

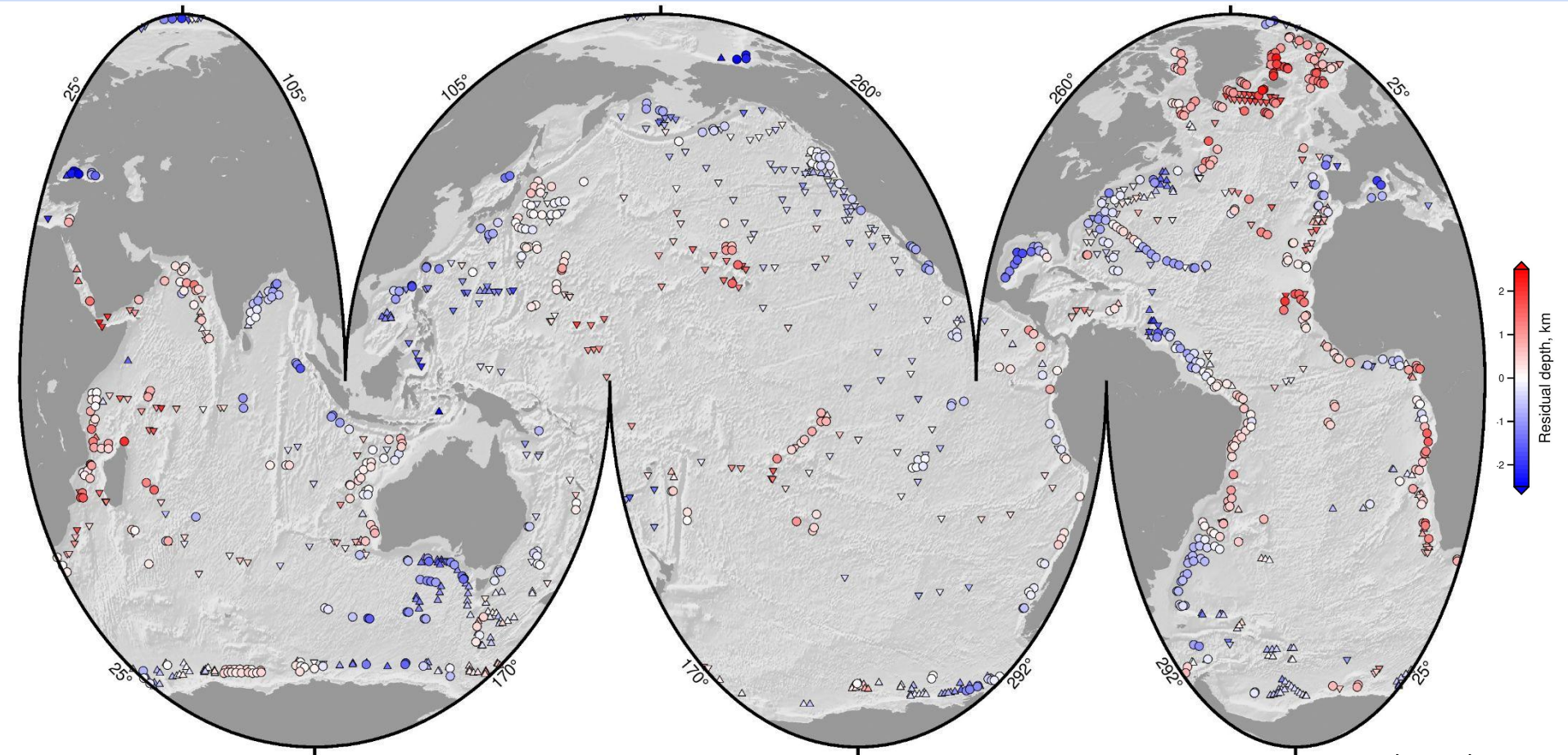
Constraining global dynamic topography using a revised observational database

Megan Holdt¹, Nicky White¹ and Simon Stephenson²

¹ Bullard Laboratories, Department of Earth Sciences, University of Cambridge

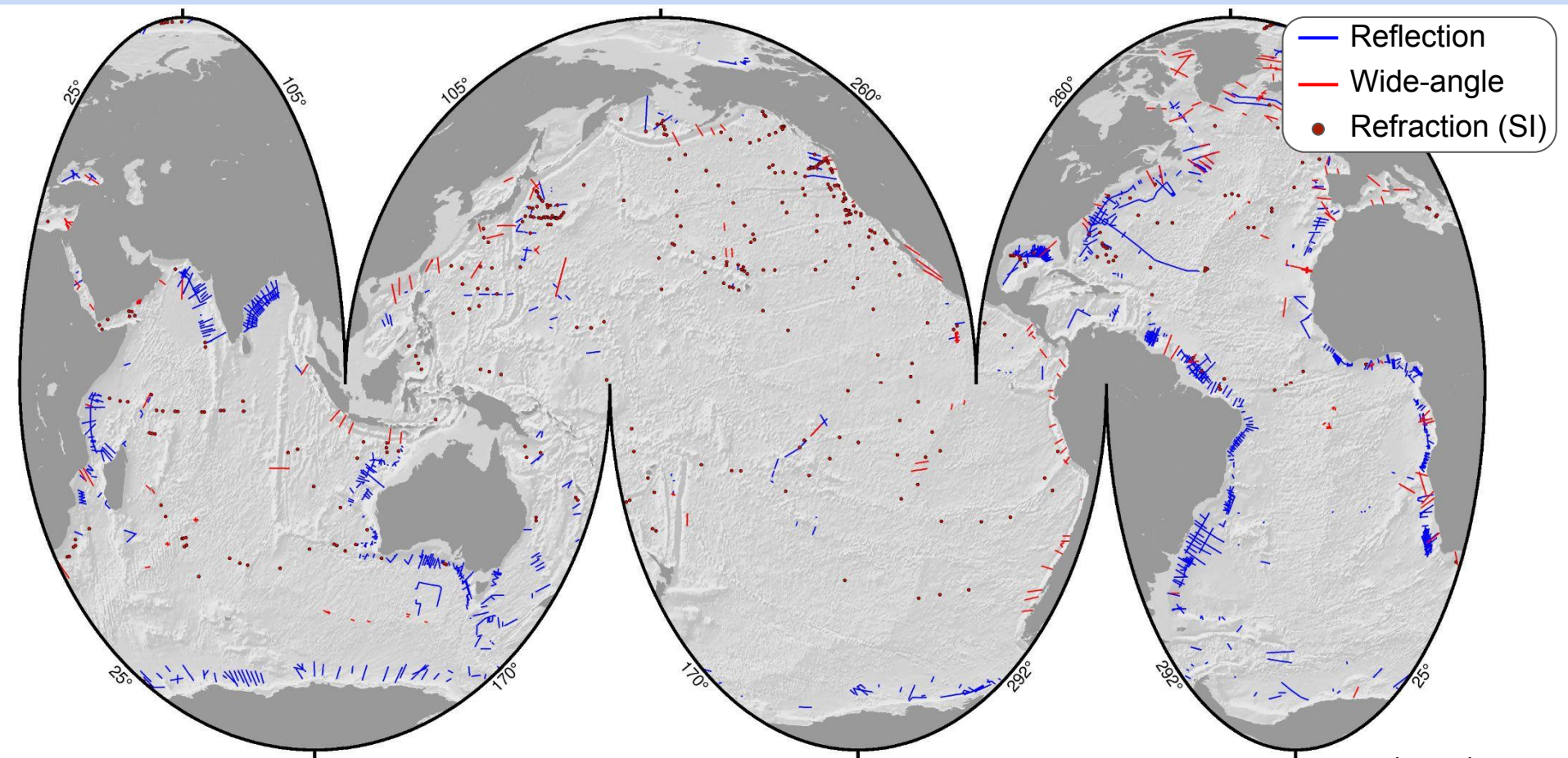
² Department of Earth Sciences, University of Oxford

