How predictable is extinction?
Forecasting species survival at million-year timescales

Peter D Smits, Seth Finnegan

Department of Integrative Biology, University of California – Berkeley

By studying the past,
we can better predict the future.

Extinction is hard to predict,
but is extremely important to conservation decisions.

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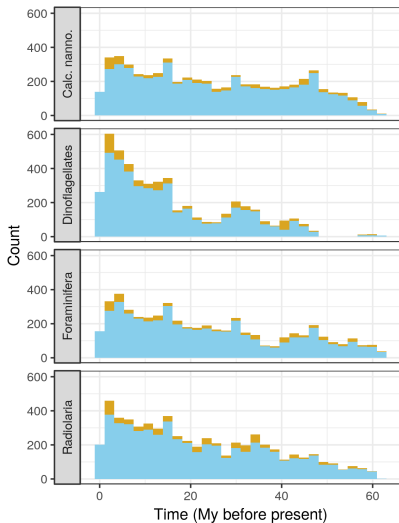
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▶ A taxon's global geographic range can change over time.

▶ What happens to extinction risk as a taxon changes geographic range? How is extinction risk impacted if that taxon's global geographic range has recently increased or decreased?

- Change in geographic range between current observation and previous observation.

- Average global temperature at time of previous observation (Mg/Ca isotope).
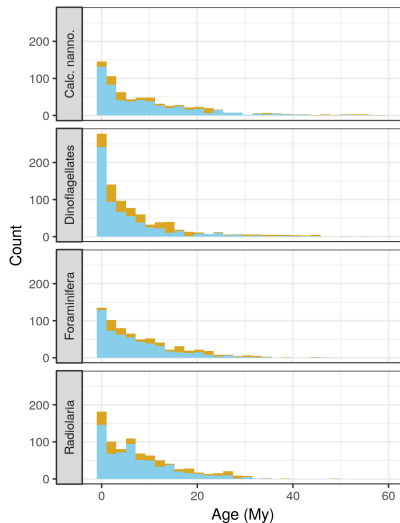
- Age in millions of years at time of observation.

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How we're analyzing the data

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- Explore model adequacy using posterior predictive distribution.

- Estimate out-of-sample predictive performance using k-fold cross-validation.

Comparing our models

Model	LOOIC	SE LOOIC	WAIC	SE WAIC
Past and vary	12790.39	178.83	12786.06	178.77
No past but vary	12818.43	178.76	12815.40	178.71
Past but no vary	12850.45	179.42	12848.12	179.38
No past or vary	12850.87	179.46	12848.50	179.42

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Summary

Acknowledgements