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One-third of all plant and animal species could be extinct in 50 years, study warns

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USA TODAY

Updated Feb. 14, 2020, 1:36 p.m. ET

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One-third of all animal and plant species on the planet could face extinction by 2070 due to climate change, a [new study](#) warns.

Researchers studied recent extinctions from climate change to estimate how many species would be lost over the next 50 years.

Specifically, scientists from the University of Arizona studied data from 538 species at 581 sites around the world and focused on plant and animal species that were surveyed at the same sites over time, at least 10 years apart.

"By analyzing the change in 19 climatic variables at each site, [we could determine which variables drive local extinctions](#) and how much change a population can

tolerate without going extinct," said Cristian Román-Palacios, of the department of ecology and evolutionary biology at the University of Arizona, in a statement.

"We also estimated how quickly populations can move to try and escape rising temperatures.

"When we put all of these pieces of information together for each species, we can come up with detailed estimates of global extinction rates for hundreds of plant and animal species."

Globally, up to 1 million species are at risk of extinction because of human activities, according to a United Nations report released in May. Many experts say a "mass extinction event" – only the sixth in the past half-billion years – is already underway.

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This study found that maximum annual temperatures – the highest daily highs in summer – are the key variable that best explains whether a species will go extinct.

Previous studies have focused on migration to cooler habitats as a way for species to "escape" from warming climates. However, this study found that most species won't be able to do this quickly enough to avoid extinction, based on their past rates of movement.

Instead, researchers found that many species were able to tolerate some increases in maximum temperatures, but only up to a point.

They found that about 50% of the species had local extinctions if maximum temperatures increased by more than 0.9 degrees Fahrenheit, and up to 95% if temperatures increased by more than 5.2 degrees Fahrenheit.

Projections of species loss depend on how much climate will warm in the future.

"If we stick to the Paris Agreement to combat climate change, we may lose fewer than 2 out of every 10 plant and animal species on Earth by 2070," said study co-author John J. Wiens of the University of Arizona.

"But if humans cause larger temperature increases, we could lose more than a third or even half of all animal and plant species, based on our results."

The study was published this week in the peer-reviewed journal [Proceedings of the National Academy of Sciences](#).

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