Hotter Weather Actually Makes Us Want to Kill Each Other

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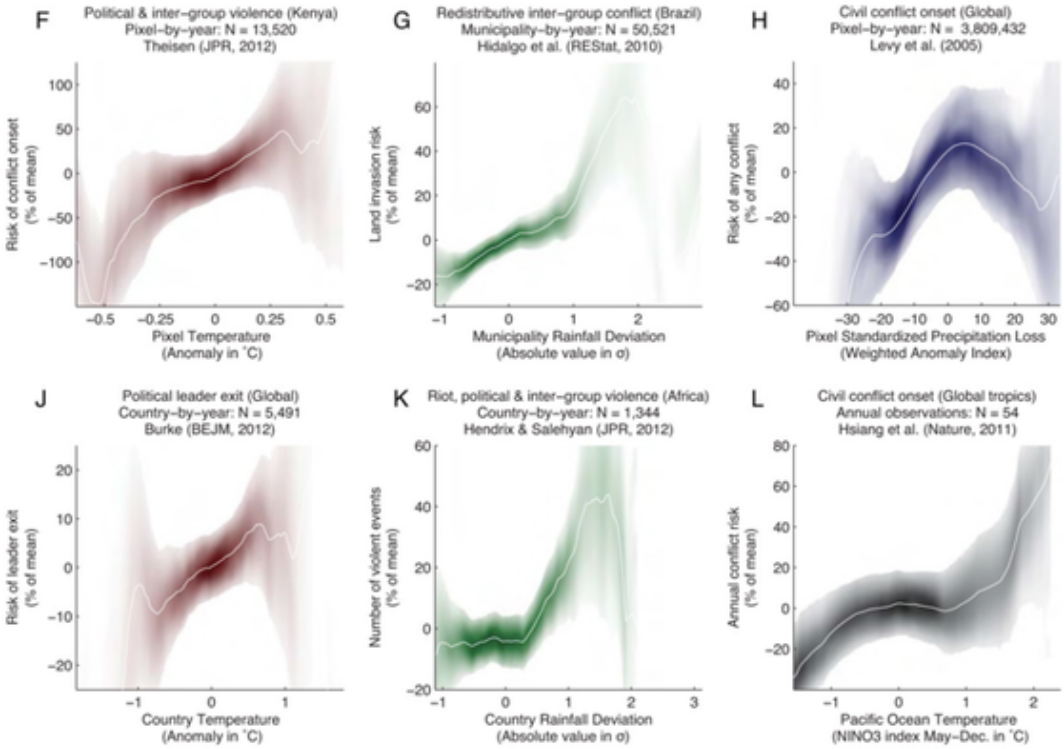
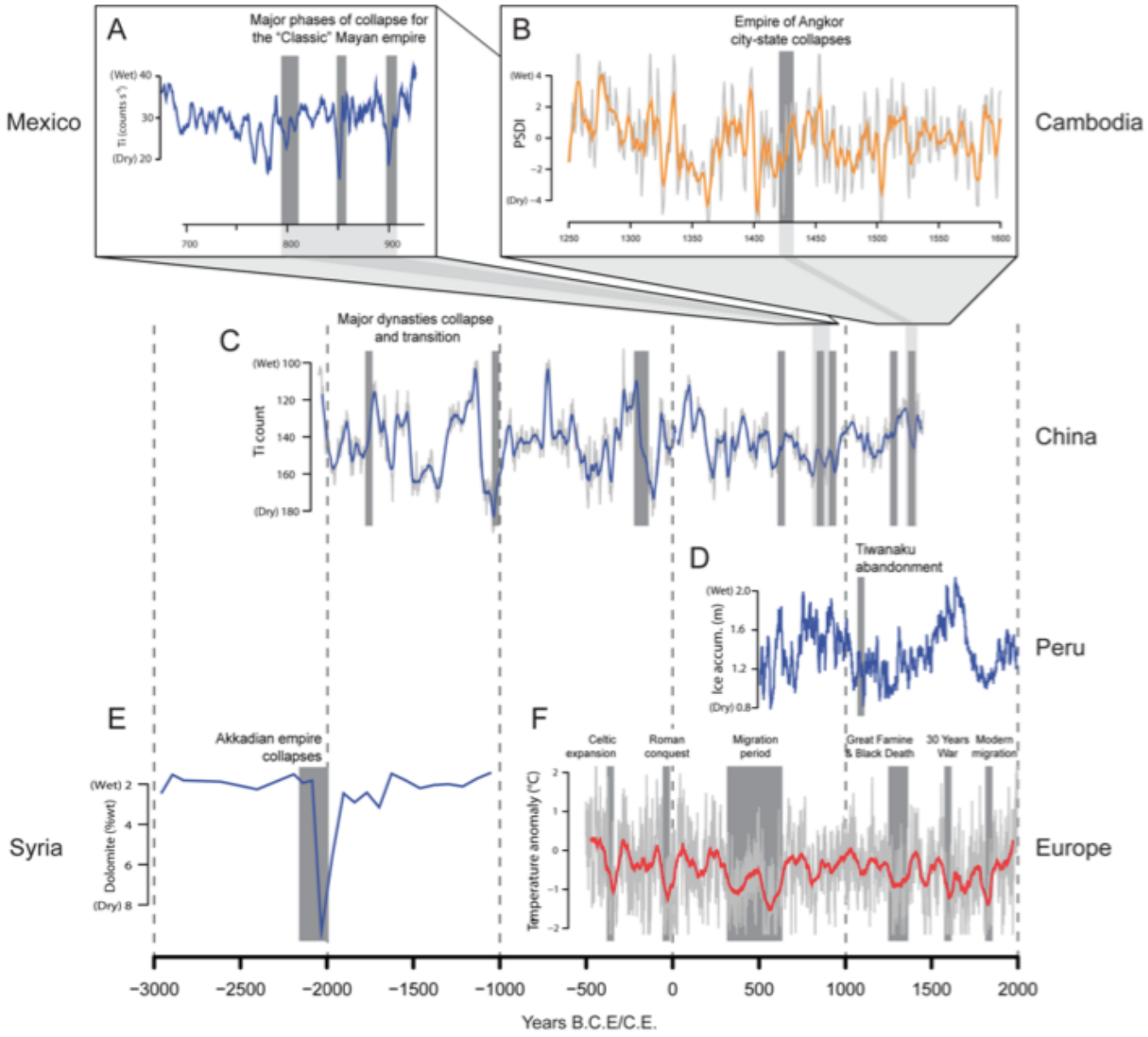
Farmers in Brazil are more likely to invade each others' land in years that are particularly wet or unusually dry. Americans honk their horns more at other cars when it's hot outside. Countries in the tropics are more likely to have civil wars in years that are especially hot or dry.

