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Supplement of

Variable reactivity of particulate organic matter in a global ocean biogeochemical model

Olivier Aumont et al.

Correspondence to: Olivier Aumont (olivier.aumont@ird.fr)

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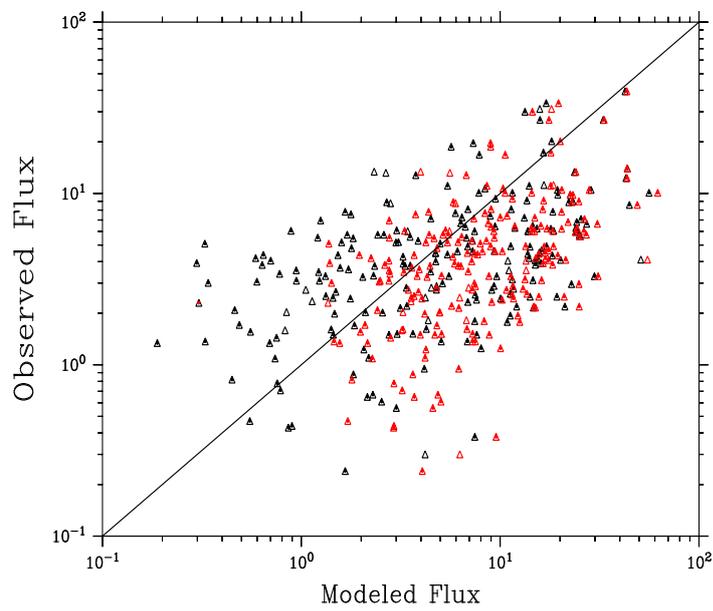


Figure S1: Comparison between POC fluxes ($\text{mg C}/\text{m}^2/\text{d}$) estimated from sediment traps and modeled fluxes. Black and red triangles denote the NoRC and the RC experiments respectively. Data are from Dunne et al. (2005), Gehlen et al. (2006) and Le Moigne et al. (2013).

