Climate change is not an all-or-nothing proposition, researcher says

February 15 2013

An Ohio State University statistician says that the natural human difficulty with grasping probabilities is preventing Americans from dealing with climate change.

In a panel discussion at the American Association for the Advancement of Science meeting on Feb. 15, Mark Berliner said that an aversion to statistical thinking and probability is a significant reason that we haven't enacted strategies to deal with climate change right now.

Berliner, professor and chair of statistics at Ohio State, is the former co-chair of the American Statistical Association's Advisory Committee on Climate Change Policy, and as such, he spent two years talking with U.S. Congressional staffers about climate change.

As a result, he's come to the conclusion that Americans need to understand that climate change is a range of possible events that are more or less likely. However, the negative impacts of climate change can be reduced by taking some moderate actions today, he said.

"The general public has an understanding of tipping points, the moment beyond which things become inevitable. But as soon as you start thinking of climate change as inevitable, it's easy to throw up your hands and say, 'it's too late, so why bother to do anything?'" Berliner said. "It's like a two-pack-a-day smoker deciding not to cut back on the cigarettes, because he's as good as gone."

"The situation is not hopeless. Instead of taking an extreme all-or-nothing view about climate change, we can think of it as a spectrum of possible problems, and look for a spectrum of practical solutions that will do the most good," he said.

From his own career in climate research, Berliner sees climate change as a collection of possible events: some extreme disasters that are unlikely to happen, but still possible; and less extreme events that are much more likely.

It's the difference, he said, between the low possibility that a coastal town will flood permanently, versus the high possibility that high tides and periodic floods will force the town to close its beaches for more days during the year—a loss to valuable tourism.

It's human nature to abhor uncertainty, he said, and climate research, like all research, is full of uncertainty. He hopes that opinion leaders will help the public understand the nature of science, and the idea that uncertainties diminish as data accumulates. There will never be a single right answer to the question "what will happen to Earth's climate?"

"One of the criticisms of climate change research is that different computer models give different answers," Berliner said. "But the key is not to pick the right climate model, but to pick the right elements out of each of the models."

As he calculates the effectiveness of potential climate change mitigation strategies, Berliner has determined one thing for sure.

"Compromise—if it leads to doing something—is better than doing nothing," he said.

Provided by The Ohio State University