Mammals on Mountaintops: How Climate and Geography Drive Diversity in the Alpine

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Publication Information
http://repository.uwyo.edu/harlow_series_2014/5

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Montane species are in a precarious position because of climate variability. Mammals that specialize on alpine habitats, such as pikas and marmots, often show great geographic variation, with coat colors and calls that differ by region. Part of this variation is driven by the fact that these species specialize on ‘sky islands’ – isolated alpine habitats separated from other similar habitats by broad swaths of lowlands that are difficult to traverse due to temperature and vegetation gradients. Unfortunately, the factors that have driven variation within these species across the landscape may also be contributing to extinction of populations as temperatures rise over time. In this talk, I will explore how climate and landscape have shaped variation within pikas over the long term, and how warmer summers and warmer winters may be affecting populations in the short term.