

# Climate change plays major role in decline of blackbird species

February 20 2012, by Kathryn Horn

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(PhysOrg.com) -- Populations of the rusty blackbird, a once-abundant North American species, have declined drastically in recent years, and Auburn University researchers say climate change is to blame.

That's the finding of graduate students Chris McClure, Brian Rolek and Kenneth McDonald published recently in the scientific journal [Ecology and Evolution](#).

Under the direction of ornithology professor Geoffrey Hill, McClure, Rolek and McDonald studied the blackbird decline and wrote the paper "Climate change and the decline of a once common bird."

The group analyzed rusty blackbird breeding data and climate indices and examined temperature oscillations in the Pacific Ocean, and concluded that climate change does in fact play a major role in the recent decline of the population.

"It was hard to figure out what exactly is going wrong to cause decline because of the complexities of the life cycle of the birds," said Hill.

"They breed in the far north, winter in the southeast and move through the middle of the country during migration. But we now have good data that pins the decline of this blackbird to climate change. Studies of these sorts of [biological systems](#) are showing that even small changes in temperatures can have a big impact in the environment."

Hill says it is not the actual [temperature change](#) that is dooming the

birds, it is the way the changes in temperature are affecting the birds' ecosystem.

According to Hill, the oceanic [oscillations](#) impact both temperatures and precipitation on land, which cause many negative effects, including a change in how long the dry season in wetlands lasts, which negatively affects the insect and [arthropods](#) that the birds eat during the nesting season.

McClure, who recently received his doctorate in biology, concentrating on [ornithology](#), said there is an important lesson to be taken away from the group's study.

"[Changing climate](#) is affecting everything," McClure said. "These birds used to be everywhere and usually when people are talking about climate change, you look at the effects on an isolated species, such as some rare bird on a mountaintop somewhere. But our research proved that it has a much wider effect. These birds literally span an entire continent, living in different climates, and yet they are affected just as much as anything else."

**More information:** To read the entire paper, go [onlinelibrary.wiley.com/doi/10.1002/ece3.95/full](https://onlinelibrary.wiley.com/doi/10.1002/ece3.95/full)

Provided by Auburn University

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