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Wildlife seeks cooler climates



Species are on the move, say scientists

By [Alex Kirby](#)

BBC News Online environment correspondent

Two groups of US biologists say they have detected a consistent pattern of response by wild species to warmer temperatures.

They say this is evidence that climate change is affecting living systems, as climatologists have predicted.

Many species are forsaking their ranges to find cooler or higher habitats.

And several regular springtime events are now happening earlier than they did a few decades ago.

The biologists' work is reported in the journal *Nature*.

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Camille Parmesan, of the University of Texas at Austin, and colleagues conducted a meta-analysis of studies of more than 1,700 species.

They say there have been "significant" moves in range averaging 6.1 kilometres (3.8 miles) per decade towards the poles, or metres per decade upwards.

“ The balance of evidence from these studies strongly suggests that a significant impact of global warming is already discernible in animal and plant populations ”

Spring events, such as the arrival of migrant species and the laying of eggs, have advanced by 2.3 days per decade.

Unconvinced

The authors note the difficulties experienced by the Intergovernmental Panel on Climate Change (IPCC) in assessing how far recent observed changes in natural biological systems have been attributable to climate change.

They write: "Differences of opinion among disciplines can stem naturally from whether the principal motivation is to assess the magnitude of immediate impacts or of long-term trajectories.

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"Most field biologists are convinced that they are already seeing important biological impacts of climate change. However, they have encountered difficulty in convincing other academic disciplines, policy-makers and the general public."

The picture that emerges from their study, they argue, is persuasive in the round, even though individual species may not show a marked response to warming temperatures.

They write: "The test for a globally coherent climate fingerprint does not require that any single species show a climate change impact with 100% certitude.

"Rather, it seeks some defined level of confidence in a climate change signal on a global scale."

In the second study, Terry Root of Stanford University, California, and colleagues also report a temperature-related fingerprint in the behaviour of a range of species.

They found the changes were most marked at high latitudes and high altitudes, where the largest temperature changes are predicted.

Their meta-analysis included

information on species and global warming from 143 separate studies.

'Significant impact'

The authors say: "These analyses reveal a consistent temperature-related shift, or 'fingerprint', in species ranging from molluscs to mammals and from grasses to trees... the balance of evidence from these studies strongly suggests that a significant impact of global warming is already discernible in animal and plant populations.

"The synergism of rapid temperature rise and other stresses, in particular habitat destruction, could easily disrupt the connectedness among species and lead to a reformulation of species communities...and to numerous extirpations and possibly extinctions."

Because they were looking for trends, the authors say, they excluded studies examining climatic cycles such as the North Atlantic Oscillation and the El Nino cycle in the Pacific west of Chile.

Some scientists continue to maintain that climate change, if it is happening, is an entirely natural phenomenon that cannot

be explained in terms of human behaviour.

The two Nature studies may not be able to advance discussion of that argument.

But they do suggest that wildlife is aware of and responding to a new reality, whatever its causes.

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