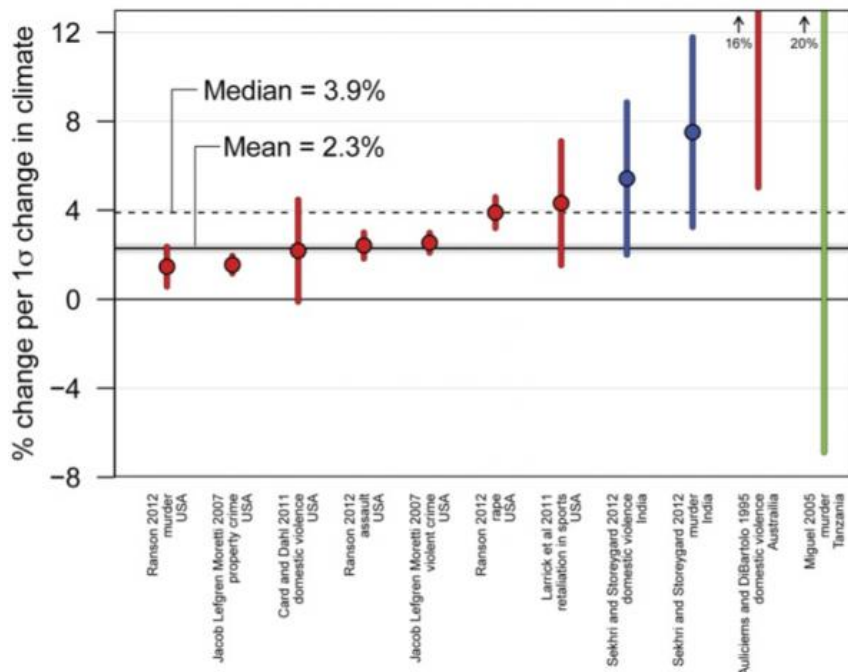


Science

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Climate Change and Conflict and the Media

By [ELLIS ROBINSON](#) (/PEOPLE/ELLIS-ROBINSON)



Credit Solomon Hsiang, et al / Science, 2013

Figure from Solomon Hsiang, Marshall Burke, and Edward Miguel's "Quantifying the Influence of Climate on Human Conflict." Modern empirical estimates for the effect of climatic events on the risk of interpersonal violence.

ROGER ADAMS, HOST: Global temperatures on are the rise, and scientists predict that that will make for more extreme weather events—things like higher temperature spikes, drought, and more intense storms. And a team of researchers has made headlines by quantifying how much increased violence comes from extreme shifts in climate.

Aspen Public Radio's science reporter Ellis Robinson, joins us on Valley Roundup. Hey Ellis.

ELLIS ROBINSON, REPORTER: Hey Roger.

ADAMS: So tell me what the deal is with this research. They said they've found link between climate change and violent conflict?

ROBINSON: That's right. There's new research from a team of economists at Berkeley that tries to quantify the increased risk of violence for a given shift in climate. One of those researchers is Ted Miguel:

TED MIGUEL: "As climate gets more extreme—for instance as temperatures get very hot, or as there is a lot of drying and drought—you tend to see more violence."

ROBINSON: The real novelty of this paper, is that they've put numbers to this. So, let's say you have a change of one standard deviation in climate. To give you a sense of scale, Roger, that would be like a month in the US where it's 5 degrees hotter than the historical average. With that change, this study reports a 4% increased frequency for personal violence—things like murder, assault, rape. And a bigger, 14% increase in group conflict, which would be things like riots, or wars.

ADAMS: So let me see if I have this right. You change climate by having higher temperatures, or drought, and you have an increased level of violence. What's really going on here, why would changing climate lead to violence?

ROBINSON: So before answering the why, lets first talk about how the researchers came to this result in the first place. They did what is called a meta-analysis, and if you're not familiar, it basically means meaning that you take a whole bunch of data from pre-existing studies, you package it into a single statistical model and then you get your results through that model. But the data already exist.

