**Temporal response of mammal body size to temperature**

Kristina Riemer, Ethan P White

**Abstract**

**Introduction**

Paragraph 1

* Current and future changes in climate, including temperature increases
* Direct implications for size of organisms
* That is because there is believed to be a negative temperature-mass relationship
* Called Bergmann’s rule
* Well-established, long-existing biogeographic “rule” [bunch of sources]
* Therefore predicted that size will downshift among lots of endotherms in near future [two main papers]
* This would have substantial eco impacts because size is linked to lots of other eco characteristics
* Example impacts

Paragraph 2

* Some evidence that this rule doesn’t operate widely among endo species [eLife paper, others]
* At least in “natural” systems
* Possibly because lots of other factors affect size besides single abiotic condition
* Means size change may not predictable in context of climate change/temperature
* Important to know this to be able to predict & mitigate
* Also hasn’t been looked at as size response to temperature over time
* [if it has, summarize works here]
* Especially important to know because temperature is dynamically changing

Paragraph 3

* We decided to address this by compiling long-term times series of mammal communities
* Data-intensive approach that addresses previous limitations of single studies and meta-analyses from those studies
* How size changes in mammals over time
* At x locations
* If size is linked to temperature/temperature change at these locations

**Methods**

* Datasets
  + Temperature
  + Criteria for all time series datasets
  + Describe each time series dataset
* Analysis

**Results**

Misc: temperature change over time, mammal size change over time, relationship between these

**Discussion**

**Acknowledgements**

**References**