

Climate change will raise mosquito risk

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Half a billion more people could be at risk from diseases transmitted by mosquitoes within 30 years as a result of the warming climate, a study warns.



People in Canada and part of northern Europe could come into contact with yellow fever, Zika, dengue and chikungunya, as well as other emerging diseases. The study, published in the journal *PLOS Neglected Tropical Diseases*, finds that the spread of disease-carrying mosquitoes could be prevented if humans take aggressive action to combat global warming.

Sadie Ryan, a co-author from the University of Florida, said the study and its maps could help policymakers and medical professionals understand where the insects and their diseases might go.

“As you move into a hotter world, the places that get really hot are going to have all kinds of other vulnerabilities with them,” Ryan said. “Having studies like this that say, hey, this is potentially where these things can show up is going to be one tool in a big tool box.”

Currently, just over 6 billion people live in climates where the two mosquitoes studied can live for a month or more each year. But as climate change pushes milder weather toward the poles, new regions become hospitable to them.

The yellow fever mosquito, *Aedes aegypti*, thrives in a warmer climate. But the tiger mosquito, *Aedes albopictus*, prefers cooler conditions. So the researchers looked at what different levels of rising temperatures would mean for the spread of both. They found that if warming is only moderately curbed, both mosquitoes might do well.

Places where people have never had the diseases could see bad outbreaks if they are not prepared, Ryan said. In 2016, Zika swept through southern Florida, resulting in significant birth defects. People who contract diseases from mosquitoes while travelling may also transmit them to local mosquitoes when they return home, spreading the diseases further.

“You might not think to look across the [US] midwest at this point for potential mosquitoes, but what if people are landing in Chicago?” Ryan said. “Every year we see little bits of malaria showing up, we see little bits of dengue popping up.”