and negative impacts will occur," he says. "You know what happens with carbon dioxide in the air to corn, soybeans and wheat? They grow more! It's the simple equation of photosynthesis. Plants grow better given adequate water. There's an increase in crop yields that's not due to genetic and fertilizer developments. It's because of the carbon dioxide in the air."

In general, Michaels says though they have risen slightly, temperatures generally haven't moved higher as sharply as early climate change models predicted. Though there's not full agreement among different climate models moving forward about the continued trajectory of temperatures, most show that they'll likely continue to rise slightly, though not at rates that will drastically alter crop conditions. Other variables -- like drought and how much temperatures will shift as a result of more carbon dioxide in the atmosphere -- are likely considerably less influential to overall climate. Future climate research will seek clarification on those variables.

"What do you do when you have computer models that give you different forecasts? How do you choose which one's right? Look out the window, stupid! Which one's doing the best over the last 24 hours? Pick that one," Michaels says. "Beginning in 2011, we began to see a number of papers in scientific literature that have adjusted sensitivity of temperature downward. No one knows what sensitivity to carbon dioxide temperature has. Does it surprise you when this issue came up that the sensitivity numbers were high? Now, what we're seeing is the sensitivities are being adjusted."