## **Chico Enterprise Record**

## Honest debate' needed on global warming

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Debate over the potential impact of global warming is muddled by scientists at both ends of the probability spectrum, according to one of the nation's leading experts on the atmosphere.

Stephen H. Schneider, a professor of biological sciences at Stanford University, a world-recognized researcher in atmospheric science and a presidential adviser on climate questions going back to the Nixon Administration, last week told a Chico State University audience he would love to see a year of honest debate on the whole topic of global warming.

He said the problem is the discussion is now dominated by apparent experts with views that are polar opposites.

"You are going to hear a claim from an enterprise institute (funded by an industry group) which is going to tell you climate change is very uncertain, carbon dioxide is a fertilizer that makes plants grow, and to try to fix it is unfair and way too expensive, and in any case it is going to be mild if anything happens.

"The next day Greenpeace or some deep ecology group says, no it is going to be catastrophic. It's going to lead to the extinction of 50 percent of the species'," said Schneider during a Thursday night lecture in the Bell Memorial Union Auditorium on campus.

"You get this parade, not just in the newspapers, but you also get this parade in front of Congress, even worse, where you get end-of-the-world ... good-for-you.'

"Now, I'll confess my prejudice, end-of-the-world and good-for-you are the two lowest probability cases in climate change.

"There is a lot of stuff in between with some nasty outcomes and with some mild outcomes, and what we are really talking about is a planetary gamble," said the scientist.

The problem with trying to polarize a scientific debate, according to Schneider, is science doesn't divide that neatly.

"Science isn't two-sided. There are multiple components with different probabilities," he explained.

The confusion for both the public and the policy-makers often comes from the fact that "scientists don't report all of the well-established stuff that we all agree on because nobody is going to get credit for it," said the professor.

Schneider said temperatures have, on average worldwide, climbed about 1 degree Fahrenheit over the last century.

He said it is also "well established" that carbon dioxide in the atmosphere has increased by about 30 percent and people are responsible for the increase.

How these factors will alter the climate in the future is less universally agreed upon.

If the heat continues to increase, that will cause more water from the oceans and elsewhere to evaporate and that will create more clouds, according to Schneider.

Should the clouds spread out they could reflect more of the suns' energy and reduce additional warming. But if the clouds form as tall columns that could actually cause increased heating, he explained.

Schneider said there needs to be an end to the rhetoric and posturing on both extremes.

"Can't we just tell the truth for once. Stop the exaggerations, the selection of material out of context, the false dichotomies so people could become aware enough of where the real risks were," he said.

"I think most people are pretty much decent guys. They are a little bit scared and they don't really have very much confidence they can understand the complexities, but if we could have an intelligent debate I think that would be a very good start. Unfortunately we aren't going to get it."

The professor said an honest debate can lay out the most likely scenarios, the risks those situations may pose, the ways to alter those outcomes and costs associated with the changes.

Cooperation between rich nations like the United States and developing nations is essential, he claimed.

He also said the public has to be able to see what needs to be done, then governments will have to provide rules and incentives to get things to happen.

"It is very, very difficult to imagine, if we had traffic laws without cops and fines, that people would obey them. It is very, very difficult to imagine that we are going to substantially reduce our emissions if there aren't incentives to do.

"Nor are we going to develop renewable alternatives and other things unless there is a perception that there will be a market for them," said Schneider.

The professor was at Chico State Thursday and Friday as part of the campus' "Earth Month" activities.