

# Climate change may have little impact on tropical lizards

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A new Dartmouth College study finds human-caused climate change may have little impact on many species of tropical lizards, contradicting a host of recent studies that predict their widespread extinction in a rapidly warming planet.

The findings, which appear in the journal *Global Change Biology*, offer new hope for survival of a creature thought to be doomed.

Most predictions that tropical cold-blooded animals, especially forest [lizards](#), will be hard hit by climate change are based on global-scale measurements of environmental temperatures, which miss much of the fine-scale variation in temperature that individual animals experience on the ground, said the article's lead author, Michael Logan, a Ph.D. student in ecology and [evolutionary biology](#).

To address this disconnect, the Dartmouth researchers measured environmental temperatures at extremely high resolution and used those measurements to project the effects of climate change on the running abilities of four populations of lizard from the Bay Islands of Honduras. Field tests on the captured lizards, which were released unharmed, were conducted between 2008 and 2012.

Previous studies have suggested that open-habitat tropical lizard species are likely to invade forest habitat and drive [forest species](#) to extinction, but the Dartmouth research suggests that the open-habitat populations will not invade [forest habitat](#) and may actually benefit from predicted

warming for many decades. Conversely, one of the forest species studied should experience reduced activity time as a result of warming, while two others are unlikely to experience a significant decline in performance.

The overall results suggest that global-scale predictions generated using low-resolution [temperature data](#) may overestimate the vulnerability of many tropical lizards to climate change.

"Whereas studies conducted to date have made uniformly bleak predictions for the survival of tropical forest lizards around the globe, our data show that four similar species, occurring in the same geographic region, differ markedly in their vulnerabilities to climate warming," the authors wrote. "Moreover, none appear to be on the brink of extinction. Considering that these populations occur over extremely small geographic ranges, it is possible that many tropical forest lizards, which range over much wider areas, may have even greater opportunity to escape warming."

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Provided by Dartmouth College

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