SCIENCE WORLD

Warmer Climate Linked to Increased Human Violence

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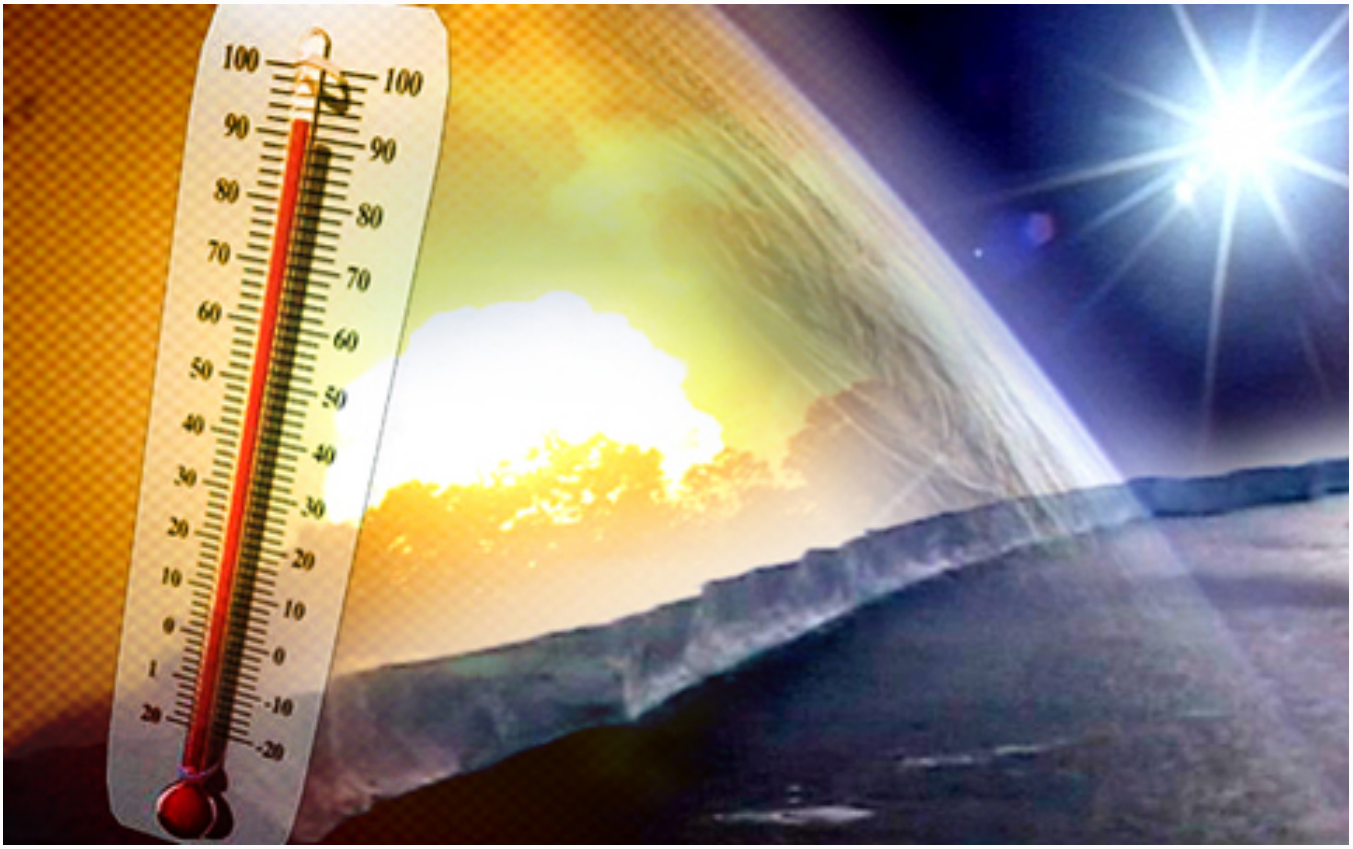

As global temperatures rise, so do our levels of hostility and violence, according to a new study.