Residual Depth Measurements

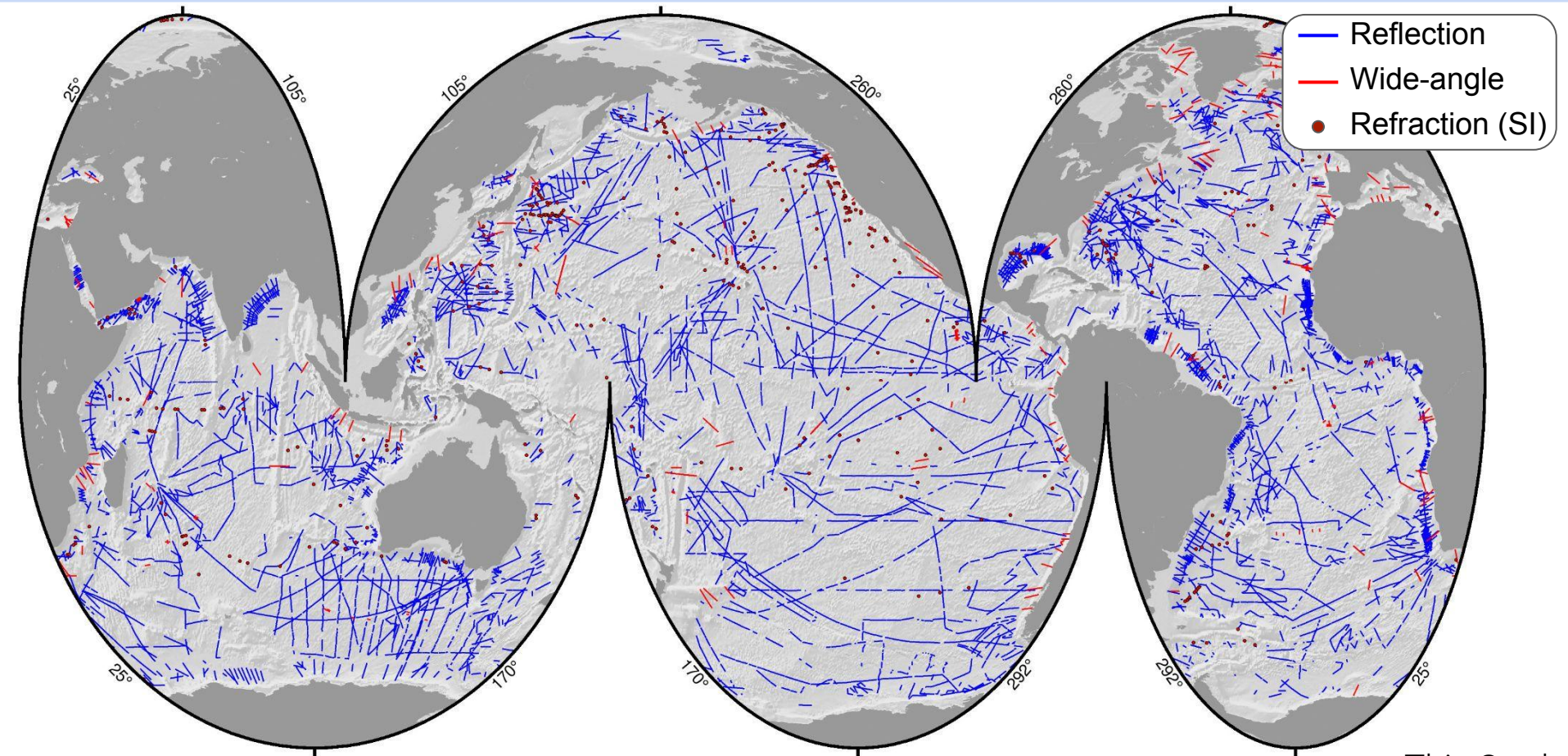


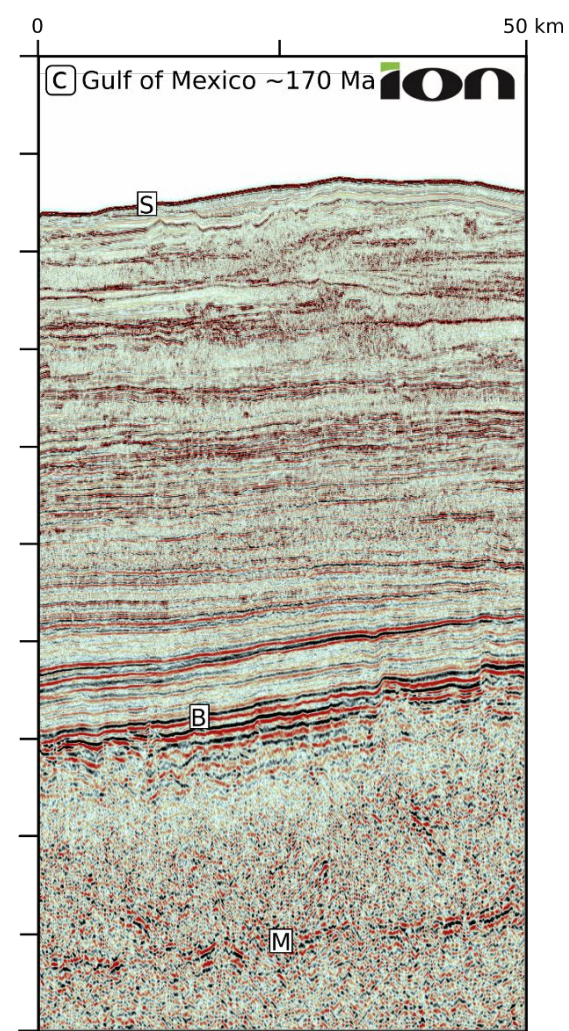
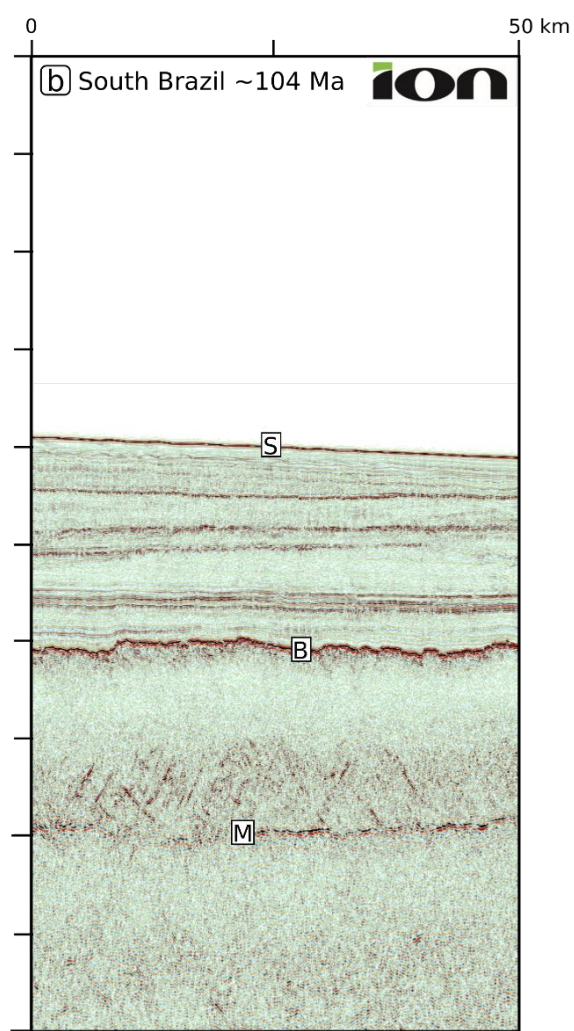
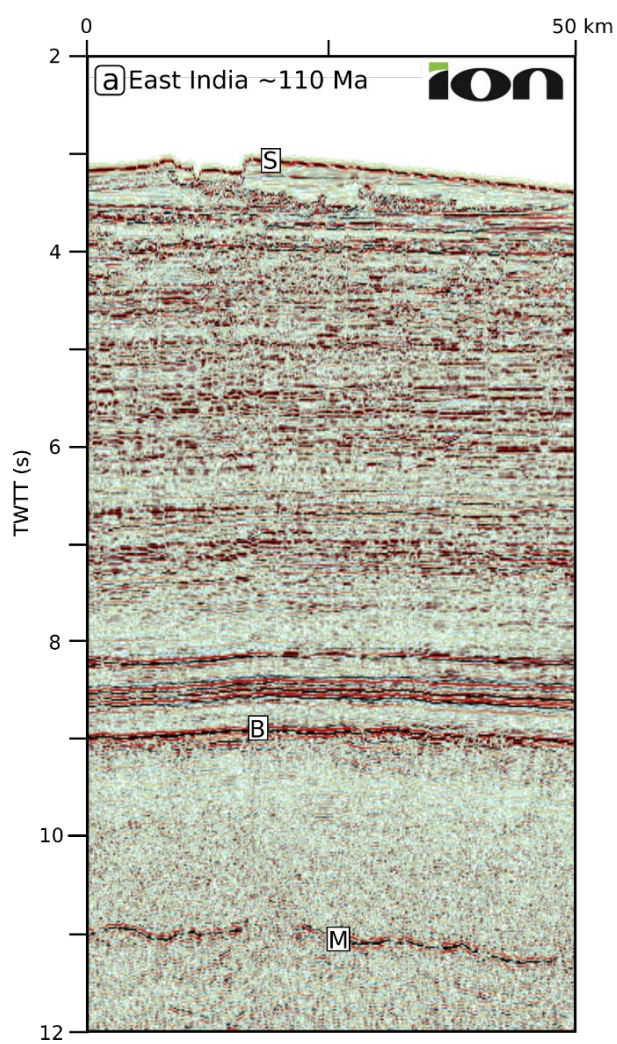
Hoggard et al. 2017

