Ecocentric
All things green, from conservation to Capitol Hill

ECOCENTRIC

Climate Change: Does Warming Help Cause Civil Wars?

By Bryan Walsh @bryanrwalsh | Sept. 08, 2010 | Add a Comment

Say this about Marshall Burke and Halvard Buhaug—they know how to title their papers. Late last year Burke, an economist at the University of California-Berkeley, co-authored a paper in the Proceedings of the National Academy of Sciences (PNAS) titled "Warming increases the risk of civil war in Africa," which sums up the argument pretty well. Then on Sept. 6 Buhaug, a senior researcher at the Centre for the Study of Civil War in Oslo, published a new paper titled "Climate not to blame for African civil wars." So what we have is a civil war between academics over the role of climate change in civil wars in Africa. Who's right?

In his paper, Burke argued that higher temperatures due to climate change could cause a 54% increased in armed civil conflict in Africa by 2030, under the scenarios produced by most climate models, enough to lead to 393,000 additional battle deaths. The paper's logic was straightforward—Burke and his co-authors looked at trends in civil conflict in Africa between 1981 and 2002 overlaid with temperature data, and found that for every 1 C increase in temperature above the norm led to a 4.5% increase in conflict incidence in the same year. The researchers reasoned that warmer temperatures could disrupt agricultural productivity—vital in Africa, where farming can account for as much as 50% of gross domestic product—which can then impact economic welfare, a major cause behind civil conflict. While Burke and his colleagues cautioned that climate change would be far from the only cause of growing civil conflict in Africa, they concluded that "the adverse impact of warming on conflict by 2030 appears likely to outweigh any potentially offsetting effects of strong economic growth or continued democratization." A hotter Africa would be a more violent one.

Halvard Buhaug disagrees, to say the least. In his just-published PNAS paper, Buhaug found little historical connection between rising temperatures and civil conflict in Africa—noting that the last 10 to 15 years had been comparatively peaceful in Africa, even as temperatures continued to rise. Looking through much the same data as Burke and his colleague, Buhaug could see little evidence that temperatures had much impact either way on the intensity of conflict—and that far too little was known about the subject to make realistic predictions about the impact that further warming could have on war, as Buhaug told the BBC:

> Climate variability in Africa does not seem to have a significant impact on the risk of civil war. If you apply a number of different definitions of conflict and various different ways to measure climate variability, most of these measurements will turn out not to be associated with each other.

Much of the dispute comes down to datasets—Buhaug believes Burke's study could have been skewed by how his team decided to tally up "civil wars." (Burke's study defined a "civil war" as any year that saw more than 1,000 deaths from an intranational conflict, which may misstate the impact of long-running but relatively low fatality civil wars.) Burke disagrees, telling Quirin Schiermeier of *Nature* that Buhaug "made some serious econometric mistakes that undermine his results. He does not do a credible job of controlling for other things beyond climate that might be going on."

The reality is that the data surrounding civil conflicts—which are themselves hard to classify—seems much too sketchy to build climate predictions on,as Hans Joachim Schellnhuber of the Potsdam Institute for Climate Impact Research told *Nature:*

> Even if the data and methods were up to the task — which they aren't — the 'causal noise' would be too loud to discern the currently still weak climate signals in civil wars.

That doesn't meant that a changing climate and warmer temperatures won't have a destabilizing effect on already vulnerable areas like sub-Saharan Africa. That's an article of faith for everyone from the Department of Defense to the Central Intelligence Agency to the British Foreign Office—I even took a trip to the oiled wetlands of Louisiana this summer with Iraq war veterans who worried openly about the impacts of warming on national security. But there's a big difference between reasonably suspecting that a more erratic, hotter and disaster-prone climate could increase the chances of conflict, and saying that global warming will mean 393,000 additional Africans will die by 2030. In the short-term, at least, conflict will be driven by population growth, by economic troubles, by political factors—and the most effective way to safeguard vulnerable areas like sub-Saharan Africa is by addressing those factors first, in addition to dealing with carbon emissions. Andrew Revkin at Dot Earth puts it well:

> With the global population cresting in the coming decades, our exposure to extreme events will only worsen. So whatever nations decide to do about greenhouse gas emissions, there is an urgent need to "climate proof" human endeavors. That means building roads in Pakistan and reservoirs in Malawi that can withstand flooding. And it means no longer encouraging construction in flood plains, as we have been doing in areas around St. Louis that were submerged in the great 1993 Mississippi deluge.
>
> In the end, there are two climate threats: one created by increasing human vulnerability to calamitous weather, the other by human actions, particularly emissions of warming gases, that relentlessly shift the odds toward making today's weather extremes tomorrow's norm. Without addressing both dangers, there'll be lots of regrets. But conflating them is likely to add to confusion, not produce solutions.

Bryan Walsh @bryanrwalsh

Bryan Walsh is a senior editor at TIME.