Let me give you a sense of some of the studies that they drew data from. "Temper, temperature, and temptation: Heat-related retaliation in baseball." Here's another one, "Temperature and horn-honking: a field study of the heat/aggression relationship." And then there are studies with titles like you might expect, "Climate change, wars, and dynastic cycles in China."

ADAMS: Wow. So they're using reports and data from all over the place, but trying to find this one link between warmer temperatures and increased violence. Is it a stretch to try to combine violence in baseball, for example, and wars in China?

ROBINSON: That is a good question. And let me be clear, they do make categories for personal violence, and larger scale group conflict. And violence in baseball would fall into that first category, while dynastic cycles in But you could reasonably make a skeptical argument, I think, about violence in baseball not being a very good predictor of, say, murder rates in American cities. But that brings me back to your original question of why, why this link might exist at all. Here's Miguel again:

MIGUEL: "There are two main mechanisms. There's a claim that as temperature gets hot, our psychology changes. We become more aggressive. On the other hand, when we look at conflicts from low-income countries, there's another channel that becomes more important, and that's an economic channel."

ROBINSON: The explanation there, he says, is that if there is a climate stress like a drought, then crop production will go down, and since that's a main source of income, you will have more desperation, and that *may* lead to or escalate violence, Miguel says.

ADAMS: Interesting. So climate changes, they say, can lead to violence, but it's really that climate affects something, like crop yields, which then can lead to violence.

ROBINSON: Exactly right. And that's one criticism I've heard from academics in this coverage, is that the paper offers no explanation for *how* violence might happen. And a lot of researchers in this field, especially those who work on the ground in places where there are conflicts will say "well, it's way more complicated than that." Here's

researcher Ed Carr. He wasn't involved in the study, but wrote a blog post reacting to it a few days after it made news.

ED CARR: "You could have a very bad climate year, but a very good market year. So climate change impacts harvests negatively, but there are all kinds of off-setting things that cause people to NOT have a bad outcome. And then you can have really bad bad bad bad market year, and a really bad harvest year. So you can have a great harvest, but the market's so bad, that you still run into issues of income, inequality, and shortages, and people still run into bad outcomes."

ADAMS: So in this case that Ed Carr is describing, it sounds like that relationship between climate and violence might not work at all?

ROBINSON: Well, you know, that's one of the big points that I think was missed in a lot of the coverage. Nowhere, in the recent study or in any academic circle, will you find someone who thinks that climate is completely deterministic in causing violence. Most scientists would put it nowhere near the top of the list on what causes the most conflict. There are political, economic, geographic, social factors that are likely much bigger triggers to climate, and that was lost in a lot of the coverage. Another thing that was missed in the news coverage, was the context that this result fits into. Roger, you've seen Spike Lee's 1989 'Do the Right Thing'?

ADAMS: Yea, great film.

ROBINSON: And what was the premise?

ADAMS: Basically, it's set in in Brooklyn, in the summer, in a neighborhood with some racial tensions, which boil over into violence.

ROBINSON: Right, and the trigger, or the hair that breaks the camel's back, is that it's the hottest day of the summer.

(Clip from "Do the Right Thing")

ROBINSON: This idea is not new by any means, as you just heard from Spike Lee, but that context was missing from a lot of coverage. Which is especially surprising since the study itself, being a meta-analysis, was based on previous research examining this link. But you wouldn't know that from headlines like the Guardian's "Will climate change trigger endless war?"

ADAMS: OK, so what's the takeaway?

ROBINSON: I do think the study is important—they are the first to try to put real numbers on the general link between climate change and violence. And the field itself is obviously of huge importance if climate and weather is getting more extreme in the future. But I think this whole story highlights something else. In the week since this research was published, I was reading a conversation between a political science professor and a geographer, ON TWITTER, arguing about the methods used in the paper. And you saw blog posts from academics being referenced in popular media outlets, and informing the discussion. So that big time science is getting covered, discussed, critiqued, all in real time... that's super interesting. Like four days after they published their results, Miguel and his co-authors wrote a really long blog post in response to their critics. And you never used to see that kind of thing. That's what's really interesting to me.

ADAMS: Ellis, thanks for being on Valley Roundup.

ROBINSON: My pleasure, Roger.

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