Research Unit Forest Dynamics - colloquium

Date: 22.08.2023

Time: 10:30

Room: Engler-Saal

Duration: 25 minutes

Author: Dr. Ryan Shipley, RG Mountain Ecosystems

Title: Inconsistent shifts in warming and temperature variability negatively impact avian fitness

Abstract:

The rise in global mean temperatures due to anthropogenic climate change is well-documented; however, an equally important but often overlooked aspect is increasing variability. As our planet warms, extreme weather events are predicted to become more frequent and intense, leading to increased fluctuations in temperature and precipitation. Because many animals rely on information from the environment to time critical life stages, shifts in temperature-driven reproductive cues can cascade through trophic levels, driving mismatches in predator-prey dynamics. In this talk, I present recent research on the interplay between temperature and resource variability, and their relationships to fitness in birds. Sensitivity to extreme weather events during early life is a widespread feature across avian species. In addition, I present evidence that environmental conditions experienced during early life can shape and constrain the ability to respond to future environmental variation as adults. Interactions between developmental effects, life-history constraints and differential mortality are likely critical for predicting evolutionary responses to future novel conditions in rapidly changing environments worldwide.