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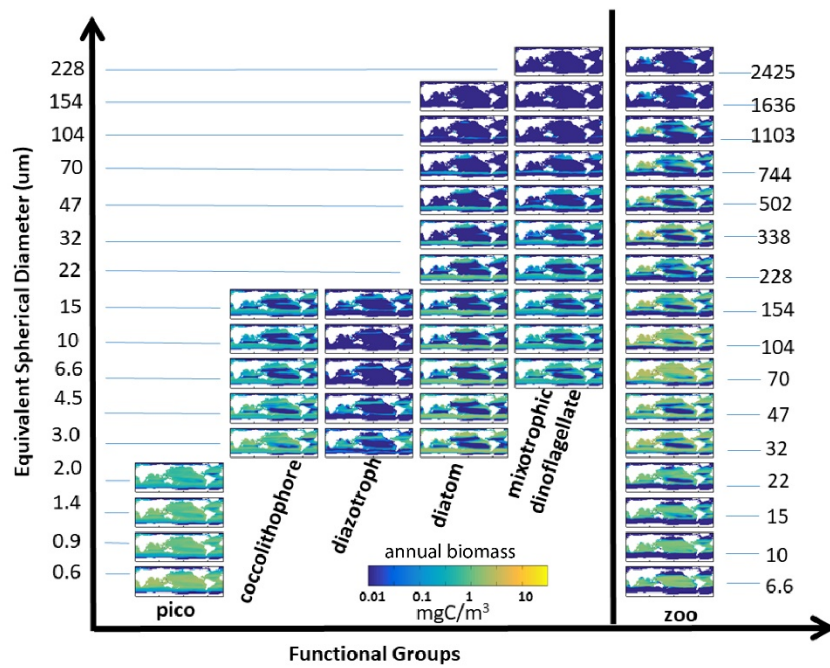
Supplementary Information

for

Future phytoplankton diversity in a changing climate

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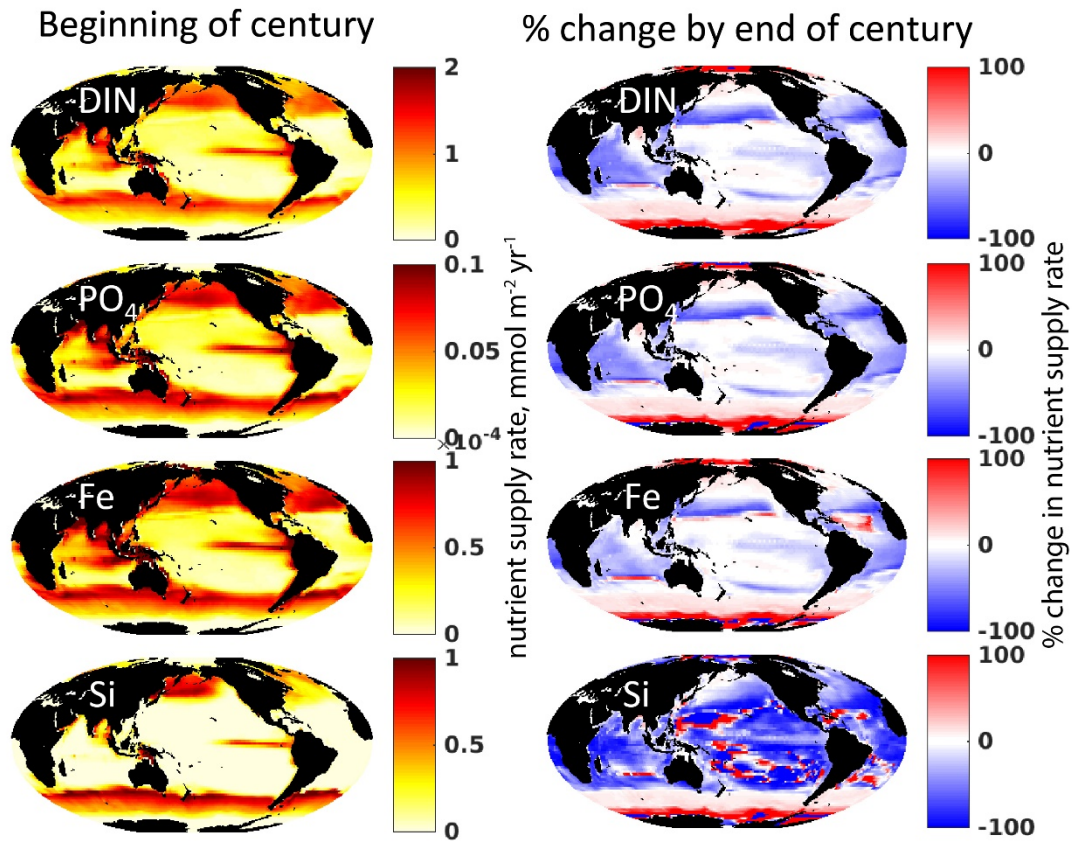
This file contains 5 Supplementary Figures.



