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# The Grinnell Resurvey Project:

## Documenting responses of montane birds and mammals to 100 years of environmental change

Thursday 31 October 2013 1pm

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Australian National University

**Gould Seminar Room** (Rm 235) Gould Building (Bldg. 116), Linnaeus Way, ANU



The Museum of Vertebrate Zoology at UC Berkeley, established by Joseph Grinnell in the early 20th Century, holds an exceptionally data-rich record of historical distributions of birds and mammals across the Sierra Nevada of California, backed by specimens and extensive field notes. A century later, faculty and students from the MVZ have resurveyed the same sites and generated strong evidence for both directionality and heterogeneity of shifts in species ranges. The predominant upwards shifts of mammals is largely attributable to increases minimum temperatures, though birds show more variable responses, perhaps in relation to local changes in precipitation as well as temperature. The challenge now is to understand why responses vary so much, even between closely related and ecologically similar species. Using the museum specimens collected in both early 1900's and again now, we can also document changes in phenotype and genomes, but further progress will require extensive field studies of ecology and physiology of sensitive vs vulnerable species. Overall, the project has provided an unusually detailed empirical picture of responses to past climate change - and the basis, we hope, for improved predictions of future impacts.

Presented by

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