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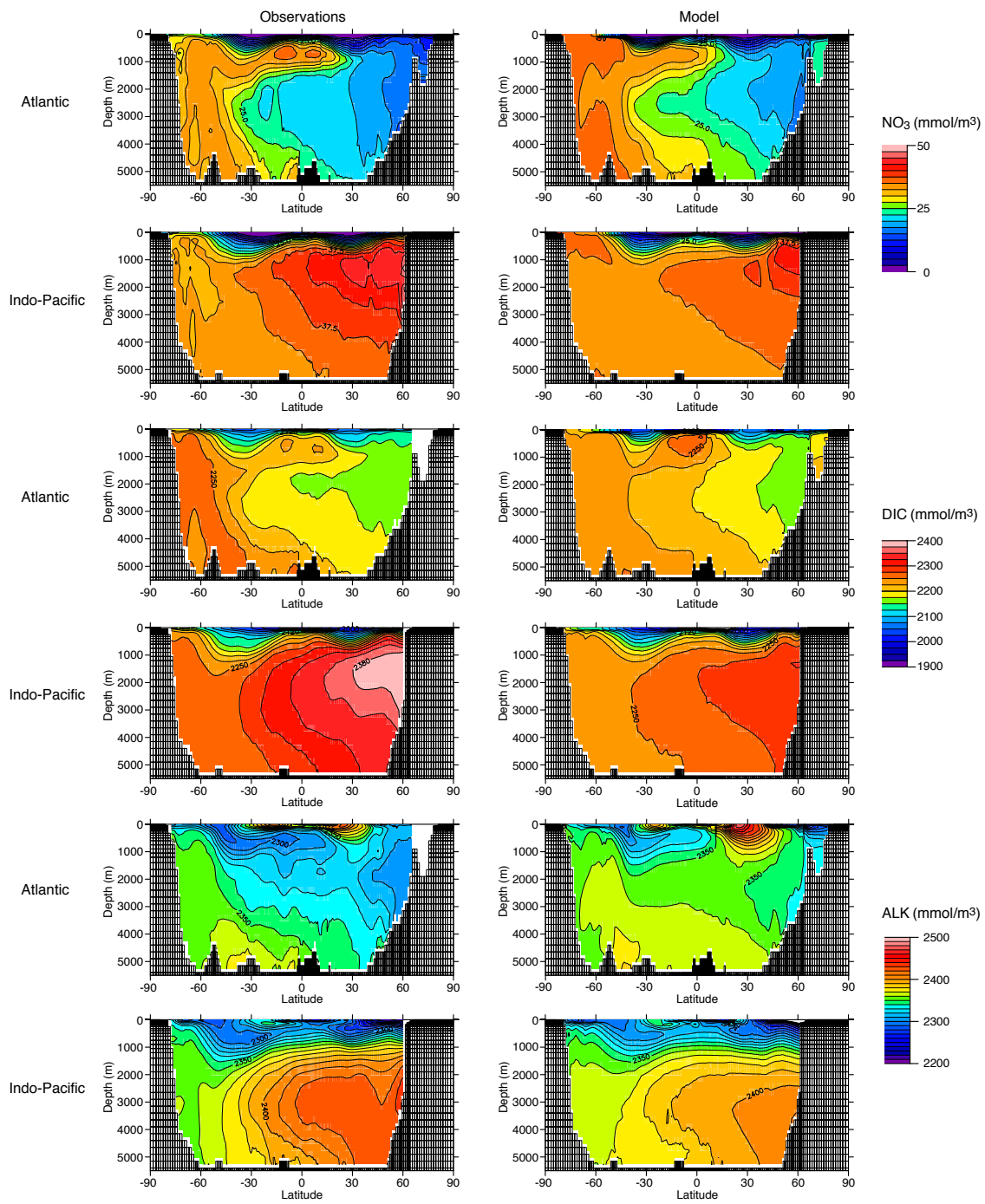
*Supplement of*

## **Long-term response of oceanic carbon uptake to global warming via physical and biological pumps**

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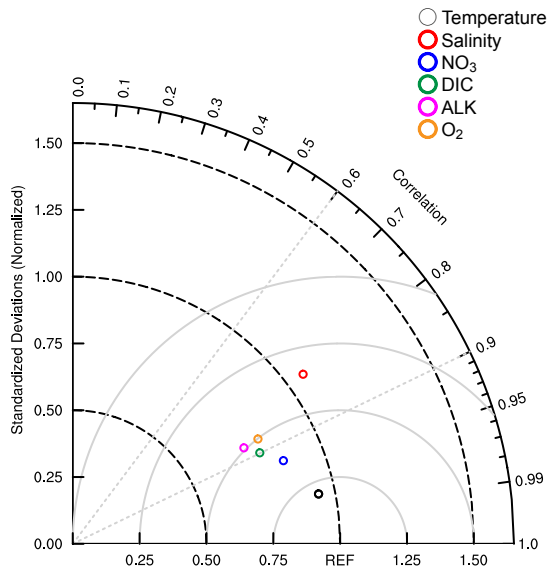
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2 **Figure S1.** Zonal distribution of nitrate ( $\text{NO}_3$ ), dissolved inorganic carbon (DIC) and

