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## Using GPS tracking and geomagnetic data to study migratory movement in birds

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I never thought that the answer to “Where am I going to use math again?” would be to understand how birds make decisions. Bird migrations are a formidable scientific challenge because of missing puzzle pieces such as, “How do birds make decisions to get from Alaska to Argentina?” One possibility could be the Earth’s magnetic field. This invisible shield around Earth not only protects us from solar radiation but it could also double as a navigation cue for birds. My research examines this relationship. I first connect geomagnetic data to bird movement data. Then I use this fused dataset to build mathematical models. My goal is to understand how birds integrate geomagnetic and other cues (like habitat and wind) to make migratory decisions. My work will unravel a part of the mysterious process that occurs as birds take to the skies to migrate hundreds of kilometers each year.