

# Birds Move North with Climate Change

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Researchers at the SUNY College of Environmental Science and Forestry (ESF) have documented that a variety of North American bird species are extending their breeding ranges to the north, adding to concerns about climate change, according to a study published by the journal *Global Change Biology*.

In a study published on the journal's web site, the SUNY-ESF researchers state the change in the birds' breeding ranges "provides compelling evidence that climate change is driving range shifts."

"There are a wide spectrum of changes that are occurring and those changes are occurring in a relatively short amount of time. We're not talking centuries, we're talking decades," said William Porter, an ESF faculty member and director of the college's Adirondack Ecological Center,

Porter worked on the study with Ph.D. student Benjamin Zuckerberg and AEC staff educator Annie M. Woods. The study is slated for publication in an upcoming edition of *Global Change Biology* magazine.

"The most significant finding is that this is the first time in North America that we're showing the repeating pattern that's been shown before in Europe," Woods said. "It's the first time we've been able to replicate those European findings, using the same kind of study."

Focusing on 83 species of birds that have traditionally bred in New York state, the researchers compared data collected in the early 1980s with

information gathered between 2000 and 2005. They discovered that many species had extended their range boundaries, some by as much as 40 miles.

“They are indeed moving northward in their range boundaries,”  
Zuckerberg said.

“But the real signal came out with some of the northerly species that are more common in Canada and the northern part of the U.S. Their southern range boundaries are actually moving northward as well, at a much faster clip.”

Among the species moving north are the Nashville warbler, a little bird with a yellow belly and a loudly musical two-part song, and the pine siskin, a common finch that resembles a sparrow. Both birds have traditionally been seen in Northern New York but are showing significant retractions in their southern range boundaries, Zuckerberg said.

Birds moving north from more southern areas include the red-bellied woodpecker, considered the most common woodpecker in the Southeastern United States, and the Carolina wren, whose “teakettle, teakettle, teakettle” song is surprisingly loud for a bird that weighs less than an ounce.

The study compared data collected during the state Department of Environmental Conservation’s Breeding Bird Atlas census, which engaged thousands of citizen volunteers to observe and report the birds they could identify. The first atlas was created between 1980 and 1985; the second was done between 2000 and 2005.

New York was the first state to complete two breeding bird atlases, Zuckerberg said, making it the only state that is able, at this point, to

produce this kind of research.

Zuckerberg said similar changes were found in birds that breed in forests and those that inhabit grasslands, in both insectivores and omnivores, and even in new tropical migrants that are typically seen in Mexico and South America.

“What you begin to see is a systematic pattern of these species moving northward as we would predict with regional warming,” he said.

“New York citizens need to recognize that these changes are occurring,” Porter said. “Whether they are good or bad, whether they should be addressed, whether we should adapt to them, whether we should try to mitigate some of this, those are questions that really, rightfully, belong in the political arena.”

Woods said the innate mobility of birds made them an excellent animal to study in connection with adaptation to climate change.

“We’ve been coming out of an ice age for thousands of years so you would expect all species to be moving northerly, but it’s the rate of movement that concerns us,” she said. “It’s accelerating. All animals need to be ready to adapt but birds are highly mobile. They really have the ability to switch their home ranges and their habitat. It’s a really good group of species to study because they can do that.”

More information: [www.wiley.com/bw/journal.asp?ref=1354-1013](http://www.wiley.com/bw/journal.asp?ref=1354-1013)

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