3 alkalinity (ALK) for the Atlantic and Indo-Pacific Ocean in the observation (left) and

4 model (right).

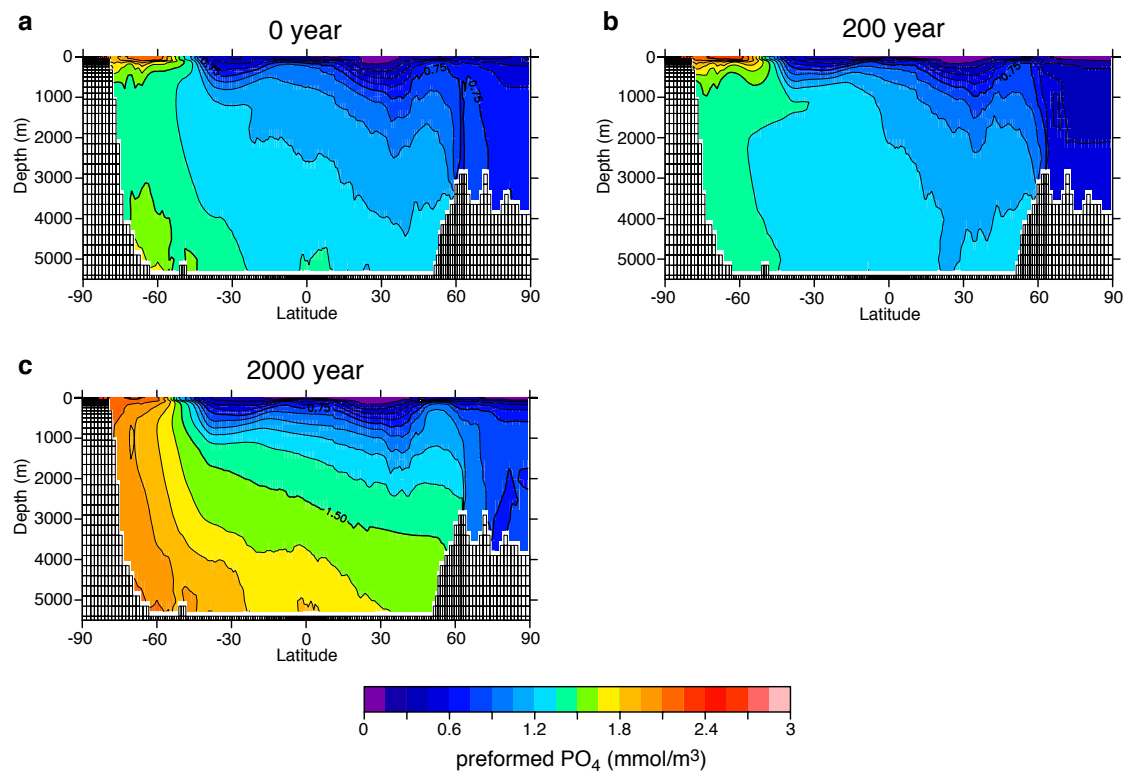
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7 **Figure S2.** Physical and biogeochemical variables in the pre-industrial experiments are  
 8 compared with observational datasets in a Taylor diagram (Taylor, 2001).