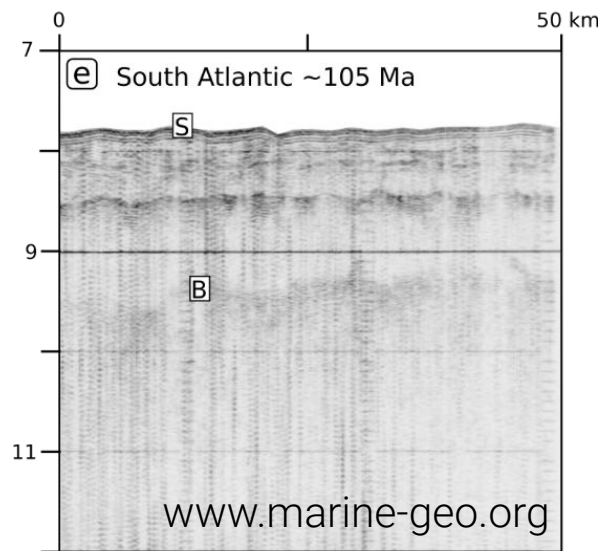
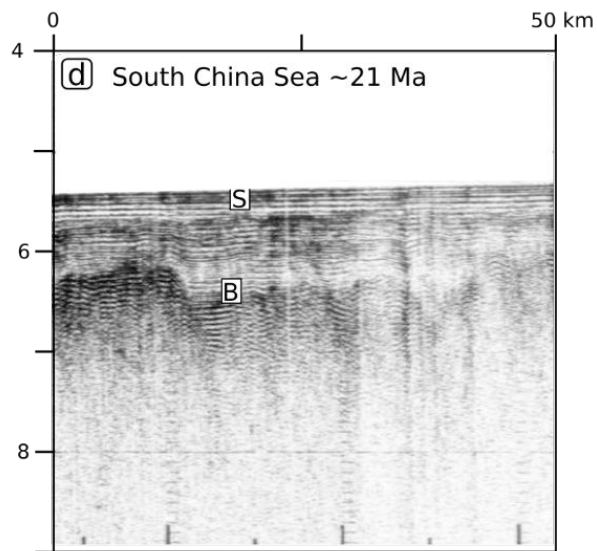
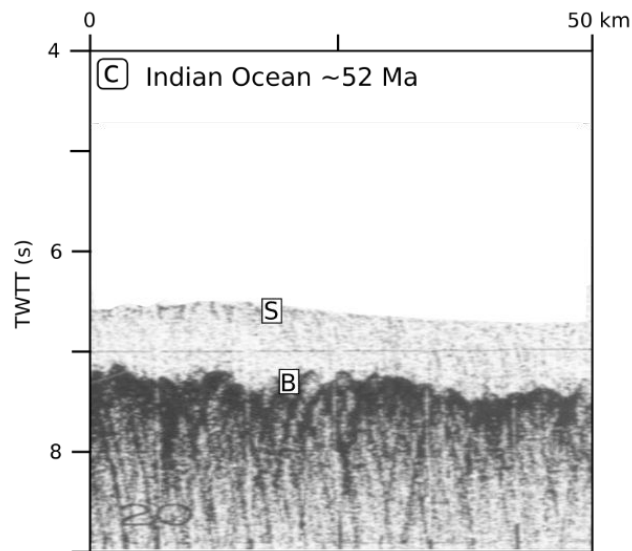
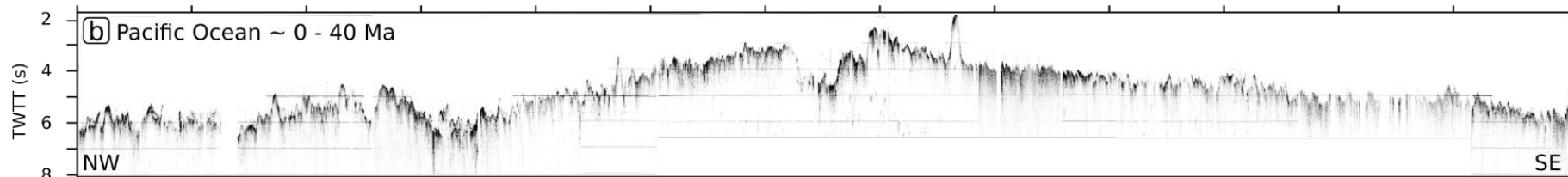
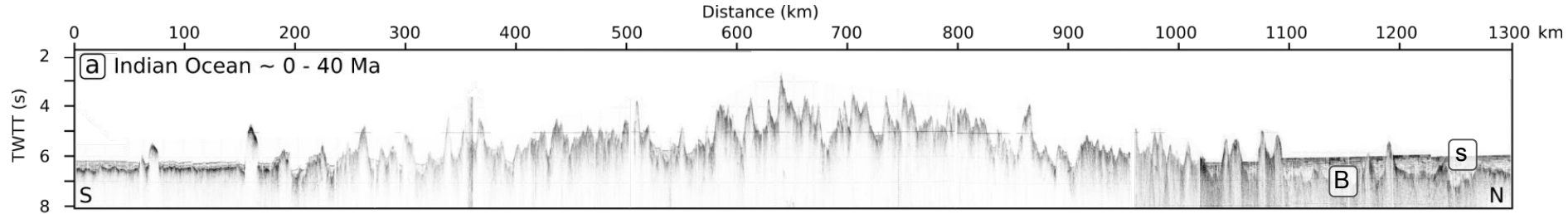
Residual Depth Measurements - Published Seismic Data



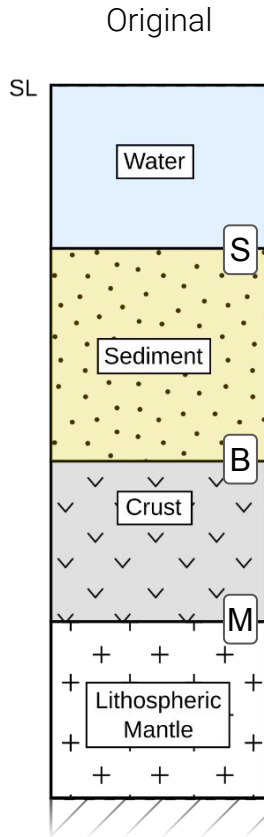
Residual Depth Measurements - New Seismic Data



