Supplemental Material

for

"A Tracer-Based Algorithm for Automatic Generation of Seafloor Age Grids from Plate Tectonic Reconstructions"

by

Krister S. Karlsen[1*], Mathew Domeier[1], Carmen Gaina[1] and Clinton P. Conrad[1]

[1] Centre for Earth Evolution and Dynamics, Oslo, Norway

* k.s.karlsen@geo.uio.no

Available downloads:

An online repository (http://doi.org/10.5281/zenodo.3687548) containing

- the Python code TracTec (v. 2.0),
- seafloor age grids from 400 Ma to the present (.nc files),
- corresponding maps showing seafloor age (.png image files)
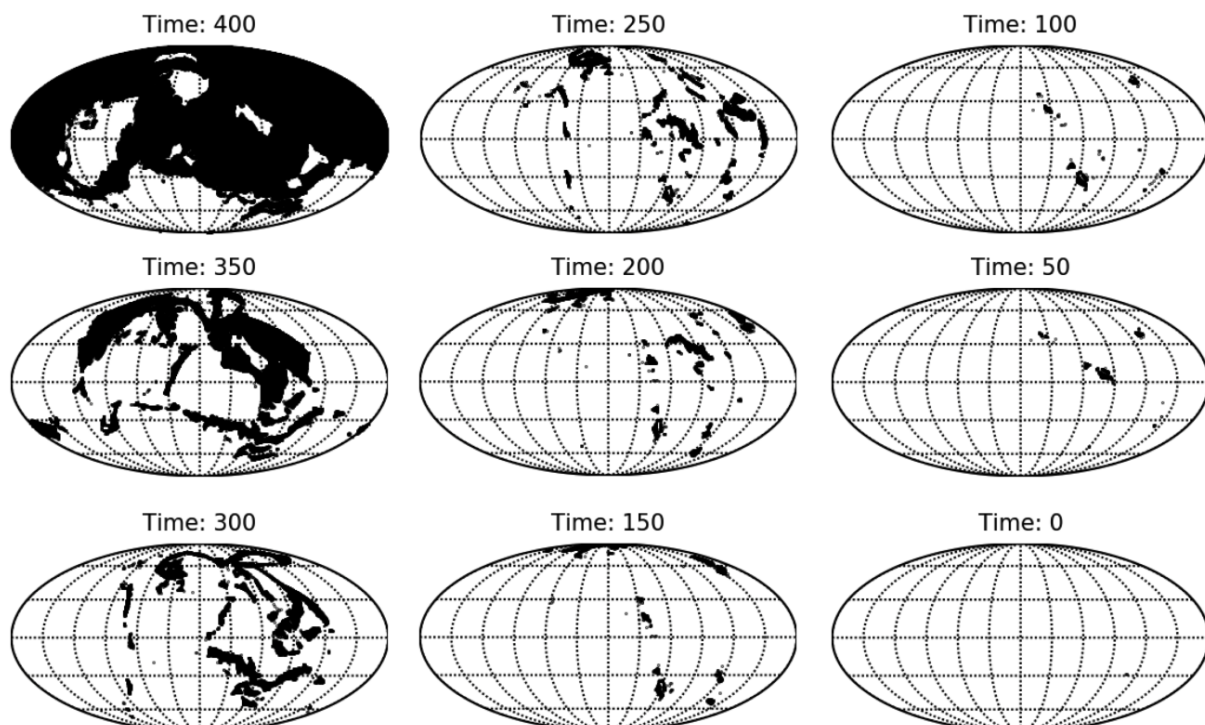
belongs to this publication.