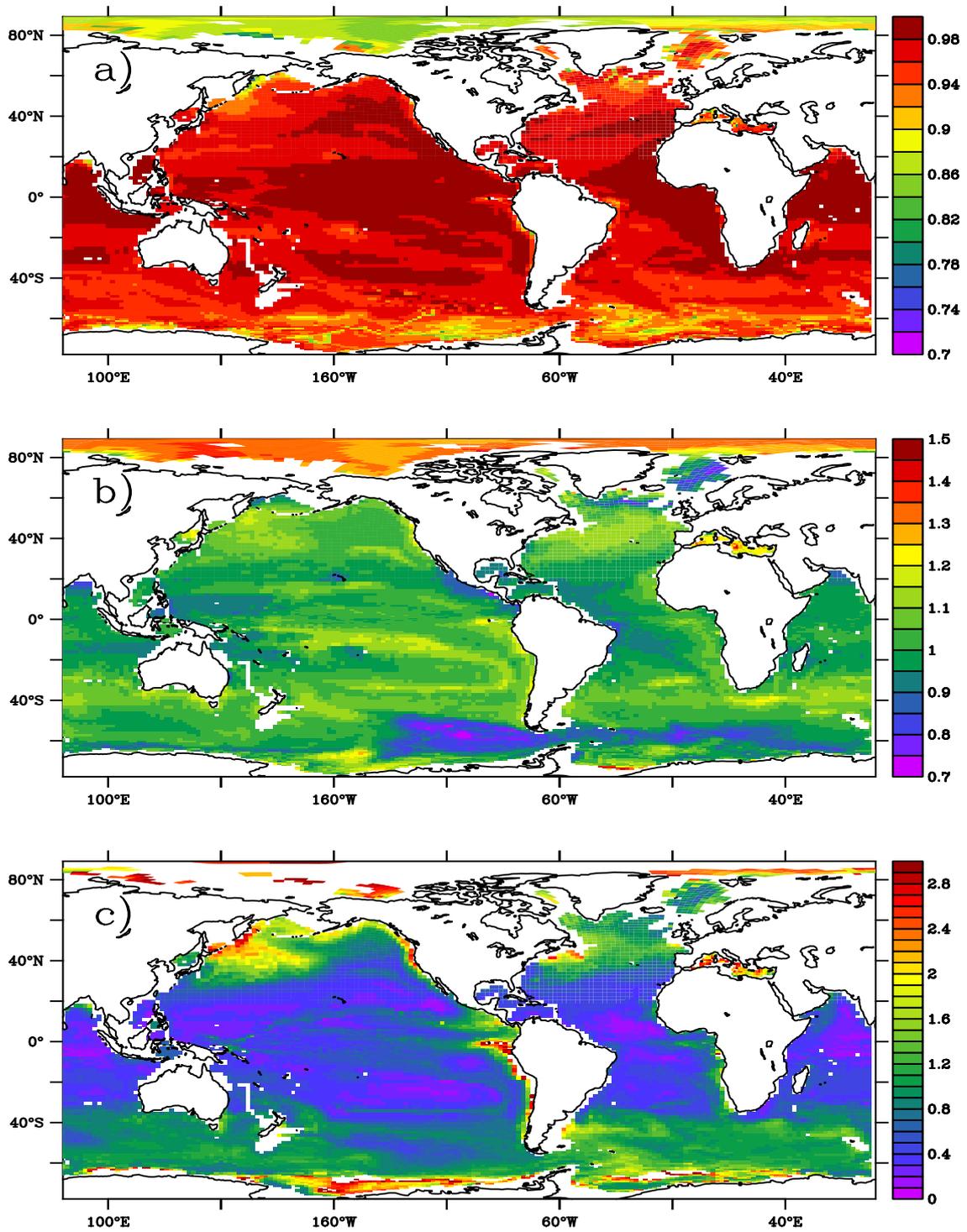


Figure S2: Statistical comparison between the simulated vertical fluxes of POC in the RC experiment and reconstructed fluxes using a power law distribution with the b coefficient displayed in Figure 11. Panel (a) shows the spatial patterns of the correlation coefficient r^2 . Panel (b) shows the slope of the linear regression analysis. Panel (c) displays the normalized RMSE between both fluxes.

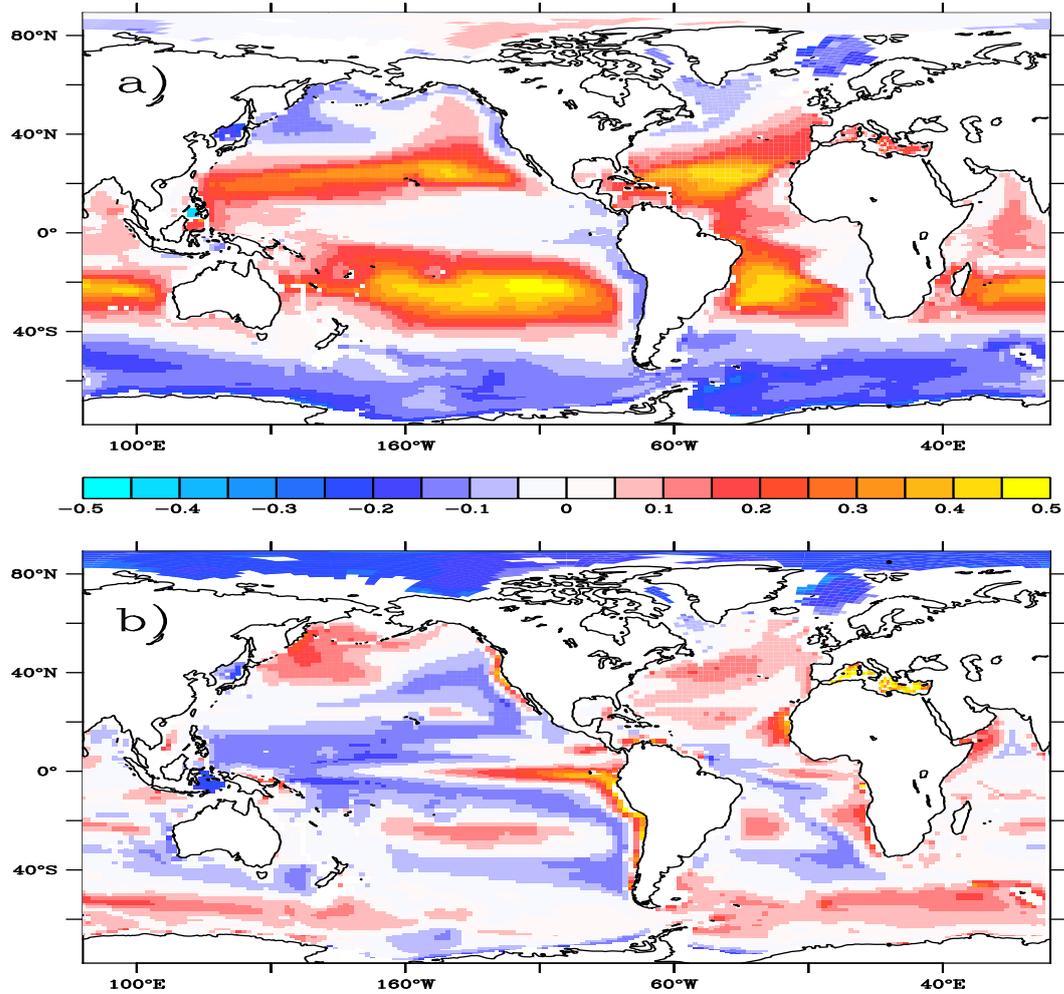


Figure S3: Spatial variations of the annual mean anomalies of the remineralisation coefficient b from the global median value: (a) from the new sensitivity experiment with no flux feeding, and (b) from the NoRC experiment. The global median values of b are 0.87 and 0.6, in the NoRC experiment and in the sensitivity experiment respectively.

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