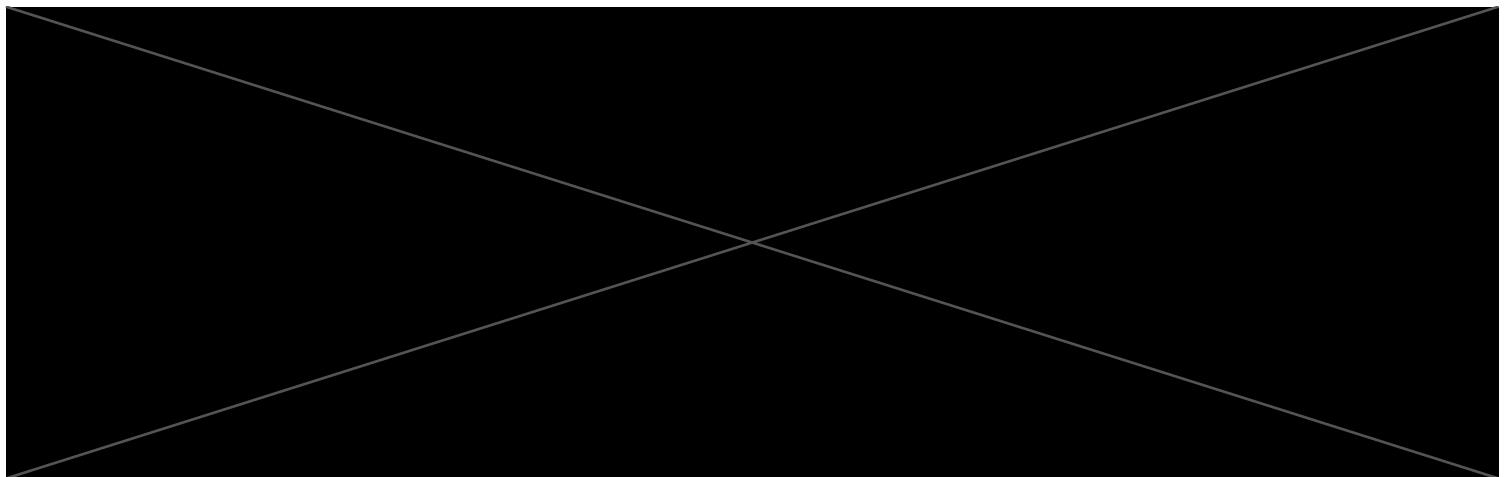


# INTERNATIONAL BUSINESS TIMES



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## Earth Could Lose One Third Of Plants And Animals Within 50 Years, Study Says



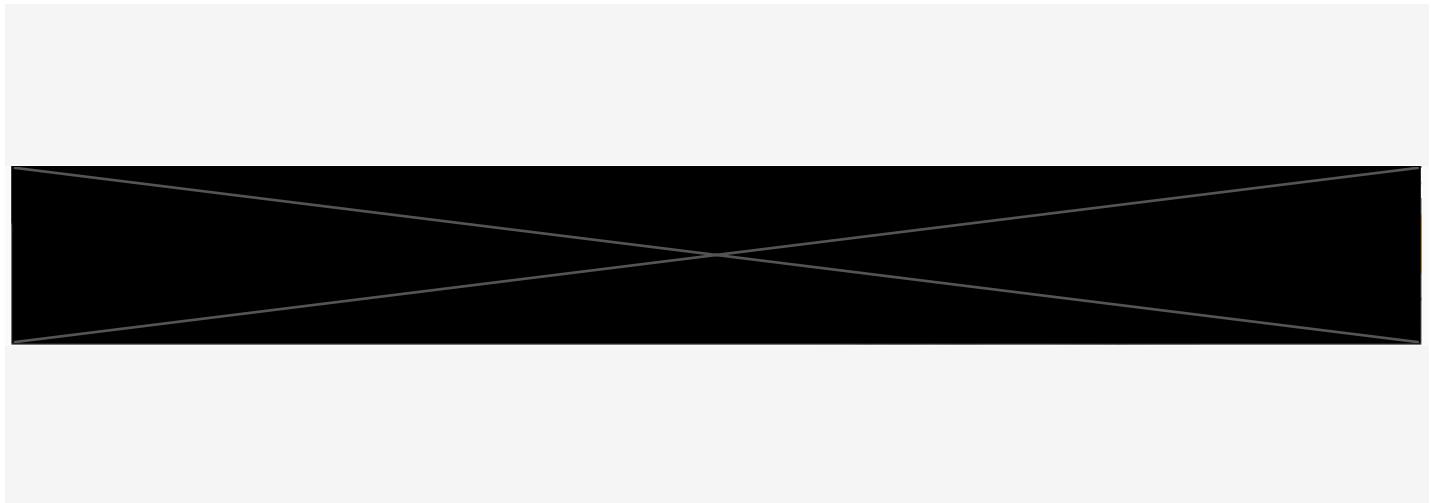
By Athena Chan

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Many plant species could be significantly affected by the effects of climate change. (PHOTO: PIXABAY)