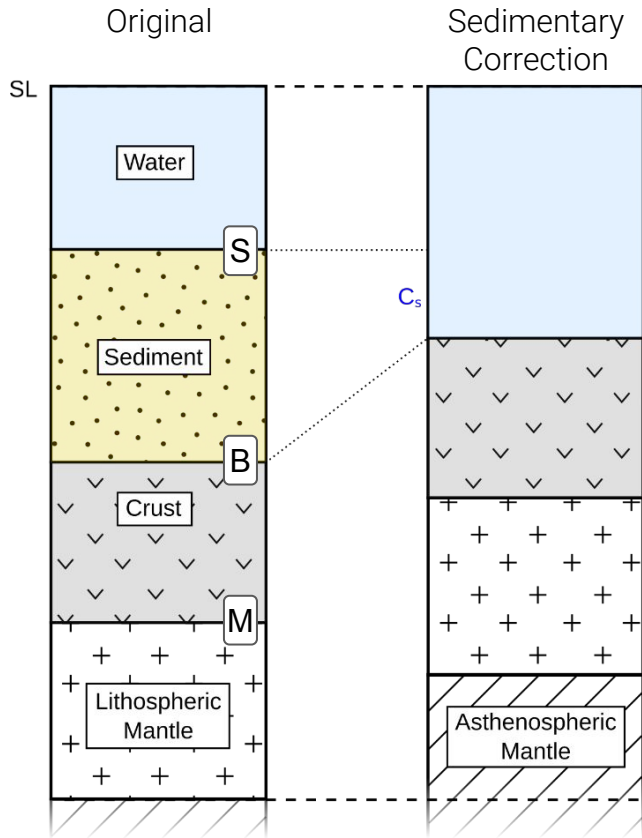




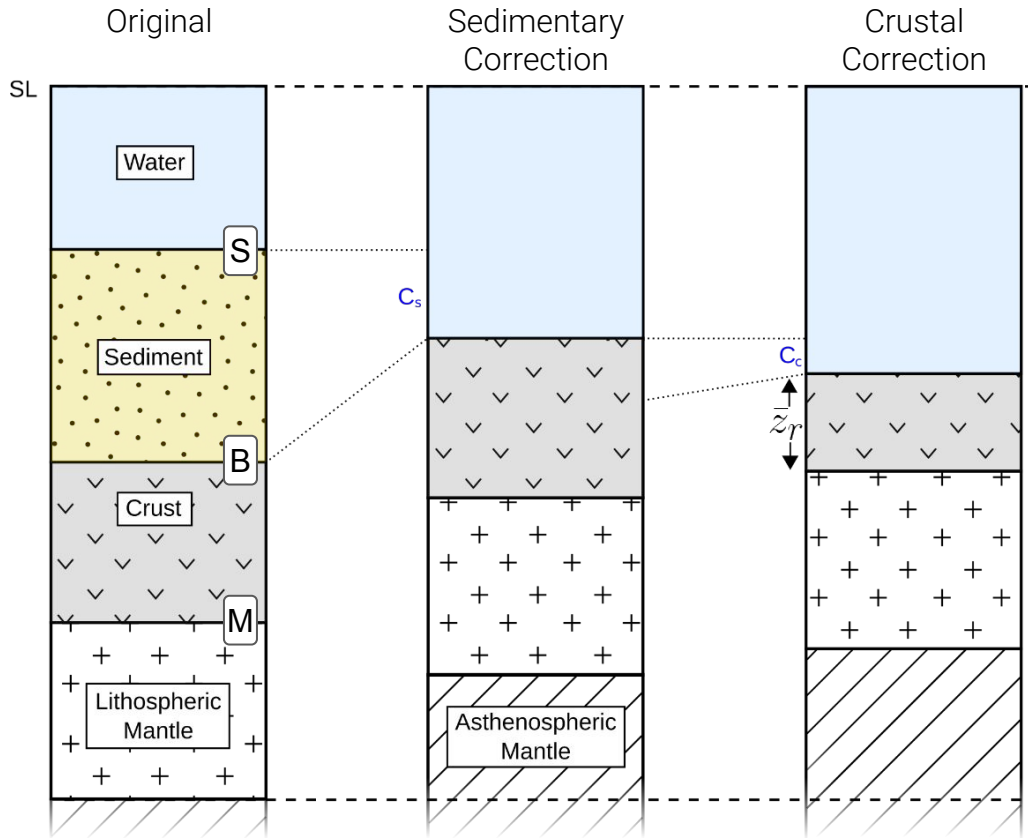
Residual Depth Measurements - Corrections



