



Climate Change & Birds

- **Climate change** refers to the **increasing changes in the measures of climate** (e.g., wind patterns, precipitation, temperature, extreme weather, lengths of seasons, etc.) **over long periods of time**. Global warming, the increase in Earth's average temperature, is only one aspect of climate change.
- Over 35% of the world's known bird species are susceptible to climate change due to **specialized habitats, limited opportunities for dispersal, and dependence on environmental cues**.
- **Ocean and coastal birds** (such as penguin, albatross, and petrel), already threatened by fishing and pollution, are particularly vulnerable because of effects to marine ecosystems including **increasing water temperatures, increasing ocean acidity, sea level rise, and storm surges**.
- **Wetland and arid land birds** are highly susceptible because of changes in habitats caused by warmer and drier climates.
- Shifts in **migratory and nesting patterns** attributed to climate change have already been observed in 28 different species of birds in the Eastern USA.
- Warmer temperatures are forcing birds to winter and breed farther north than in the past. An assessment of 305 common North American birds species found **the average latitude of bird wintering range is now about 40 miles farther north than it was in the 1960s**.
- Climate change also **affects population dynamics** of plants and insects, which are **important food sources** for birds. Many migratory birds are arriving, and therefore breeding, too late to keep pace with the changing timing of their food supplies.
- Increasing temperatures due to climate change may force birds to **use more energy for thermoregulation**, which could **disrupt their reproduction, timing of breeding, migration, and reduce survival or fitness**.
- Increasing frequencies of **severe weather events** like storms, droughts, and wildfires greatly **impact bird habitats**, particularly availability of food sources and nesting areas.