Projects and ActivitiesThu Mar 28 11:43:26 HST 2024

Name	Vulnerability of Hawaiian Forest Birds to Climate Change - Using Models to Link Landscape, Climate, Disease, and Potential Adaptation
Capability Area: Impacts/Adaptations	- Understanding Climate Impacts and Informing Adaptation - Climate Impacts - Research/Development
Sectors	- Ecosystems
Status	- Ongoing
Focus Area	- Fresh Water Resources and Drought - Marine and Terrestrial Ecosystems
Regions	- Central North Pacific - State Of Hawaii
Description	The introduction of mosquitos and avian malaria are considered to be primary factors contributing to population declines and changes in the distribution of many native Hawaiian forest birds. Mosquito and malaria dynamics (abundance, location etc.) are strongly influenced by climate, particularly rainfall and temperature. Successful conservation of Hawaiian forest birds requires an analysis of climate change and its impact on the future disease risk of native bird populations. Key objectives of this research will be to 1) predict changes in avian malaria across space and time as a result of anticipated climate change, 2) evaluate the potential for bird species extinctions, 3) research and consider birds' genetic adaptation to malaria, and 4) assess the costs and effectiveness of conservation strategies to mitigate impacts on bird populations. This project will provide the first quantitative assessment of the long-term impact of climate change on bird malaria distribution and on Hawaii's unique forest birds, and provide a crucial tool to adaptively manage recovery and promote disease resistance among avian populations.
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Partnering Agencies	PI-CSC, FWS, NPS, DLNR
Projected Timelines	FY 12 start, 3 years
Url	https://nccwsc.usgs.gov/display-project/5006f8a0e4b0abf7ce733fbd/50118f9fe4b0d78fd4e59ba6