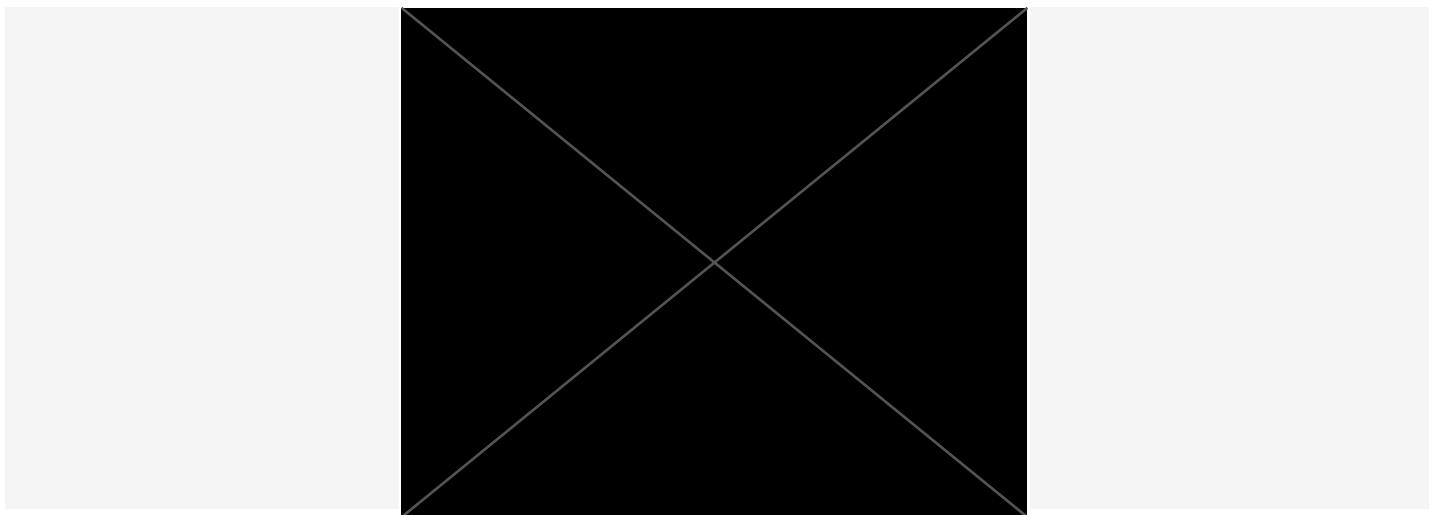
## KEY POINTS

- Researchers of a new study found that we could lose a third of plants and animals by 2070
- Hottest yearly temperatures seem to determine species extinction
- Populations will not be able to move to colder habitats fast enough to survive extinction

- The tropics, where most species are, will experience significantly more extinctions

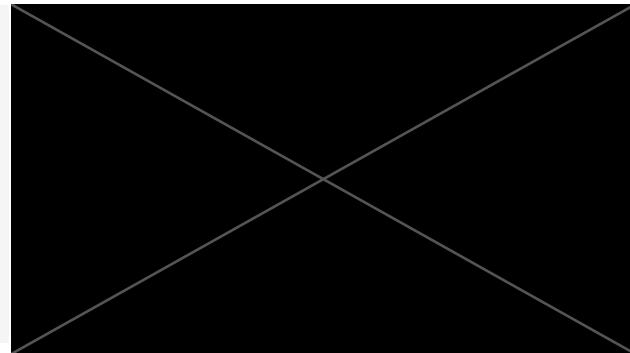
The researchers of a new study estimate that about a third of all animal and plant species could be lost to extinction by the year 2070, which is just 50 years from now. The extinctions are about two to four times more common in the tropics, where the majority of animal and plant species are.

## Future Extinctions



For a new study, researchers estimated the rate of future climate change-related extinctions by combining data on recent extinctions from climate change, rates of species movement and projections on future climate. Specifically, they analyzed local extinction data from 538 species and 581 sites around the world then generated the climate data from the first as well as the most recent surveys of each site.