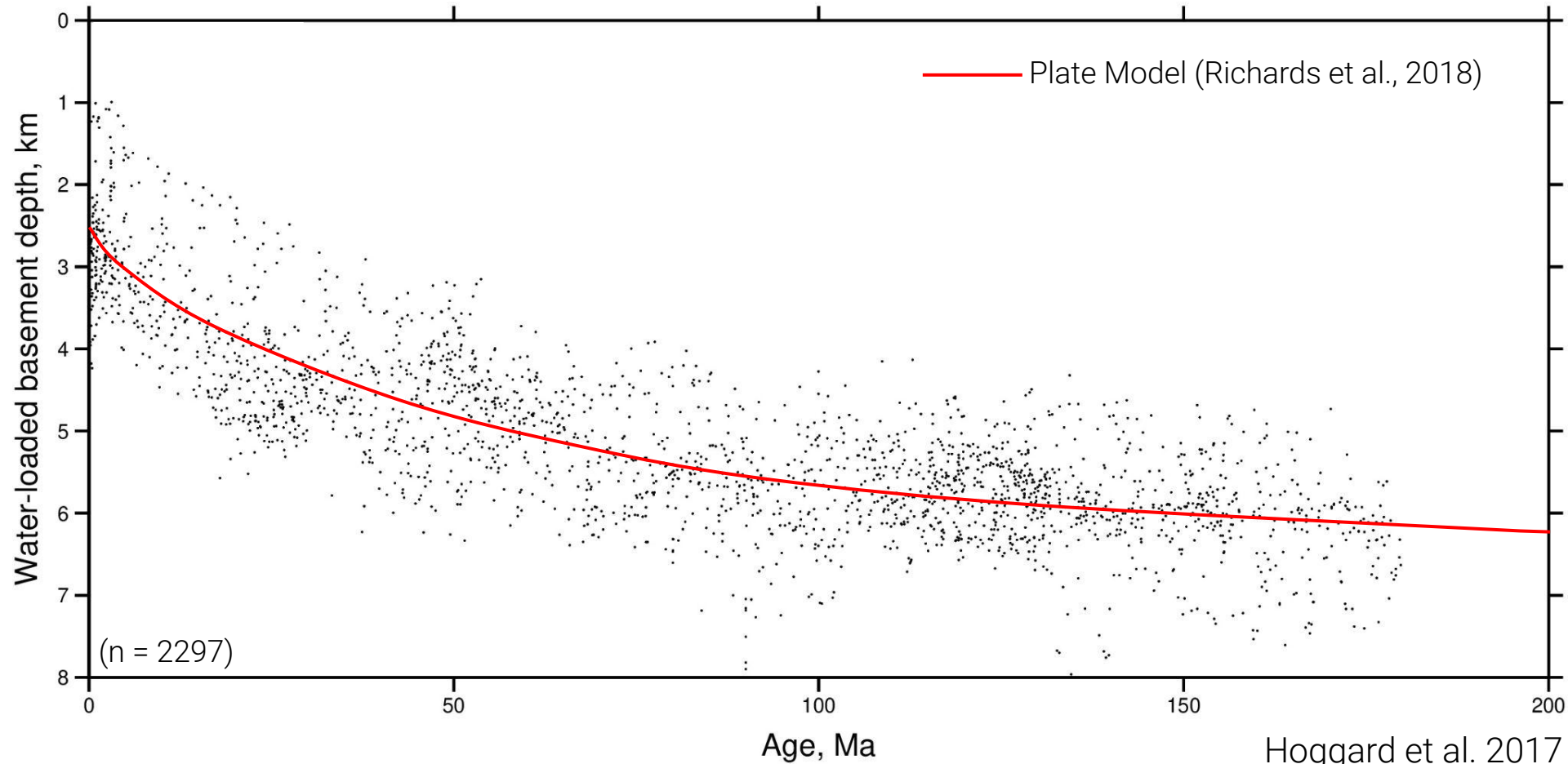
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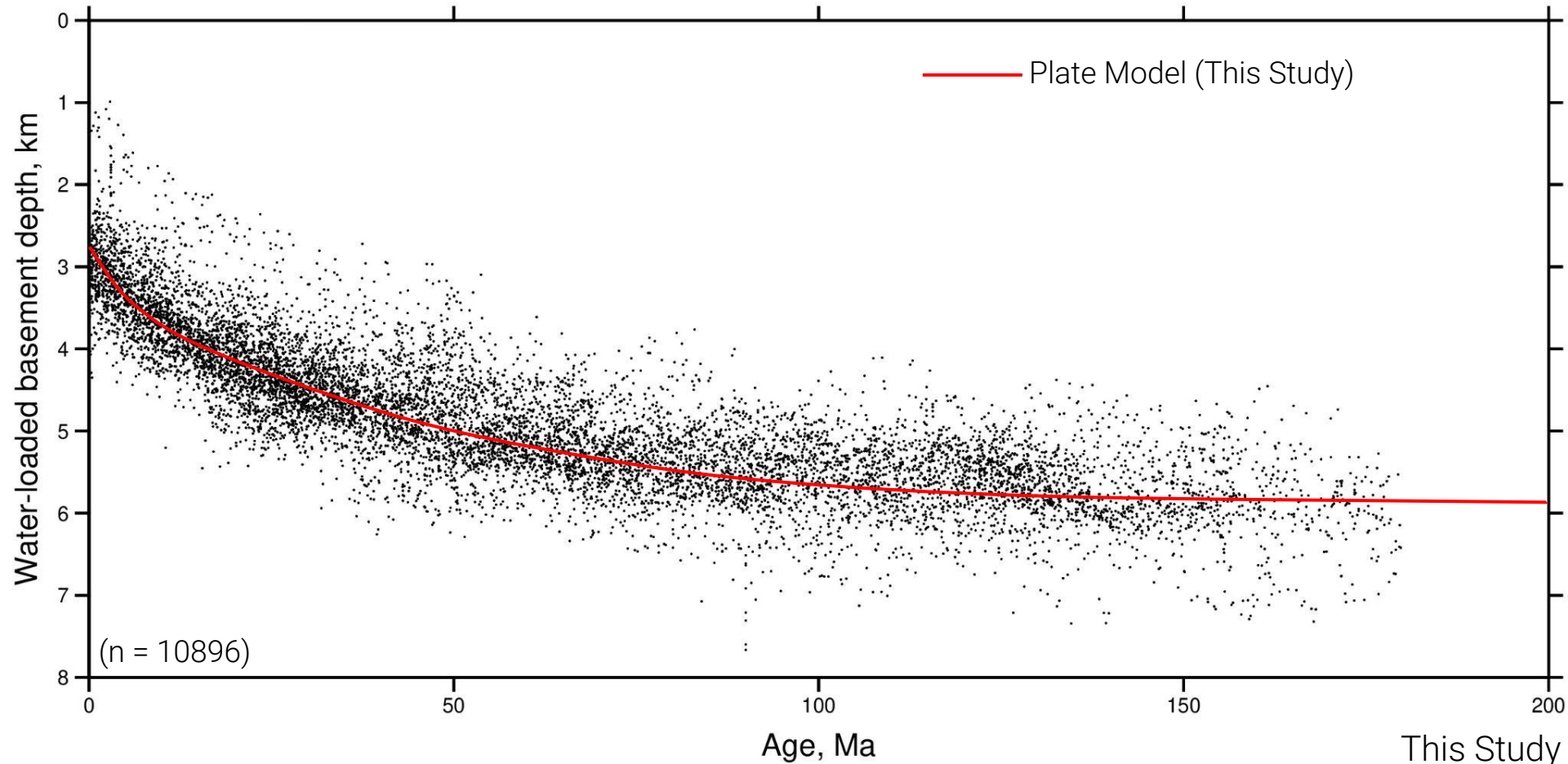
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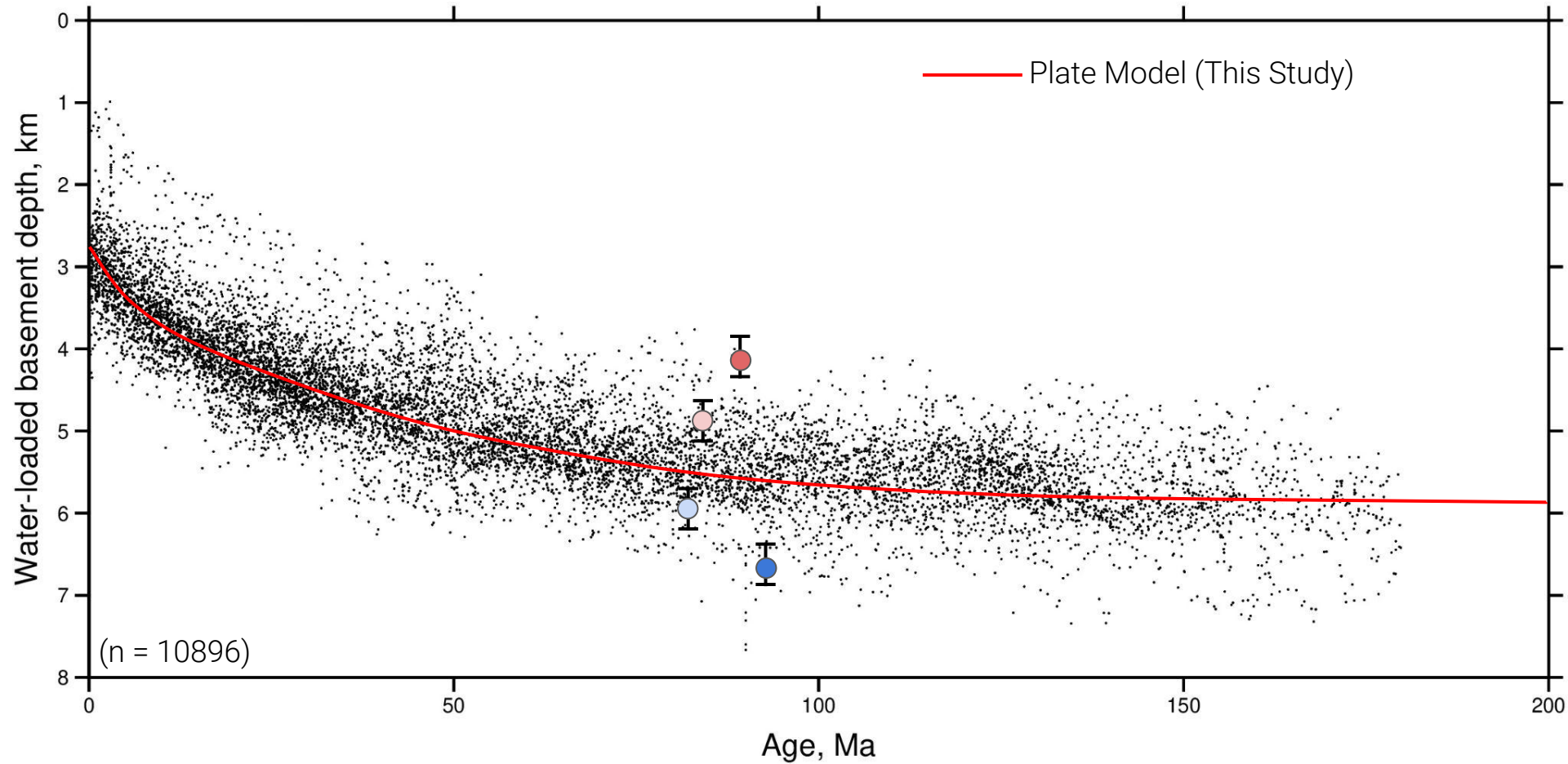
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