Scientists from the University of California, Berkeley and Princeton University discovered a strong link between shifts in climate to human violence around the

world. The study found that even minor climate deviations, such as slight changes in normal temperature and rainfall, can greatly increase the risk of conflict.

The link between climate variations and violent behavior was noted on a small scale—in one-on-one crimes like assault, murder or domestic abuse—as well as on a much grander scale involving riots or civil war.

Unlike previous similar studies, this project combined data and evidence from a wider number of fields such as economics, political science, geography, psychology and archeology, according to Professor Edward Miguel from the University of California Berkeley.

Climate shifts researchers explored included temperature as well as rainfall—from very low rainfall and drought conditions to extreme amounts of rainfall.

This is a Mesoamerican step-pyramid built by the pre-Columbian Maya civilization sometime between the 9th and 12th centuries in what is now the Mexican state of Yucatá (Daniel Schwen via Wikimedia Commons)

The scientists say their findings could have critical implications for understanding the impact of future climate change on human societies. Many global climate models project temperature increases of at least 2 degrees Celsius over the next half century.

The researchers compared extensive data, spanning from ancient times until today. Collecting more material than any prior study, the researchers were able to show that

the Earth's climate plays a more influential role in human affairs than previously thought.

Among the historical correlations researchers found was the case of the advanced Mayan civilization which was established around 2000 BC in what is now Mexico and Central America. Some scholars say this Mesoamerican civilization peaked between the years 250 to 900 AD, when it mysteriously collapsed.

Scientists and historians, including those involved in this study, theorize that climate may have had a lot to do with the Mayan decline and failure.

"The Mayan civilization, the Mayan empire…during the 9th century AD, experienced an unprecedented century of warm, dry weather," said Miguel. "In fact, they had three mega-droughts during that century and at the end of the third mega-drought, that's the time at which that civilization collapsed into civil war never to recover its previous grandeur."

A photo from 2008 showing armed fighters including child soldiers from Al-shabab group in cars outside Mogadishu, Somalia. (AP)

Looking at the link between climate and violence in more modern times, Miguel pointed to hot temperatures and dry conditions in Somalia and the extreme violence it has endured in recent times.

“When you have temperature spikes on top of what’s already a very hot place, that’s associated with political violence in Somalia, so Somalia is an African case where you can see this come through very clearly,” said Miguel.

The study also found a link between high temperatures and a rise in domestic violence in India.

In Brazil, scientists found a correlation between rainfall and land invasions. Miguel pointed to a landless people’s movement in the South American country that organizes violent raids.

“It turns out that when rainfall is really bad, either way too much or way too little rainfall in a given year, in those years you see spikes in the number of land invasions in Brazil,” said Miguel.

Results of the Berkeley/Princeton research could be used to predict future violent trends and potential trouble spots around the world, which could help in the development of strategies that would address possible violence and conflict in the future.

Drought's impact on a field of corn. (CraneStation/Creative Commons via Flickr)

"There are at least two different approaches you can take, given these findings," Miguel said.

The first approach is building better forecasts for where there will be potential violence going forward.

“So if we know, for instance, that temperatures are rising very quickly in a part of the world that is prone to civil conflict, then early on in that year or maybe there’s a drought that year, that is a trouble spot where governments and foreign aid donors and other agencies should focus their efforts,” said Miguel.

The second approach Miguel suggested would be to use the results to really understand just how high the stakes are in dealing with climate change in the next 40 to 50 years.

“[We] could look at the changing climate and try to craft new policies to deal with changing climate,” said Miguel. “We can develop new technologies and approaches that are more resilient to a changing climate. That may be our only way out.”

Professor Edward Miguel joins us this weekend on the radio edition of “Science World.” He’ll tell us why a deviation in climate could play a role in determining human behavior. So, either tune into the show (see right column for scheduled times) or check out the interview below.

>>>> Listen to the interview here

[audio://blogs.voanews.com/science-world/files/2013/08/One-on-One-Edward-Miguel-Climate-Violence-Link.mp3|titles=One On One – Professor Edward Miguel – Changes in Climate Linked to Violence]

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