

Number of cactus species at risk projected to increase sharply due to global warming

April 15 2022, by Bob Yirka



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A team of researchers affiliated with multiple entities in the U.S. and the U.K. has found that the number of cactus species at risk of extinction is likely to increase this century as a result of climate change. In their paper

published in the journal *Nature Plants*, the group compares the current ecosystems of 408 cactus species with expected changes to those ecosystems under climate change to predict their ability to survive.

As the researchers note, cacti comprise one of the most endangered groups in the world today, due in large part to human activities. In this new effort, they wondered about the prospects of the plants as the planet warms. They also note that due to their reputation as a hardy plant able to withstand hot and [dry conditions](#), few outside the plant biology community realize their precarious position—a warming planet would seem to favor their adaptability. But, as they point out, most cacti occupy specialized niches, and any change to those niches can result in disaster.

To learn more about their possible fate, the researchers chose 408 species of cacti to study, looking specifically at their individual ecosystems and their sensitivity to change. They then used [climate models](#) to estimate changes to those [ecosystems](#) under three scenarios based on the degree of [climate change](#).

They found that cacti face increased threats under all three scenarios. Even small changes in temperature, they found, could result in reductions in territorial occupation. They also found that approximately 60% of the species they studied are likely to suffer declines this century, and approximately 40% are likely to see what they describe as "significant declines." They found only one, Xique-Xique, which is native to Brazil, that is likely to increase its range and thus its numbers. They also noted that the regions that appear to be most at risk of losing [cacti](#) species are those that have the most to lose—those with the largest numbers of species and the highest diversity, such as Florida and parts of Brazil and Mexico.

More information: Michiel Pillet et al, Elevated extinction risk of cacti under climate change, *Nature Plants* (2022). [DOI](#):

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