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Violence & Climate Change: Warming & Storming Disrupt Human Lives

October 30th, 2014 by [Sandy Dechert](#)

Have you ever thought that society might be a bit rougher at the edges, and interpersonal and intergroup conflict more frequent, in the summertime? or in the tropics? New research clearly links social violence with the occurrence of climate change.



People often attribute individual and regional conflicts to geography. The National Bureau of Economic Research in Cambridge, Massachusetts, has just published a sobering [meta-analysis](#) that directly relates increases in temperature and rainfall to both personal violence and civil unrest. The study clearly indicates that their hunches are correct.

“We find that deviations from moderate temperatures and precipitation patterns systematically increase the risk of conflict, often substantially, with average effects that are highly statistically significant.”



The pressing reason for alarm about these conclusions, which result from a large new analysis of 55 different studies? As dramatically shown on cable TV (Showtime) in a segment of Years of Living

Dangerously, climate change can upset people and governments in unexpected and profound ways. To illustrate the point, James Friedman of the New York Times showed clips of key events in the country of Syria over the past three years. They continue today.

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Marshall Burke, an environmental and food security specialist at Stanford, and two others (Solomon M. Hsiang and Edward Miguel) teamed to research and write *Climate and Conflict* (NBER Working Paper No. 20598). In the technical paper, the experts survey recent literature on links between climate and conflict, widening their scope to include economics and other related disciplines.



Burke and his team investigate key methodological issues about estimating causal relationships. They explore many types of human conflict. On the personal level, they look into domestic violence, road rage, assault, rape, and murder. Examining riots, gang violence, ethnic violence, land invasions, coups, and civil war, they use a longer lens to examine sociopolitical

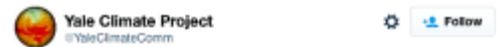
instability.

Standardization of specifics within each effect group and conflict category allowed the team to carry out a hierarchical meta-analysis. They could both estimate the mean effect of climate variation on conflict outcomes, and quantify the degree of variability across studies.

The results are not pretty. Deviations from moderate temperature and precipitation systematically increase the risk of conflict. The effects are not just statistically significant, but often highly so and substantial. For instance, the authors found that a 1°C rise in temperature could cause civil unrest in Africa to increase by as much as 20%.

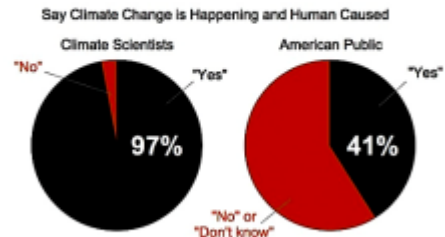
Temperature has the larger average effect by far. Each one/ σ increase raises the frequency of contemporaneous interpersonal conflict by 2.4%. For intergroup conflict, the rise is 11.3%. The 2-period cumulative effect of rainfall on intergroup conflict is also substantial (3.5%/ σ). Finally, the writers highlight remaining challenges in the field—one that is new, complex, and very confusing due to interacting elements.

The final summary of massive work by the United Nations' Intergovernmental Panel on Climate Change, to be released next week, also suggests that climate change drives up intergroup conflicts. It does so by looking at added stresses on societies: food shortages, water shortages, extreme heat, flooding, and the like. In turn, societies that suffer from more violent conflict are also more vulnerable to the damage climate change can do and are less able to adapt (*see charts*).



Major differences in belief in #ClimateChange between scientists & American public #YearsOfLivingDangerously (2013) pic.twitter.com/NR8U0g4x8H

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Left: Proportion of peer-reviewed research papers that stated a position on the reality of human-caused global warming and said that it is happening and human caused (Cook et al. 2013). Right: Proportion of the American public that says climate change is happening and human caused (Leiserowitz et al. 2013).



Along with the bad news, the new research also presents a little hope for civilization. It outlines what scientists currently believe may be the most effective means of solving the small- and large-scale violence expected to accompany climate change. They identify mechanisms that link the two variables and also measure the ability of societies to adapt to climate changes and comprehend the likely impacts of global warming.

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About the Author



Sandy Dechert covers environmental, health, renewable and conventional energy, and climate change news. She's worked for groundbreaking environmental consultants and a Fortune 100 health care firm, writes two top-level blogs on Examiner.com, ranked #2 on ONPP's 2011 Top 50 blogs on Women's Health, and attributes her modest success to an "indelible habit of poking around to satisfy my own curiosity."