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Correction to: Deep mantle melting, global water circulation and its implications for the stability of the ocean mass (Progress in Earth and Planetary Science, (2020), 7, 1, (76), 10.1186/s40645-020-00379-3)

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Progress in Earth and Planetary Science

CORRECTION Open Access

Correction to: Deep mantle melting, global water circulation and its implications for the stability of the ocean mass

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Following publication of the original article (Karato et al., 2020), the author identified there is a minor typo in Fig. 13 and graphical abstract image. The correct Fig. 13 and graphic abstract image are provided below. The original paper has been updated.

The original article can be found online at https://doi.org/10.1186/s40645-020-00379-3.

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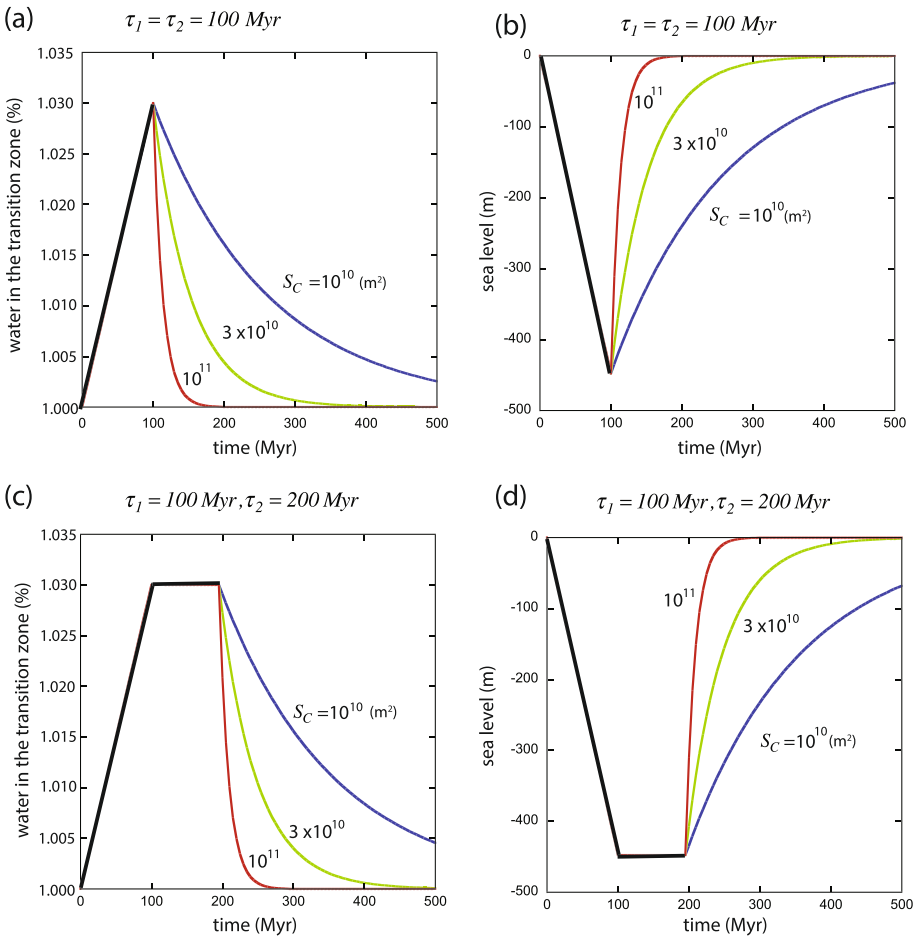
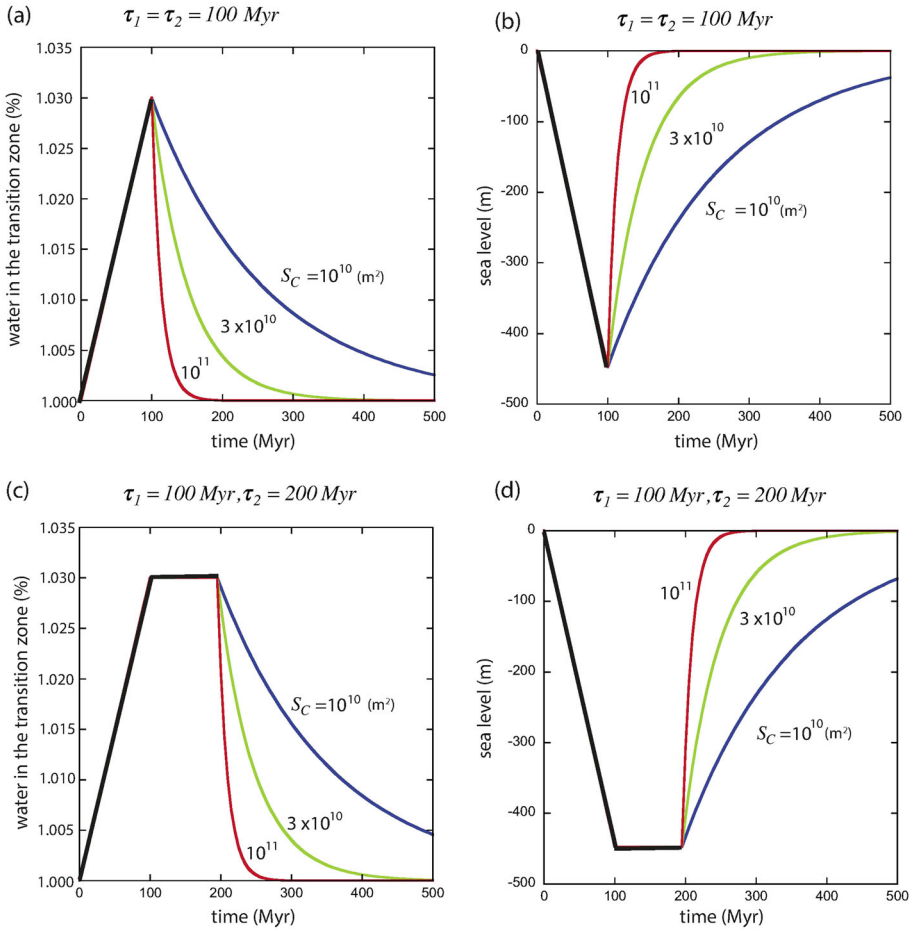


