

Mixed outcomes for plants and animals in warmer 2080s climate

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Credit: public domain

More than three quarters of plants and animals in England are likely to be significantly affected by climate change by the end of the century, say researchers.

Researchers showed that given a 2°C increase in average global temperature by the 2080s, 54% of 3000 [species](#) in England could significantly expand their populations into different areas of the country, where [climate](#) suitability is increasing, if they are able to get to those locations.

The team, which includes researchers at the Universities of York, Reading, the British Trust for Ornithology, and Natural England, also found that 27% species may not find suitable climate in a substantial proportion of the sites they currently occupy.

Published in the journal, *Biological Conservation*, the research assesses the impact of [climate change](#) on the populations and distributions of more than 3,000 British plants and animals across 17 taxonomic groups.

Dr Colin Beale, from the University of York's Department of Biology, said: "This new research suggests climate change may result in widespread changes in the conservation status of many of England's plants and animals.

"In England we're likely to see more winners than losers if we manage land in the right places to facilitate expanding populations. This research will also help us identify where we have the best chance to help species that are at most risk."

The most vulnerable species were northern and upland species, including birds like the dotterel and red grouse, flowering plants such as crowberry, and damp-loving mosses and liverworts.

At the opposite end of the scale, wasps, bees, ants and many southerly distributed species such as Dartford warbler and emperor dragonfly, are likely to thrive in response to warmer temperatures and would be able to colonise new areas of the country.

Dr James Pearce-Higgins, Director of Science at the British Trust for Ornithology (BTO), and lead author of the study, said: "This research provides valuable information for nature conservationists, who need to plan for changing species' distributions and an uncertain future.

"There is an opportunity for all of us to get involved to reduce this uncertainty by contributing to biological monitoring and recording schemes. This will enable us to better track changes to the natural world as they occur, and improve our assessments of the future."

A more detailed study of 400 species included information on population trends and other factors known to make species more vulnerable to climate change, such as restriction to small, localised populations.

This assessment found these factors slightly increased the proportion of wildlife at risk from climate change (35%), with 42% likely to have opportunities to expand.

The report emphasises that action is needed to protect and enhance networks of semi-natural habitats for species to colonise new areas of land.

Dr Mike Morecroft, Principal Specialist in Climate Change at Natural England, the government conservation body that funded the project, said: "Climate change is a big challenge to conservationists; we need to be ready to protect species where they have the best chance in the future, which will not always be the same places as in the past. Good science is more important than ever to ensure good decision making."

More information: James W. Pearce-Higgins et al, A national-scale assessment of climate change impacts on species: Assessing the balance of risks and opportunities for multiple taxa, *Biological Conservation*

(2017). [DOI: 10.1016/j.biocon.2017.06.035](https://doi.org/10.1016/j.biocon.2017.06.035)

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