

Climate change impacts are making most infectious diseases worse

Researchers have found more than 1000 ways 10 climate hazards may aggravate transmissible diseases, from flooding to heatwaves

ENVIRONMENT 8 August 2022

By [Adam Vaughan](#)



Flooding near Durban, South Africa, in April 2022

STR/EPA-EFE/Shutterstock

The impacts of climate change are making most infectious diseases worse, according to new findings that researchers say show politicians need to act more urgently on carbon emissions.

It is well known that a warming world can exacerbate the risk of diseases spreading to humans, such as [higher temperatures opening up new areas for fruit bats that can spread Ebola](#). But good information on how disease impacts are changing is often lacking.

To address this, [Camilo Mora](#) at the University of Hawai'i at Mānoa and his colleagues searched more than 77,000 scientific papers to see how 10 “climate hazards” linked to greenhouse gas emissions, including flooding and heatwaves, affected 375 transmissible

diseases. They found 58 per cent had been aggravated, meaning the toll the disease takes had increased.

“We knew that these things were related. What was surprising to us was the magnitude of the effect,” says Mora. Of the 10 hazards, warming, rainfall and floods were the most strongly linked to increased disease impact, with sea level change the least.

In total, the team identified more than 1000 ways that climate hazards could aggravate diseases. Mora says one example is warming causing [melting permafrost to release diseases in the Arctic](#), citing the 2016 case of an anthrax outbreak there after a boy touched a thawed-out reindeer carcass. “It’s the Pandora’s box that we are unlocking with climate change,” says Mora.

The study found that climate hazards had diminished the risk for 16 per cent of diseases, such as drought in some places curbing mosquitoes that transmit pathogens. For the rest, there wasn’t enough data to say if the disease impact was worse or better.

[Andrew MacDonald](#) at the University of California, Santa Barbara, who wasn’t involved in the study, says: “What it adds is a quantification of the direction of climate change impacts on infectious disease”. However, he says the team doesn’t quantify the magnitude of the impact, a caveat that the authors also acknowledge. “The collective impact on human health is unknown,” he says.

The team writes that the “sheer number” of diseases exacerbated and the myriad ways climate change affect them will have such a big health impact that their findings are a reminder of the “urgent need for aggressive actions to mitigate greenhouse gas emissions”. “Politicians need to start taking this issue more seriously,” says Mora.

Journal reference: *Nature Climate Change*, DOI: [10.1038/s41558-022-01426-1](https://doi.org/10.1038/s41558-022-01426-1)

How migration will help us cope with climate devastation [Gaia Vince at New Scientist Live this October](#)

More on these topics: [CLIMATE CHANGE](#) [INFECTIOUS DISEASES](#)

Sign up to our newsletters

Enter your email address to get started

Your email

SIGN UP