

Evidence suggests global warming might have a negative impact on some government workers

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A team of researchers affiliated with MIT and Harvard University has



found evidence suggesting that as the planet heats up, the performance of some government workers might be negatively impacted. In their paper published in *Proceedings of the National Academy of Sciences*, Nick Obradovich, Dustin Tingley and Iyad Rahwan describe their study of data related to police officer and food inspector performance during hot weather, and what they found.

Most people know that exposure to hot <u>weather</u> can impact thought processing, emotions and ultimately behavior—news reports of higher rates of crime during heatwaves provide just one example. In this new effort, the researchers wondered what impact hot weather might have on public servants—particularly those who have to work regardless of the weather. More specifically, they focused their attention on <u>food</u> inspectors and <u>police officers</u>—and the people with whom they interact. The study was done as part of ongoing research into possible impacts on people due to global warming.

To better understand how food inspectors and police officers might be impacted by hotter weather, the researchers accessed databases of information about food inspection activities and traffic statistics. More specifically, for food inspectors, they looked at the number of food safety inspections that occurred and the number of food safety violations that were reported over the years 2001 to 2015. For police officer performance, they looked at the number of police stops made and the number of accidents that occurred across the U.S. from 2002 to 2017. Linking such data with weather data allowed the researchers to spot behavioral changes during periods of hot weather.

The researchers found that there were more <u>car accidents</u> during hot weather—but there were fewer traffic stops. There were also fewer food inspections, but more food safety violations. They suggest more car accidents and food safety violations are indicative of changes in the behavior of drivers and those who work in restaurants, when they get



hot—they become less careful. The data also suggests that <u>hot weather</u> can causes police officers and food inspectors to be less diligent, which, the researchers suggest, could be a problem as the planet continues to heat up.

More information: Nick Obradovich et al. Effects of environmental stressors on daily governance, *Proceedings of the National Academy of Sciences* (2018). DOI: 10.1073/pnas.1803765115

Abstract

Human workers ensure the functioning of governments around the world. The efficacy of human workers, in turn, is linked to the climatic conditions they face. Here we show that the same weather that amplifies human health hazards also reduces street-level government workers' oversight of these hazards. To do so, we employ US data from over 70 million regulatory police stops between 2000 and 2017, from over 500,000 fatal vehicular crashes between 2001 and 2015, and from nearly 13 million food safety violations across over 4 million inspections between 2012 and 2016. We find that cold and hot temperatures increase fatal crash risk and incidence of food safety violations while also decreasing police stops and food safety inspections. Added precipitation increases fatal crash risk while also decreasing police stops. We examine downscaled general circulation model output to highlight the possible day-to-day governance impacts of climate change by 2050 and 2099. Future warming may augment regulatory oversight during cooler seasons. During hotter seasons, however, warming may diminish regulatory oversight while simultaneously amplifying the hazards government workers are tasked with overseeing.

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