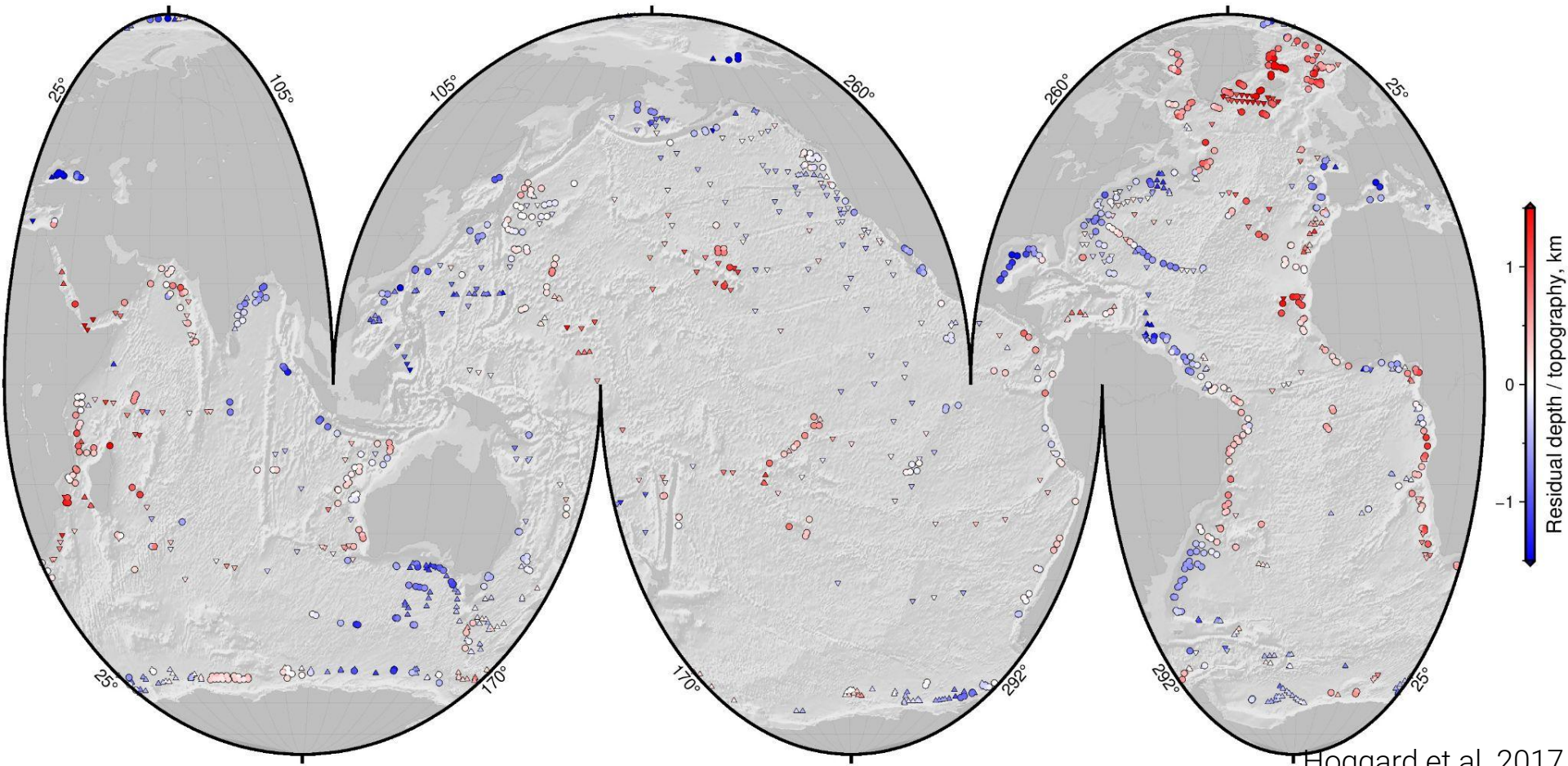
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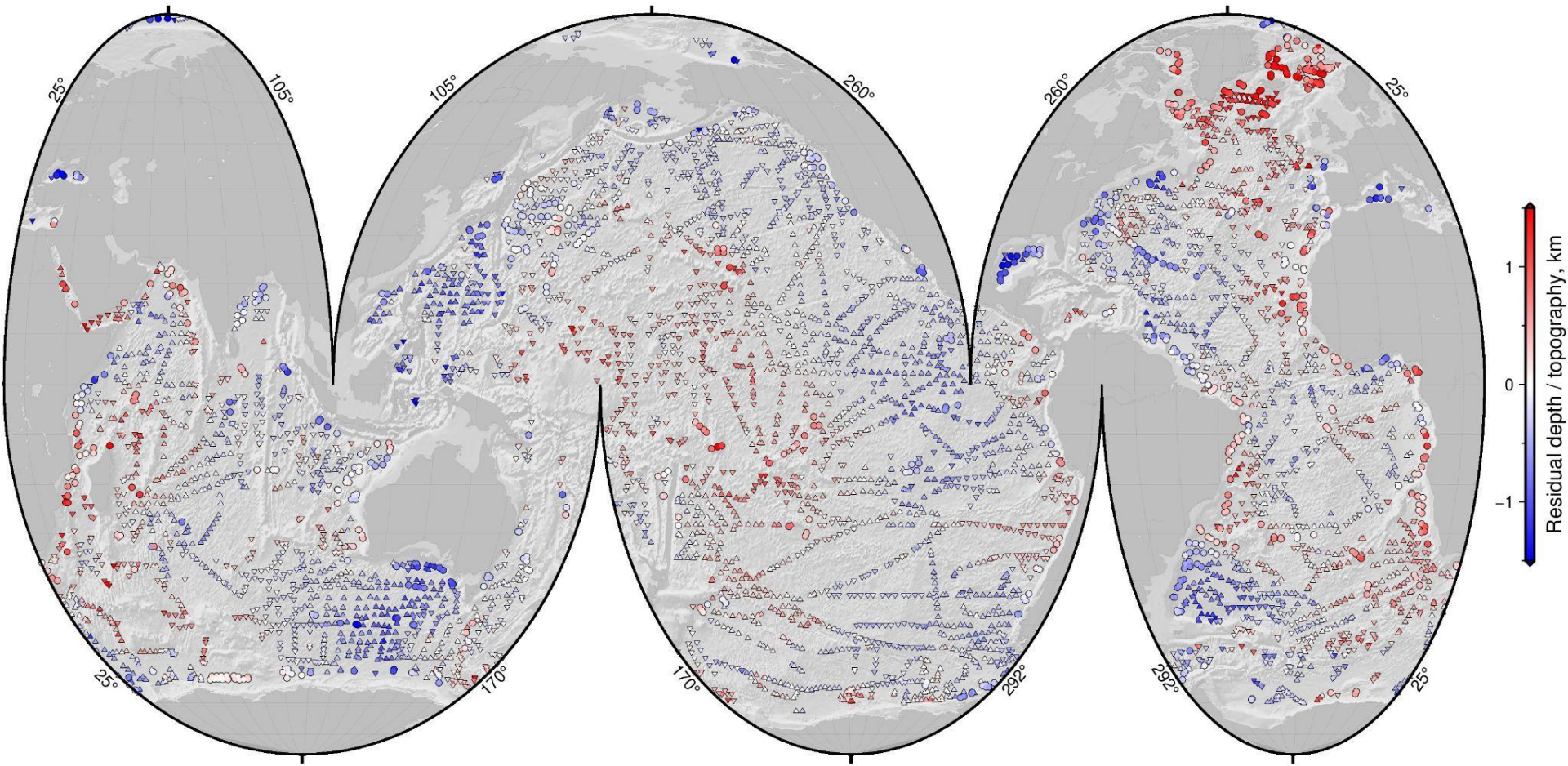
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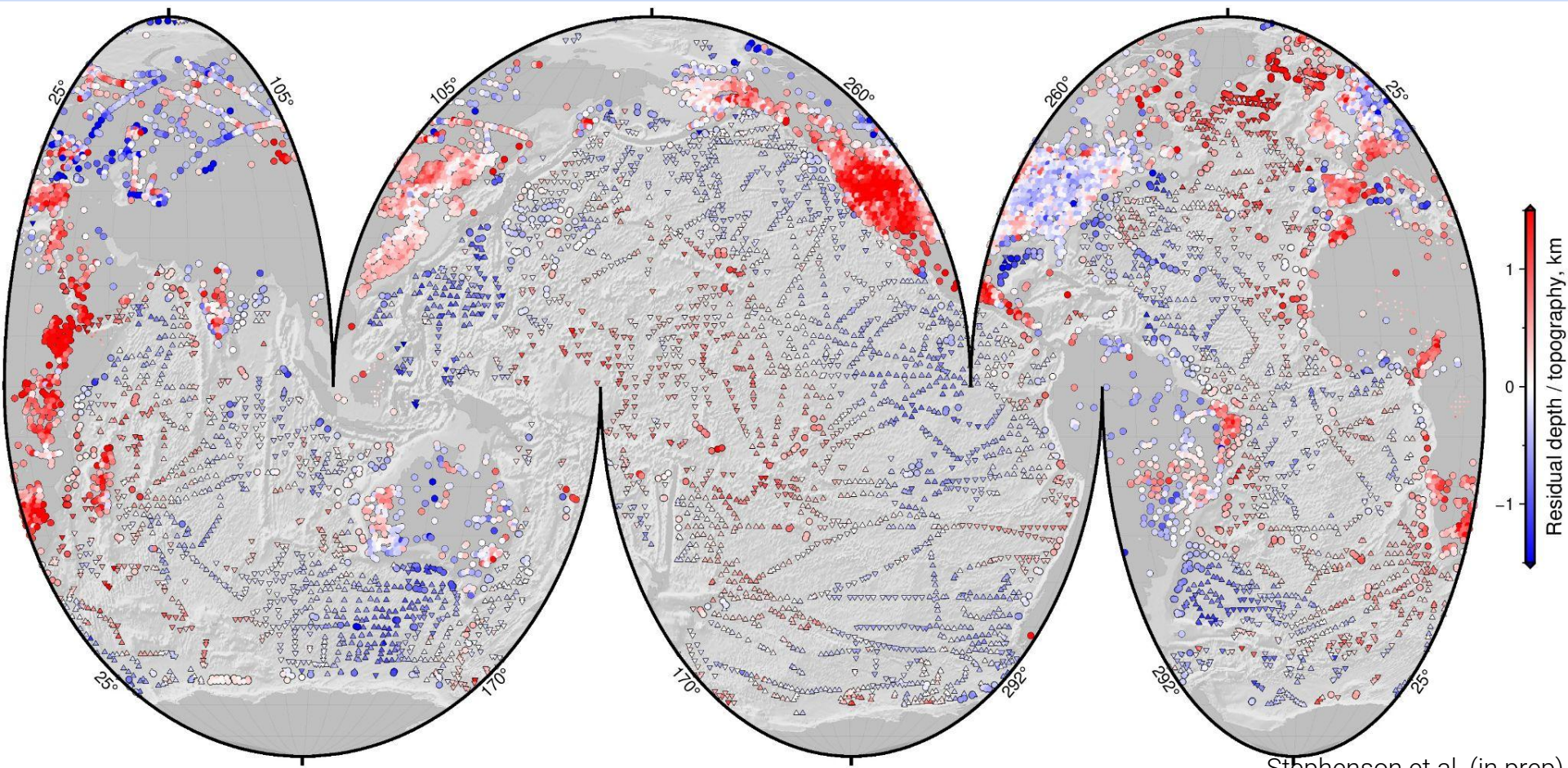
Residual Depth Measurements



