

# Supplement to ‘The effect of marine aggregate parameterisations on global biogeochemical model performance’

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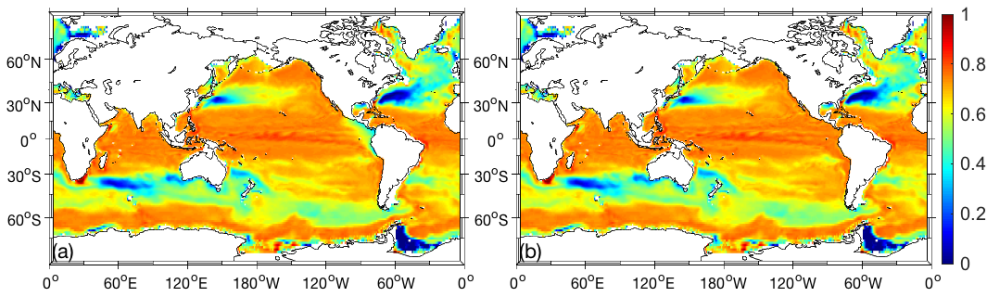
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This file provides additional figures to the manuscript ‘The effect of marine aggregate parameterisations on global biogeochemical model performance’. It contains the following figures:

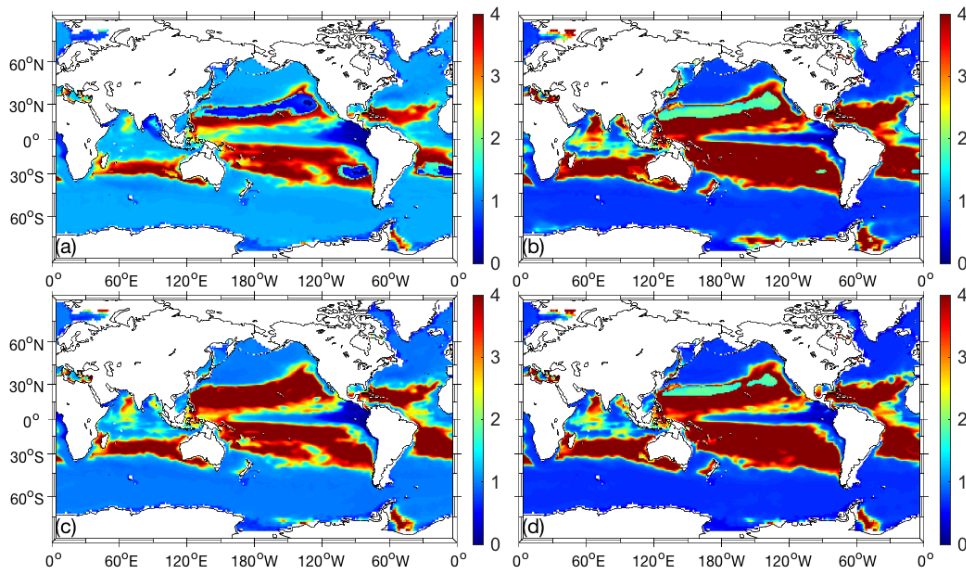
- 10 Figure S1: Global maps of  $b$  for noAgg<sup>ECCO1.0</sup> (a) (same as Fig. 1a) and simulation BUR (b) from Kriest and Oschlies (2013), where remineralisation does not depend on oxygen.
- Figure S2: Global map of  $b$  for the four best model simulations with regard to the sum of  $J_{RMSE^*}$  and  $J_{OMZ^*}$  in ECCO1.0: (a) simulation #14; (b) simulation #17; (c) simulation #28; (d) simulation #29).
- Figure S3: As Fig. 2, but for  $O_2 \leq 30 \text{ mmol m}^{-3}$ .
- 15 Figure S4: Profiles of average nutrient and oxygen concentrations for the eastern tropical Pacific (upper panels) and globally (lower panels).
- Figure S5: Zonal mean sinking speed of detritus ( $\text{m d}^{-1}$ ; dotted line) and its standard deviation (shaded) of ECCO1.0\* for a depth of 100 m (left panel) and for a depth of 500 m (right panel).