They may seem random, but actually, these events are all connected. New research from Princeton University and UC Berkeley published today in *Science* reveals a link between big shifts in climate and precipitation and a rise in interpersonal violence, institutional breakdown, and especially inter-group violence, such as war. Not only does the paper shed light on past bouts of global conflict, it also offers a warning about the future. The world is expected to warm by at least 2 degrees Celsius over the next few decades, unless governments do something drastic, and the researchers say that increased bloodshed could be a serious side-effect of that trend.

For this study, the researchers performed a meta-analysis of 60 studies, some of which contained data going back to 10,000 B.C. They found that as temperature increases one standard deviation from the mean -- roughly equivalent to warming a U.S. county by 5 degrees Fahrenheit in a given month -- the likelihood of interpersonal violence rises by 4 percent and that of intergroup conflict rises by 14 percent.



The results touch on nearly every world region and hold true for both periods of extreme warming and cooling. Even the collapse of the Mayan civilization and major dynastic transitions in ancient China were preceded by drought and extreme weather. During the Little Ice Age, which started at around 1550, European countries were much more likely to go to war with each other.



Solomon Hsiang, a public policy professor at Princeton and one of the study's lead authors, told me that while his team did discover that conflict and climate change are related, they still don't know why it is that temperature change makes us so belligerent. And, more importantly, they aren't saying climate change is the only or even primary cause of violence.

"We're in the position medical researchers were in in the 1930s," he told me. "Smoking was the clear proximate cause of lung cancer, but it wasn't until decades later that we understood how that was linked."

They do offer a few theories, though. Climate change causes migration, and as big populations move, they might confront existing residents in a battle for resources and land. It can also alter physical environments in a way that predisposes people to confrontation, or -- particularly in earlier eras -- might have caused people to wrongly attribute environmental conditions to the actions of their enemies. Other studies have shown that hot temperatures make us more hostile psychologically.

Changes in the environment can also cause labor productivity to decline, which is what happened with our earlier example of civil war in the tropics: There's less farm work during a drought, so there are more unemployed people. So if you're looking to build an army and overthrow a government, it's easier to do it when there are a lot of idle, would-be farm workers around, complete with pitchforks.

Some unrelated studies have shown that armed conflict has globally declined over the past 50 years or so, even though the world has been warming the entire time. Hsiang pointed out that it's important to remember that he's looking at what *would have happened* had there been no climate change during those decades -- and the answer, he says, is that rates of conflict would have fallen even faster.

"By focusing only on one country at a time, all we are doing is comparing a country to itself as the population is responding to changes in its environment," he said.

So what does this say about the present day? This is one of the few studies that points to climate change's likely impact on human society, as opposed to things like melting ice caps and rising sea levels, but it also helps us think about how much we want to spend to mitigate global warming. If we add "less peace" to all of global warming's already horrific environmental impacts, it might change our calculus significantly.