

Stanford expert brings climate change science to heated Capitol Hill

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Now's the time to prepare for the heat waves, heavy rains and droughts that climate change will bring, says Stanford's Chris Field, a noted climate researcher.

Speaking Wednesday at a contentious U.S. Senate hearing on [climate change](#), Stanford's Chris Field, an expert on climate change, offered a stark yet hopeful analogy.

Just as speeding increases the chance of having a car accident, climate change intensifies the risk of heat waves, droughts and heavy [precipitation](#), said Field, a senior fellow at the Stanford Woods Institute for the Environment. He testified before the [Senate Committee](#) on Environment and Public Works. Speaking Wednesday at a contentious U.S. Senate hearing on climate change, Stanford's Chris Field, an expert on climate change, offered a stark yet hopeful analogy.

"We can point clearly to the causal mechanism, but it's still difficult to predict exactly when or where the crisis – either the accident from speeding in a car or the disaster that's related to climate change – will occur, he said. "But still, we can have high confidence in the driving mechanism."

Or, as Field put it later in his testimony, "It is critical to understand that the link between climate change and the kinds of extremes that lead to disasters is clear."

Although we can't be certain that staying within the speed limit will prevent a crash, we know it will decrease the risk. Similarly, Field said, we can reduce the risk of a weather-related disaster with measures such as disaster preparations, early warning systems and well-built infrastructure.

While climate change's role in tornadoes and hurricanes remains unknown, Field said, "the pattern is increasingly clear" when it comes to heat waves, [heavy rains](#) and [droughts](#).

The hearing came on the heels of months of intense [heat waves](#) and massive wildfires. A disastrous drought still affects more of the U.S. than any drought in almost 25 years. Last year alone, the U.S. endured 14 climate-related disasters that each wreaked at least a billion dollars in damage, according to written testimony Field prepared for the hearing.

Field is a Stanford professor of biology and environmental Earth system science and director of the Department of Global Ecology at the Carnegie Institution for Science. He was part of a group of researchers who shared the 2007 Nobel Peace Prize for their climate change work with the United Nations Intergovernmental Panel on Climate Change (IPCC). Field is co-chair of an IPCC working group that recently released a special report entitled "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation."

Citing studies from the IPCC, the U.S. National Academy of Sciences and the U.S. National Oceanic and Atmospheric Administration (NOAA), among other scientific organizations, Field told the committee that climate change will lead to more frequent and intense extreme weather that affects larger areas and lasts longer. This, Field said, is a recipe for "unprecedented extreme weather and climate events."

At the hearing's close, Field explained his objective. "What we're trying

to do is provide sufficient information for policymakers to make good decisions to try to figure out ways to avoid the damages that come from climate change without providing unacceptable costs to the rest of society. And we're really trying to find smart ways to move forward, recognizing what's happening, recognizing what the risks are and that there are consequences of using the atmosphere as a dump for greenhouse gasses just the same way there are consequences of making changes in the economy that are intended to alleviate those damages."

More information: Hearing video: epw.senate.gov/public/index.cfm?id=4706-02abdbf7f7c3

Chris Field's prepared testimony: woods.stanford.edu/docs/focal/...-Change-20120729.pdf

IPCC report: www.ipcc-wg2.gov/SREX/

Provided by Stanford University

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