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Supplement Figures



5 **Figure S1: Global maps of  $b$  for noAgg<sup>ECCO1.0</sup> (a) (same as Fig. 1a) and simulation BUR (b) from Krist and Oshlies (2013), where remineralisation does not depend on oxygen.**



10 **Figure S2: Global map of  $b$  for the four best model simulations with regard to the sum of  $J_{RMSE^*}$  and  $J_{OMZ^*}$  in ECCO1.0: (a) simulation #14; (b) simulation #17; (c) simulation #28; (d) simulation #29).**

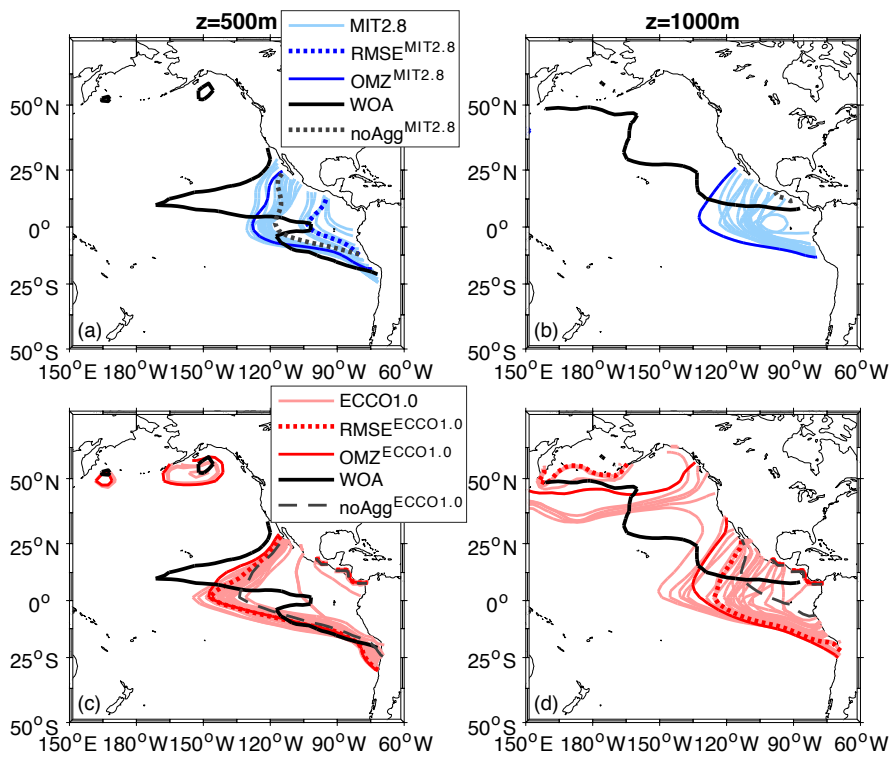


Figure S3: As Fig. 2, but for  $\text{O}_2 \leq 30 \text{ mmol m}^{-3}$ .

