

Climate change affecting Europe's birds now, say researchers

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Climate change is already having a detectable impact on birds across Europe, according to a group of scientists led by Durham University.

The scientists are publishing their findings to create the world's first indicator of the climate change impacts on wildlife at a continental scale.

Published in the journal PloS ONE, scientists have shown a strong link between observed population change of individual species and the projected range change, associated with climate change, among a number of widespread and common European birds, including the goldfinch and the lesser spotted woodpecker.

By pulling all the data together, the team has compiled an indicator showing how climate change is affecting wildlife across Europe. The European Union has adopted the indicator as an official measure of the impacts of climate change on the continent's wildlife; the first indicator of its kind.

The paper and the indicator were produced by a team of scientists from the RSPB, Durham University, Cambridge University, the European Bird Census Council, the Muséum National d'Histoire Naturelle, the Czech Society for Ornithology, and Statistics Netherlands. The Pan-European Common Bird Monitoring Scheme (PECBMS) is a partnership involving the European Bird Census Council (EBCC), the RSPB, BirdLife International, and Statistics Netherlands funded by the RSPB and the European Commission

The RSPB's Dr Richard Gregory, the paper's lead author, said: "We hear a lot about climate change, but our paper shows that its effects are being felt right now. The results show the number of species being badly affected outnumbers the species that might benefit by three to one. Although we have only had a very small actual rise in global average temperature, it is staggering to realise how much change we are noticing in wildlife populations. If we don't take our foot off the gas now, our indicator shows there will be many much worse effects to come. We must keep global temperature rise below the two degree ceiling; anything above this will create global havoc."

Dr Stephen Willis, of Durham University, said: "The impact of climatic changes, both positive and negative, can now be summarised in a single indicator which we've called the Climatic Impact Indicator. A period of stable annual average temperatures in Europe ended in the early 1980s, and this new Indicator shows that climate change is affecting many species but in different ways. Climate change is having an adverse effect on many birds, though some species are actually benefiting from the recent changes.

"Our indicator is the biodiversity equivalent of the FTSE index, only instead of summarising the changing fortunes of businesses, it summarises how biodiversity is changing due to climate change. Unlike the FTSE, which is currently at a six year low, the climate change index has been increasing each year since the mid-80s, indicating that climate is having an increasing impact on biodiversity.

“Those birds we predict should fare well under climate change have been increasing since the mid-80s, and those we predict should do badly have declined over the same period. The worry is that the declining group actually consists of 75 per cent of the species we studied.”

The Climate Change Indicator combines two independent strands of work; bioclimate envelope-modelling and observed populations trends in European birds, derived from the Pan-European Common Bird Monitoring Scheme.

When a bird's population changes in line with the projection, the indicator goes up. Species whose observed trend does not fit the projection cause the indicator to decline.

The research shows that a number of species are projected to increase the populations across Europe. Of the 122 species that were surveyed, the top ten increasing species (in order) are: Sardinian warbler (P); subalpine warbler (P); bee-eater (P); ciril bunting (B); Cetti's warbler (B); hoopoe (P); golden oriole (B); goldfinch (B); great reed warbler (P); and collared dove (B). Species in this list marked with a (B) already breed regularly in the UK. Species marked with a (P) are potential colonists to the UK if they continue to respond to climatic warming in the way the models predict, and in the absence of other barriers (such as the ability to disperse and the availability of suitable habitat).

Of those species surveyed the worst performers across Europe (in order) are: snipe (B); meadow pipit (B); brambling (occasional B); willow tit (B); lapwing (B); thrush nightingale; wood warbler (B); nutcracker; northern wheatear (B); and lesser spotted woodpecker (B).

Of the 122 species included (out of 526 species which nest in Europe), 30 are projected to increase their range; while the remaining 92 species are anticipated to decrease their range.

Dr Gregory added: “This new work emphasises again the role played by skilled amateur birdwatchers right across Europe in advancing our understanding of the environment and the growing threat posed by climate change.”

P.S.

* From Durham University website:

<http://www.dur.ac.uk/news/newsitem/...>