



School of Natural Resources
and the Environment

Seminar Series: Spring 2023

CLIMATE FIDELITY, GENETIC VARIATION, AND EVOLUTIONARY POTENTIAL

SPEAKER: Ethan Linck

University of Wyoming

University of New Mexico (Museum of Southwestern Biology)

DATE: Wednesday, April 5th

TIME: 3:00-4:00 pm

LOCATION: ENR2 S210 & [Zoom](#)

ABSTRACT:

Climate fidelity—the tendency of a species or population to track its climatic niche through time—is a major factor influencing both patterns of genetic variation in wild populations and their fate on a warming planet. In this talk I explore the biological and conservation implications of climate fidelity from three angles. First, I discuss the delimitation of species and evolutionarily significant units in "Western" Empidonax flycatchers, a species complex with controversial taxonomy and a distribution shaped by Pleistocene glacial cycles. Second, I deploy theory and simulations to understand how climate fidelity might drive cyclical contact between populations and influence processes of genetic divergence. Third, I discuss ways to detect climate fidelity with genomic data, and its potential use as a proxy for evolutionary potential in assessments of extinction risk. I conclude with some thoughts on the role of evolutionary thinking in conservation biology.