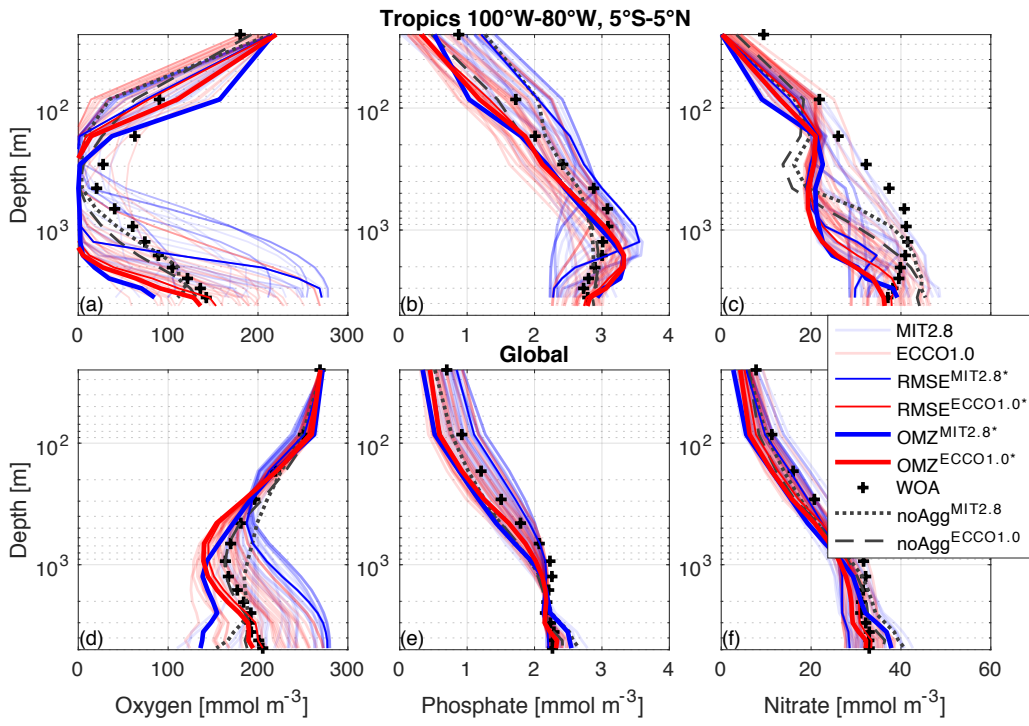
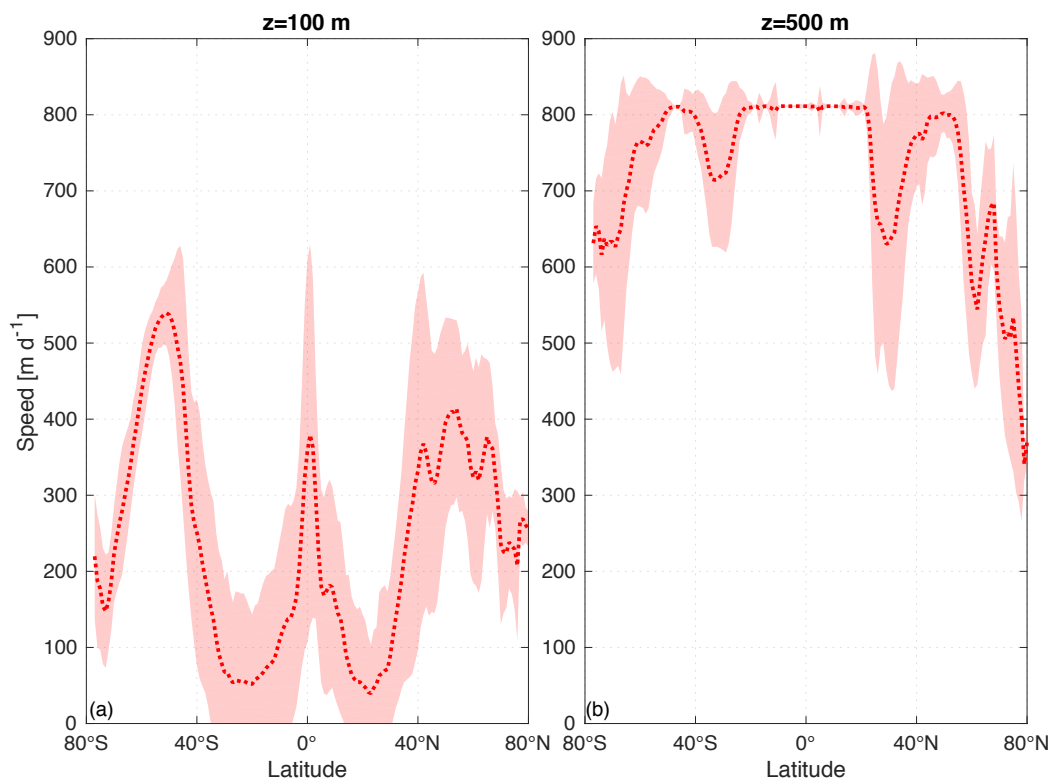


Figure S4: Profiles of average nutrient and oxygen concentrations for the eastern tropical Pacific (upper panels) and globally (lower panels).



**Figure S5: Zonal mean sinking speed of detritus ( $\text{m d}^{-1}$ ; dotted line) and its standard deviation (shaded) of ECCO1.0\* for a depth of 100 m (left panel) and for a depth of 500 m (right panel).**