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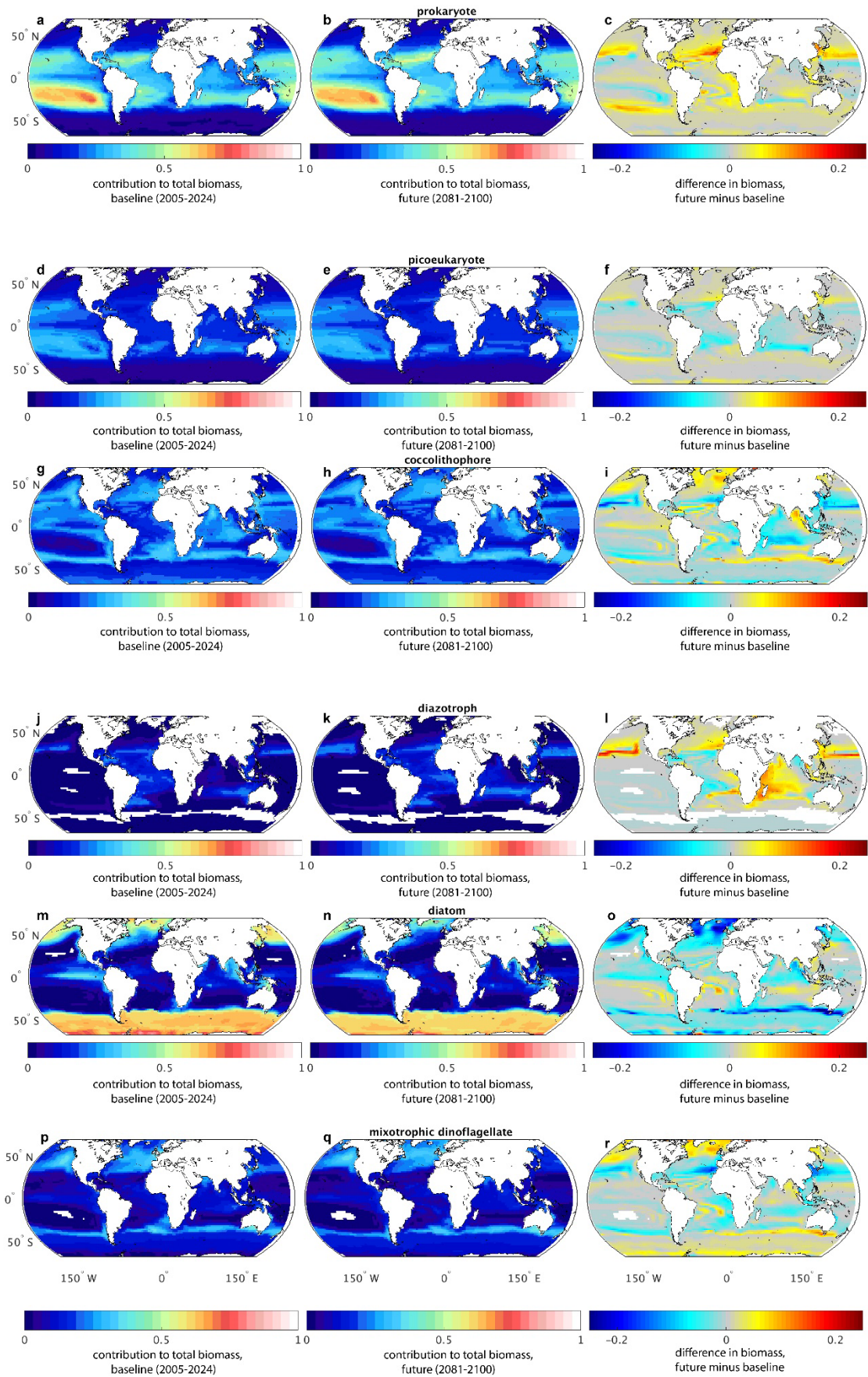
11 Supplementary Figure 1: Annual biomass (mg C m⁻³) over the upper 50 m for each of the 51
 12 plankton types for the present day. Columns denote different functional groups, and rows
 13 indicate the size (equivalent spherical diameter, μm). Note that the zooplankton have a different
 14 size range (right y-axis).

