

# Bird survival affected by species traits under long-term severe droughts

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## Abstract

Changing drought regimes is a rising threat to biodiversity, but reported drought impacts on species varied greatly. Acknowledging the factors associating with these impacts will bring novel understandings to species vulnerability to the changes of extreme climatic events, and facilitate effective mitigation of climate change risks. By compiling the responses of 172 bird species to droughts from global publications, we found bird abundance generally declined for severe droughts lasting over a year. Drought-induced declines in abundance were identified for species feeding on invertebrates, fruits or nectar. Species of a smaller range showed lower reproductive performance during or after droughts. In addition to these factors, a small clutch size also contributed to the reductions in bird abundance or reproductive performance under severe droughts. In the regions where the duration and/or intensity of severe droughts increase, bird species with above susceptible traits would confront greater risks to survival.

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