Figure S1: Maps showing the effect of an initial condition applied at 400 Ma. Dark regions represent the area covered by the initially added tracers through time (Ma).
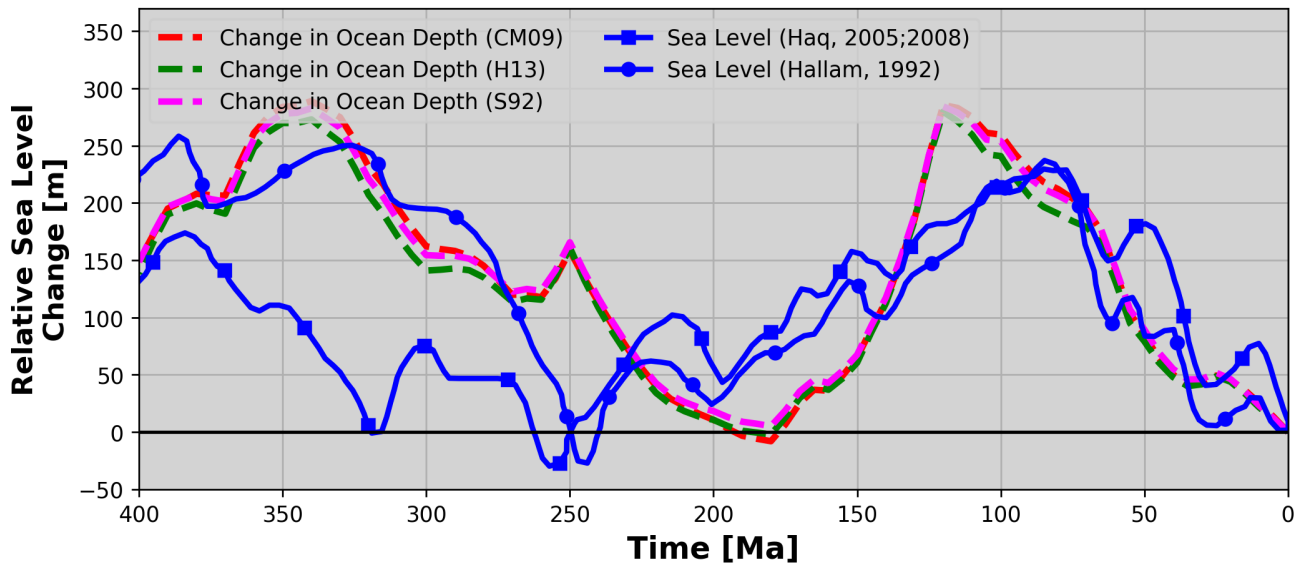
Figure S2: Alternative sea level predictions to those in Figure 7, based on age-depth relations CM09 - Crosby & McKenzie (2009), H13 - Hasterok (2013) and S92 - Stein & Stein (1992).
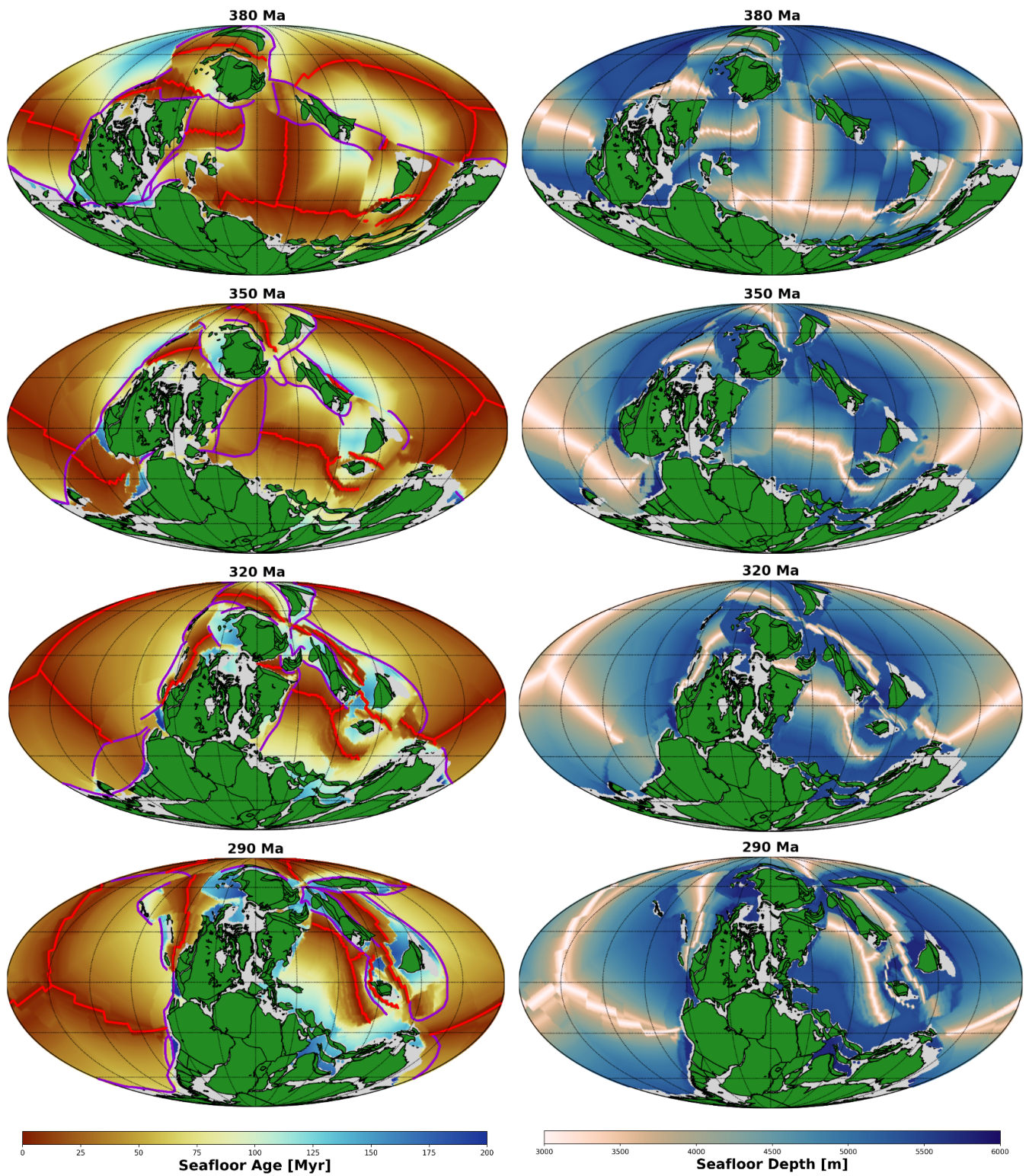
Figure S3: Maps showing reconstructed seafloor ages (left) based on our algorithm and inferred bathymetry (right) using the age-depth relation of Crosby & McKenzie (2009).

References

Crosby, A. G., & McKenzie, D. (2009). An analysis of young ocean depth, gravity and global residual topography. Geophysical Journal International, 178(3), 1198-1219.

Hasterok, D. (2013). A heat flow based cooling model for tectonic plates. Earth and Planetary Science Letters, 361, 34-43.

Stein, C. A., & Stein, S. (1992). A model for the global variation in oceanic depth and heat flow with lithospheric age. Nature, 359(6391), 123-129.