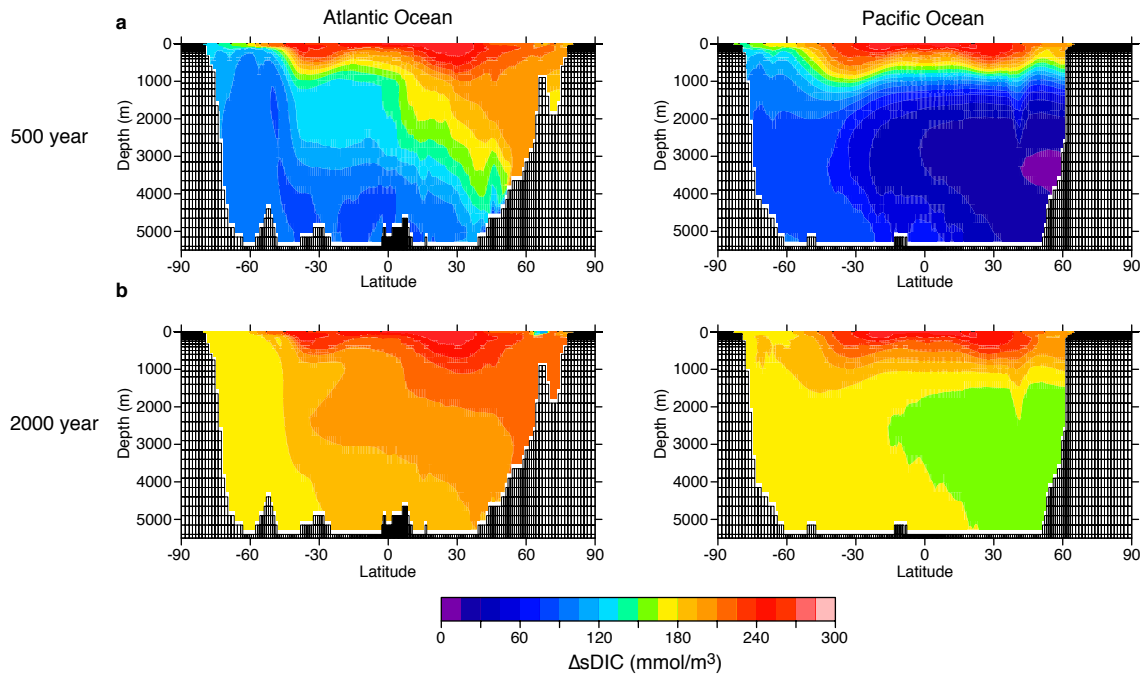
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11 **Figure S3.** Zonal mean distribution of preformed PO<sub>4</sub> for (a) 0 years, (b) 200 years and  
 12 (c) 2000 years in GW\_bio.

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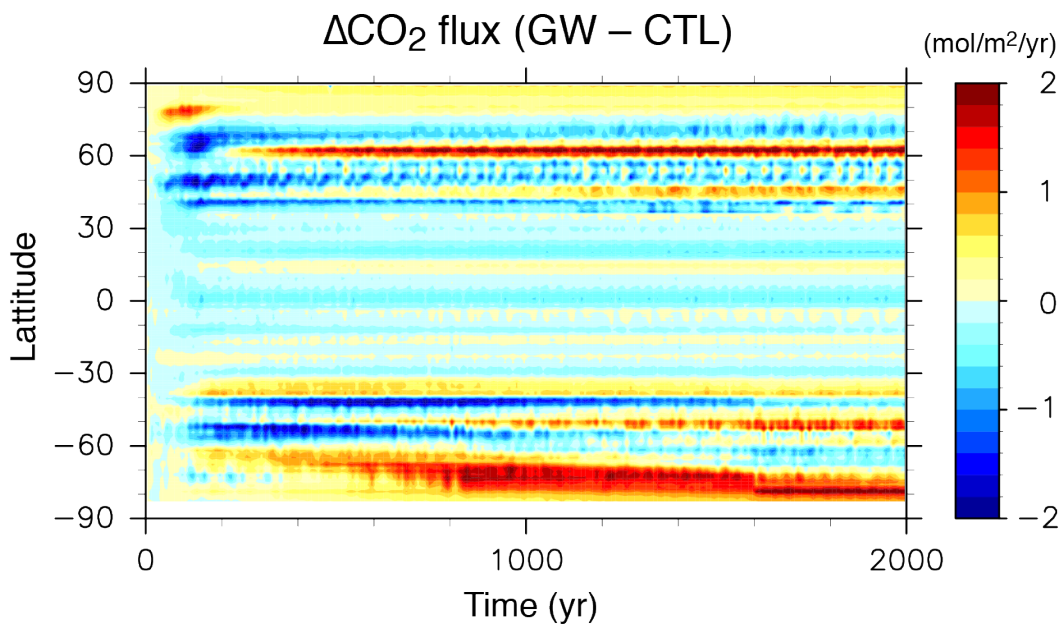


14

15 **Figure S4.** Zonal mean distribution of changes in the salinity-normalized DIC for (a)

16 500 years and (b) 2000 years in the constant-climate run (CTL\_bio). The left and right

17 panels show the Atlantic and Indo-Pacific Oceans, respectively.



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19 **Figure S5.** Hovmöller diagram of the CO<sub>2</sub> uptake anomaly of GW\_bio – CTL\_bio.

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