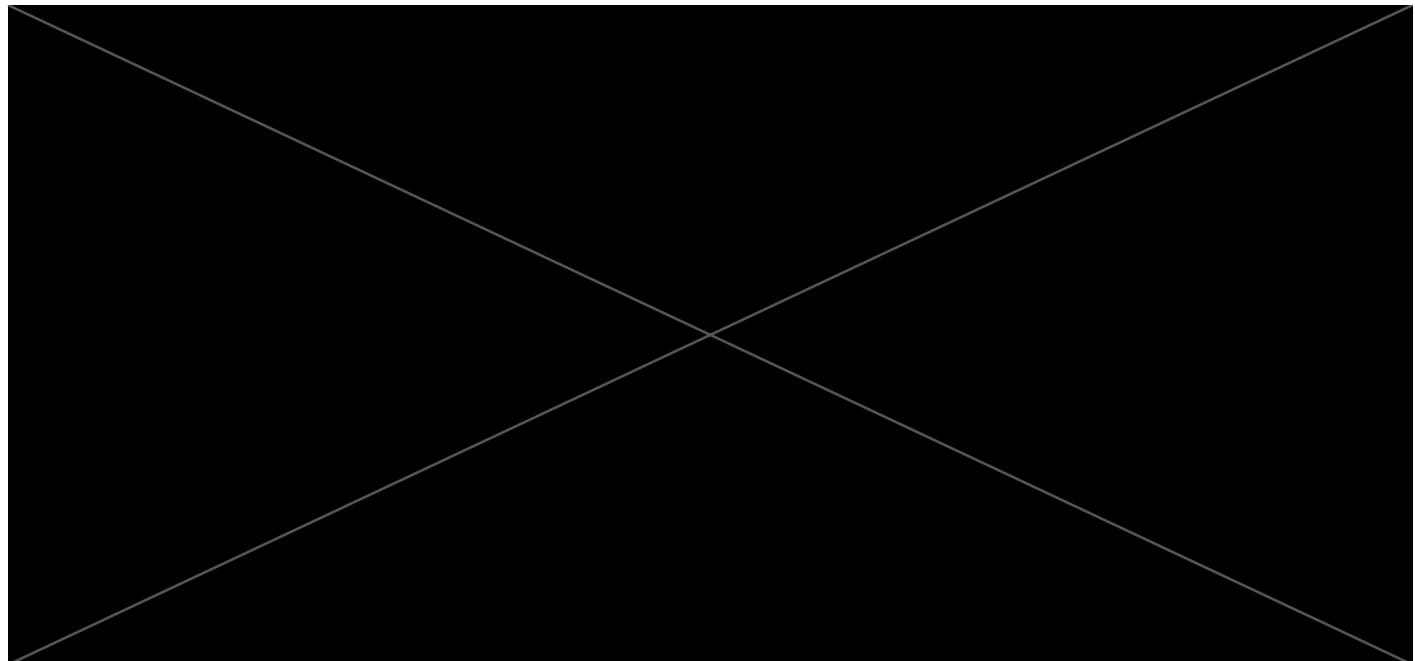
The researchers found that 44 percent of the 538 species are already gone at one or more sites and, surprisingly, they found that the local extinctions actually happened at the sites where there were significantly smaller changes in average annual temperature but larger and faster increases in hottest yearly temperatures.

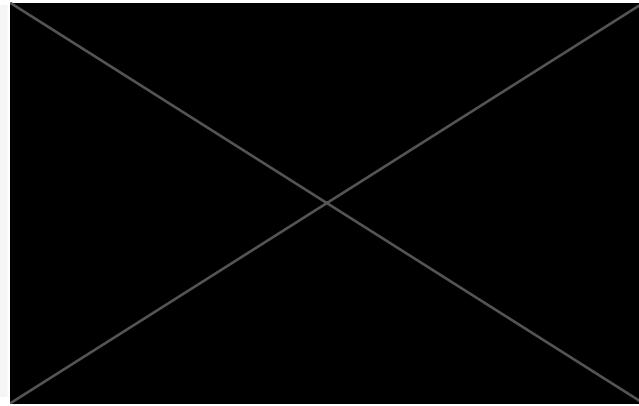


This means that the hottest yearly temperature, or the hottest daily high, is the key variable that determines whether a population will go extinct instead of the average annual temperature, which is widely used as a proxy for overall climate change.

## Migration To Cooler Habitats

The researchers also investigated whether species could disperse quickly enough to colder or more temperate regions to escape the heat but, they found that 66 percent of the species did not move upwards at all between the surveys. This suggests that populations won't be able to move quickly enough and that about 57 to 70 percent of the 538 species won't be able to avoid extinction. Instead, the populations will only tolerate the increases in maximum temperatures but, they could only do so up to a certain point.





Specifically, the researchers estimated that half of the populations would go extinct if local temperatures increase by 0.5 degrees Celsius, while 95 percent of populations would go extinct if the temperatures increased by 2.9 degrees Celsius.

Simply put, although dispersion has allowed many species populations to survive temperature changes in the past, it may still be insufficient to avoid extinction and could only slightly reduce extinction risks.

### **'Choose Your Own Adventure'**

"Specifically, considering both dispersal and niche shifts, we project that only 16–30% of these 538 species may go extinct by 2070," the researchers wrote. "Overall, our results help identify the specific climatic changes that cause extinction and the processes that may help species to survive."



Unfortunately, the researchers also noted that even if the plant and animal species loss projections are quite similar, [extinction](#) in the tropics, where most of the species are, is two to four times more common compared to more temperate regions.

"In a way, it's a 'choose your own adventure,'" study co-author John J. Wiens [said](#). "If we stick to the Paris Agreement to combat climate change, we may lose fewer than two out of every 10 plant and animal species on Earth by 2070. 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 is published in the *Proceedings of the National Academy of Sciences*.



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## CLIMATE CHANGE

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