

How Does Climate Change Impact Birds?

American Bird Conservancy

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<https://abcbirds.org/blog/climate-change-impact/>

Bird populations are declining around the world. And while many factors contribute — from habitat loss to pesticides, outdoor cats, and window collisions — it is increasingly clear that climate change is an important driver behind this worrying trend.



Birds flying past smokestack. Photo by Pi-Lens, Shutterstock.

Climate patterns have shifted throughout Earth's long history, but the speed of human-caused climate change in the Anthropocene is unprecedented, making it more difficult for birds to adapt. So how do changing climatic conditions affect birds? Birds are impacted in a number of ways, both direct and indirect — some of which may surprise you.

Direct Impacts of Climate Change on Birds

The connections between climate change and birds are becoming increasingly clear: Warming temperatures are changing **where birds live**, the **timing of their migration patterns**, the **timing of their egg laying**, and even the **sizes and shapes of their bodies**.



Green Jay. Photo by Tim Zurowski, Shutterstock.

Long-term datasets show that many North American bird species have been shifting their winter and breeding ranges northward over time. For example, 90 years of Christmas Bird Count data show that many groups of birds, including woodpeckers and large forest birds such as hawks, are more likely to be observed farther north now than they were only a few decades ago. In recent decades, at least 70 bird species of subtropical, tropical, and desert areas, including the Green Jay and Black-tailed Gnatcatcher, extended their breeding ranges north or eastward.

But even if the overall trend is for birds to be shifting range, that doesn't mean all bird species are affected in the same way. A 2020 study found that the ranges of many resident (year-round) species in eastern North America are staying put, while migratory birds are breeding farther and farther north over time. Migratory species are also shifting the timing of their annual movements, arriving in North America in springtime about two days earlier each decade since the 1990s.

In mountainous areas, birds also have the option of moving up instead of north. But these species risk eventually running out of elevational options as temperatures continue to warm. And modeling by the National Audubon Society shows that, depending upon the climate-change scenario, many North American birds such as highland and tundra species simply won't have enough suitable habitat left to move into in the decades to come.

Finally, but certainly not least, decades of painstaking measurements collected in a range of habitats around the world show that in many species, birds' bodies are getting smaller and their wings are getting longer as global temperatures heat up. The reasons are probably complicated, but the researchers behind this work think that climate change is almost certainly playing a role. For example, smaller bodies may help disperse excess body heat in warming habitats.



*The size of Black-throated Trogons has decreased in recent decades.
Photo by Gualberto Becerra. Shutterstock.*

Comprehension Question

What are the four main ways that warming temperatures are affecting birds? Write each on a line below. Next to each, include relevant details from the article.

i. _____ -

ii. _____ -

iii. _____ -

iv. _____ -