

# Researchers find climate change already playing major roles

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A new study published today in the journal *Science* by researchers at UC Berkeley demonstrates that while the effects of future climate change will be significant, the social and economic impacts of our current climate today are often just as severe.

Tamma Carleton, a Ph.D. student in agricultural and resource economics, and Solomon Hsiang, chancellor's associate professor of [public policy](#), worked together at the Global Policy Lab at UC Berkeley's Goldman School of Public Policy to review more than 100 studies—leveraging what they say has been an explosion of data unleashed by advances in computing, [climate data](#) and statistical analyses—to demonstrate that the current global [climate](#) already is a major force in human affairs.

"So much attention is focused on the future effects of [climate change](#) that hardships imposed by the climate today, which are often just as large, are ignored," Hsiang said. "If we solve these problems today, we'll benefit everyone, both in this generation and the next."

The authors looked at current climate impacts on areas such as economy, agriculture, trade, energy, violence, migration and more. They calculate, for example, that high temperatures currently drive up rates of civil conflict in sub-Saharan Africa by 29 percent and slow the growth rate of the global economy by 0.25 percentage points per year.

Almost as surprising as these results is the fact that we didn't already know them, lamented Hsiang.

"People get so used to hot days, since they happen all the time, that they never stop to consider what those days are costing them," he said. "But if people use different technologies or organize their lives differently to adapt to their climate, then we might be able to do dramatically better."

Hsiang and Carleton note the importance of sorting out the causes and possible solutions to numerous climate "adaptation gaps," where populations don't make adjustments to protect themselves from the harmful impacts of climate change.

"The failure to adapt could represent intelligent decision-making, if the costs of implementing changes are very high, or they could simply indicate persistently poor judgment," explained Carleton. Figuring out which is the case is a trillion-dollar question, according to the team.

**More information:** T. A. Carleton et al. Social and economic impacts of climate, *Science* (2016). [DOI: 10.1126/science.aad9837](https://doi.org/10.1126/science.aad9837)

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