

Climate change could impact critical food supplies for migratory birds

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Climate change could disrupt a critical fueling-up stage for migratory birds just as they're preparing to depart on their autumn journeys to Central America, according to research published in the journal *Ecology Letters*.

Cornell Lab of Ornithology research ecologist Frank La Sorte developed computer models of predicted changes in climate for every week of the year in the Western Hemisphere. These models were then overlaid with weekly estimates of abundance for 77 migratory bird species that fly between breeding grounds in North America and non-breeding grounds in Mexico and Central America. La Sorte used bird observations from the eBird citizen-science database, an online program run by the Cornell Lab of Ornithology.

La Sorte's research pinpointed a period in late summer in the temperate zone of North America when the climate is projected to be significantly different from the historical norm. That change in [climate](#), La Sorte says, could affect insect and plant communities, which in turn would threaten food resources for migratory [birds](#) during the crucial stage when they're bulking up and layering on fat reserves to fuel their autumn migration journey.

Most at-risk, La Sorte says, would be eastern migratory birds that fly greater distances and require large fuel reserves, and the juvenile birds that just hatched a few months earlier and are undertaking their first migration—a hazardous journey that can be extremely energetically

taxing.

"Using bird observations from eBird, our study provides an unprecedented level of spatial and temporal detail, allowing us to identify locations and times when migratory bird populations may be at particular risk under future [climate change](#)," said La Sorte. "This information is important because it advances our understanding of the unique challenges [migratory birds](#) are likely to face in the future, and where and when the application of conservation efforts may achieve the greatest benefits."

More information: *Ecology Letters* (2018). [DOI: 10.1111/ele.12951](https://doi.org/10.1111/ele.12951)

Provided by Cornell University

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