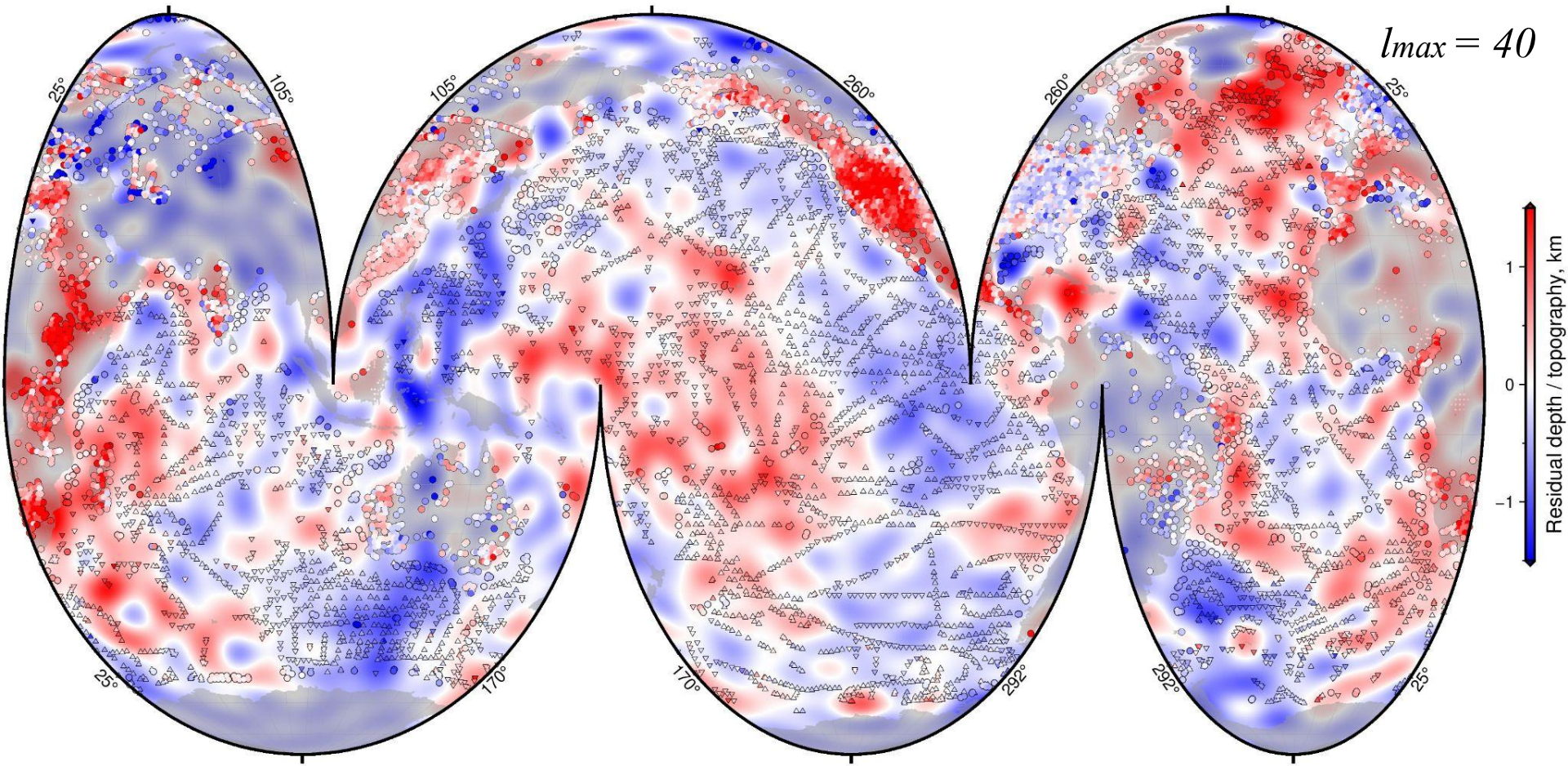
Residual Depth Measurements



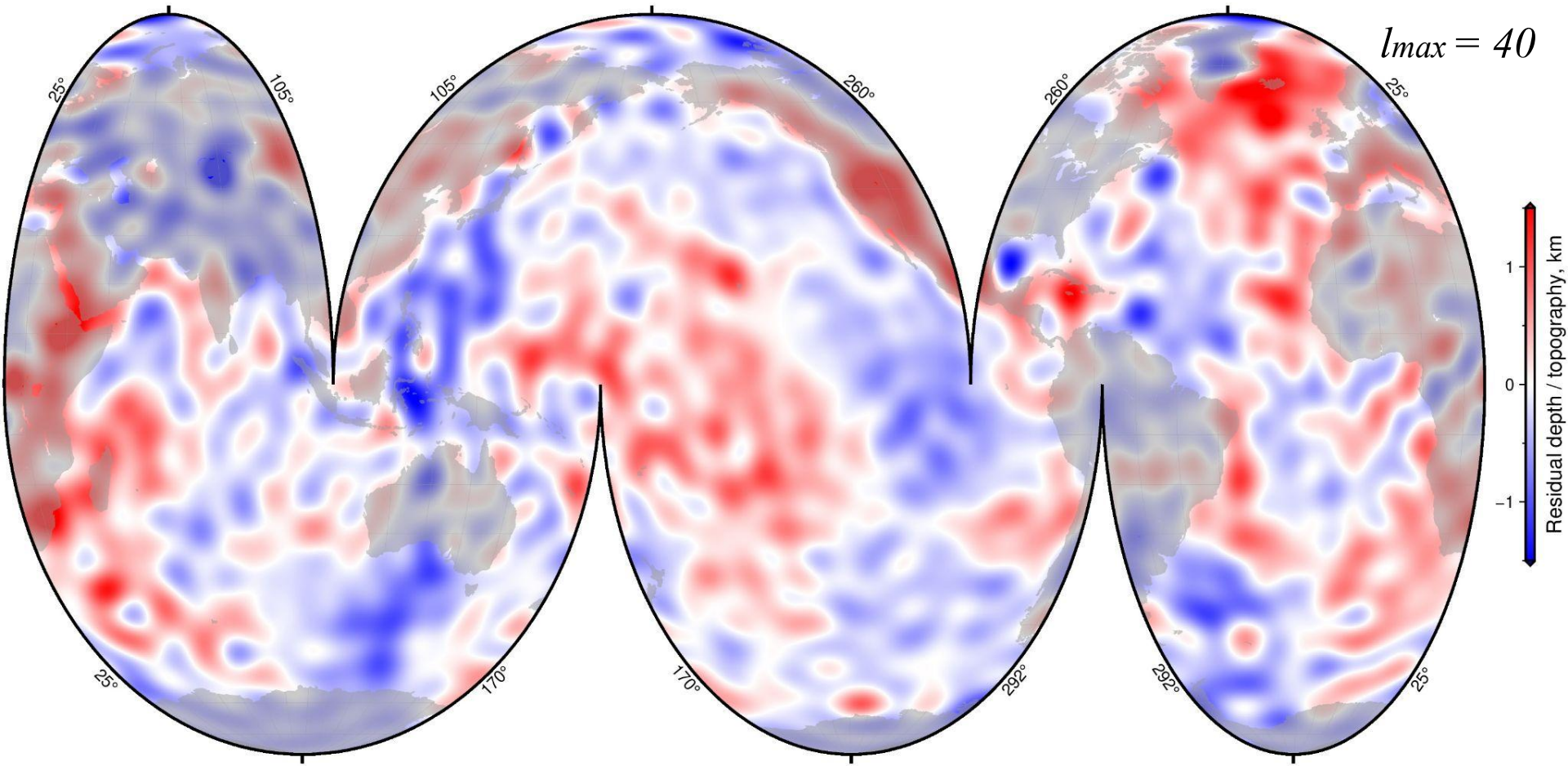
Spherical Harmonic Representation



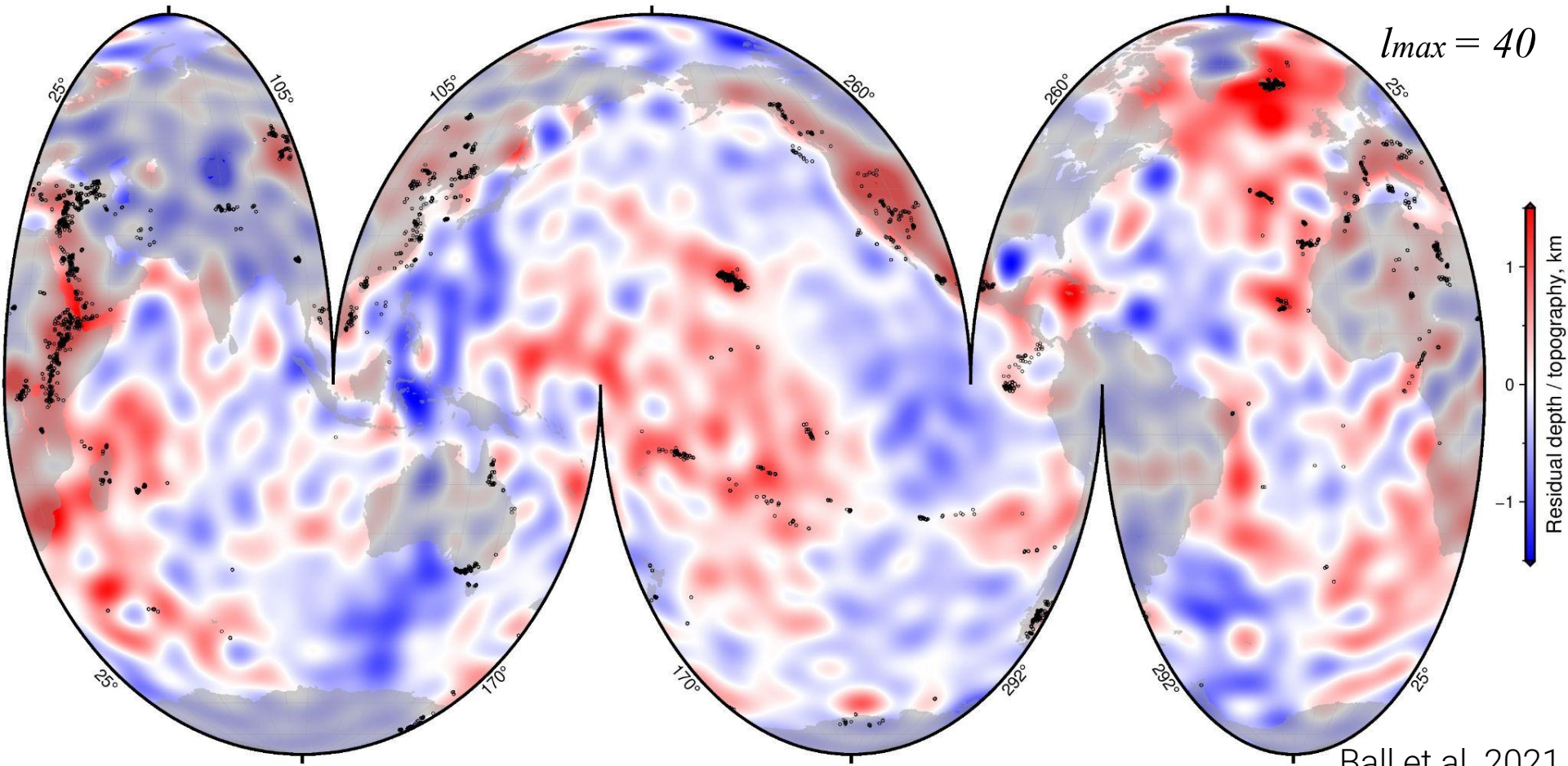
Spherical Harmonic Representation

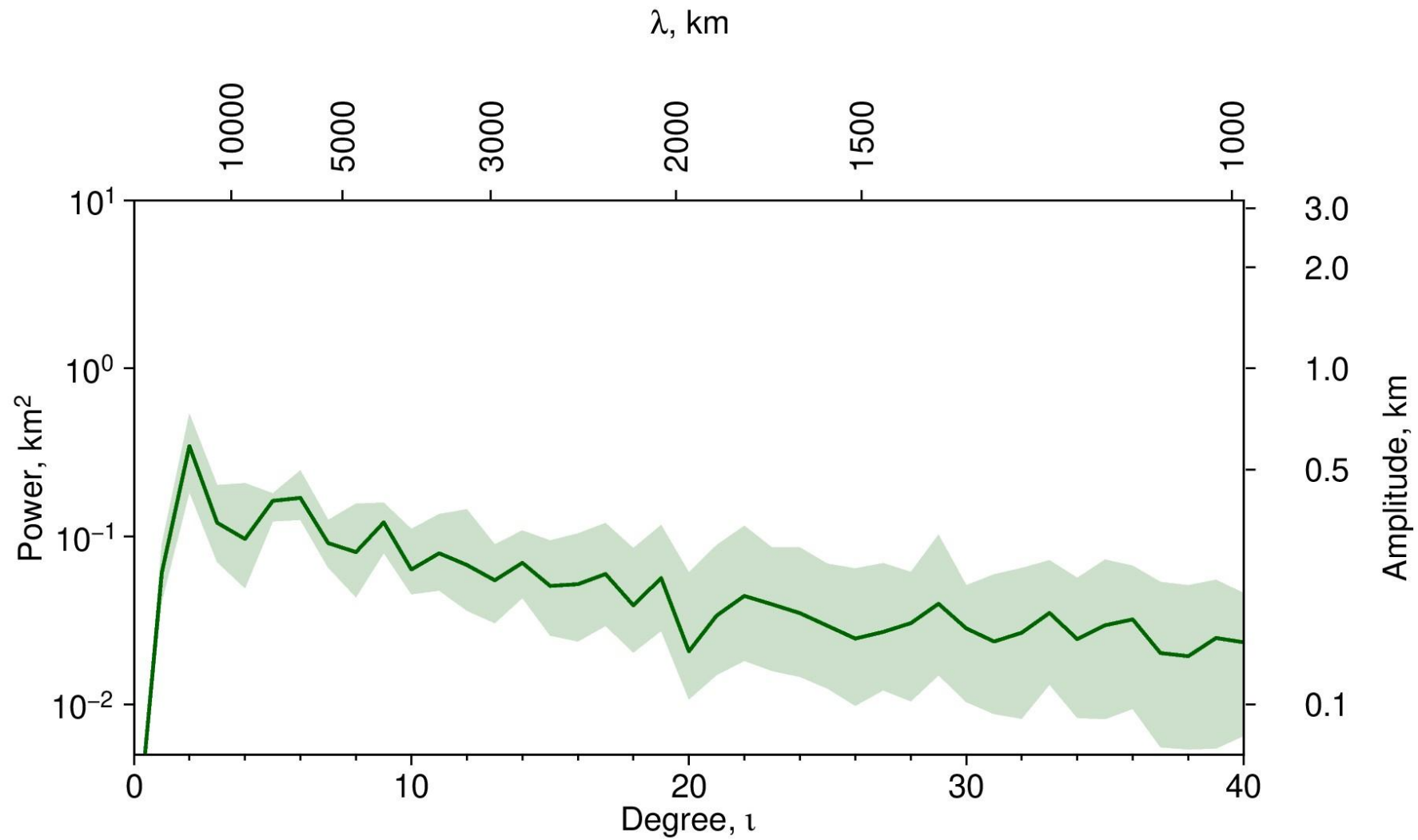


Spherical Harmonic Representation



Spherical Harmonic Representation





Summary

- Compiled a comprehensive global database of residual depth measurements.
- Revised important corrections (sediment, crust, plate model).
- Demonstrated a correlation between positive residual depths and volcanism.
- Demonstrated peak spectral power at $l=2$ and significant power out to $l=40$.