Fig. 13 Results of model calculations on ocean mass history. Regassing parameters (rate of regassing and duration of regassing pulse (τ_1)) are chosen to reproduce the inferred rapid sea-level drop (2–3 m/Myrs (in the last ~ 100 Myrs); Fig. 6). Degassing parameters include the area of cool regions with excess degassing (S_C) and the delay time (τ_2) for degassing since the beginning of excess regassing (and the plume upwelling velocity (~ 1 m/year)). **a** History of the water content in the MTZ ($\tau_1 = \tau_2$=100 Myrs). **b** Sea-level change corresponding to the model shown in (**a**) using a relation \(\Delta z\approx -\overline{z}\frac{M_{MTZ}\Delta {X}_{MTZ}}{W_{\mathrm{ocean}}} \) (**Δ***z*: sea-level change, \(\overline{z} \): average depth of the oceans (= 3730 m), M_{MTZ}: mass of the MTZ (= 4×10^{23} kg)), ΔX_{MTZ}: change in the water content of the MTZ; W_{ocean}: mass of oceans (=1.4×10^{21} kg)). **b** Same as (**a**) except that τ_1=100 Myrs, and τ_2=200 Myrs. **c** Same as (**b**) except that τ_1=100 Myrs, and τ_2=200 Myrs. Observed sea-level changes (Fig. 7) can be explained with S_C=(3–10) × 10^{10} (m^2) (i.e., a region with 200–350 km diameter)



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