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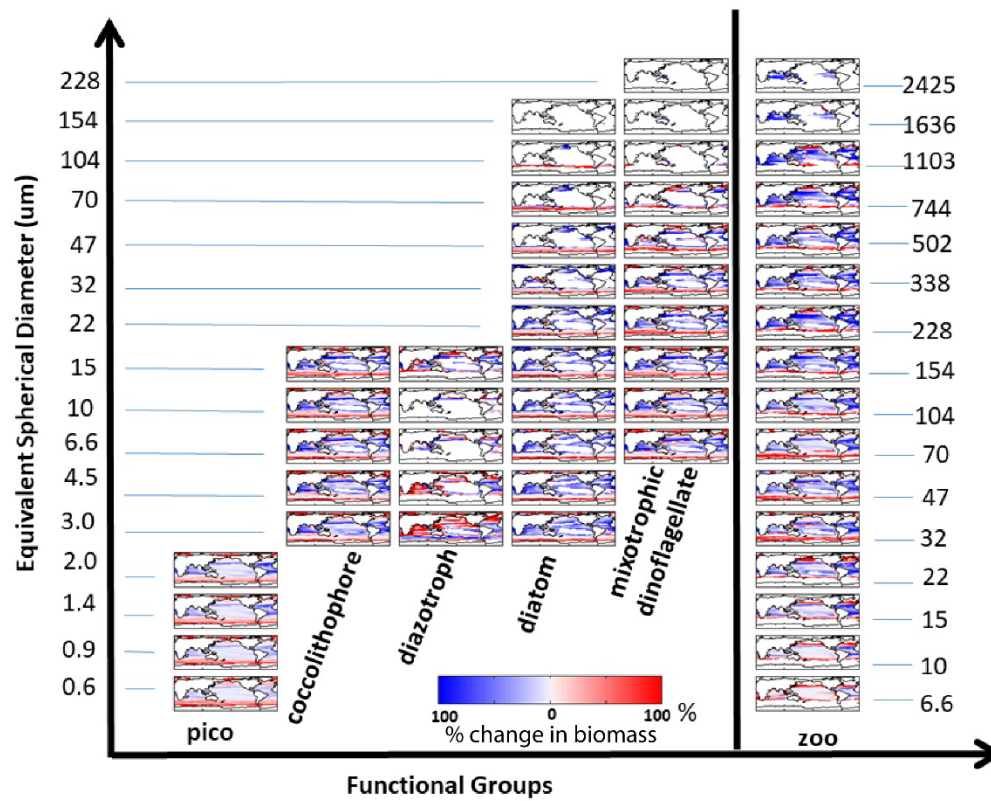
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17 Supplementary Figure 2: (left) Nutrient supply rates into the top 40m of the model ocean from
 18 2005-2024 ($\text{mmol m}^{-2} \text{ year}^{-1}$). Top to bottom: supply rate of dissolved inorganic nitrogen
 19 (DIN), phosphate (PO_4), dissolved bioavailable iron (Fe) and silicic acid (Si). (right)
 20 Percentage change in the supply rates by the end of the century (2081-2100). Blue indicates a
 21 reduction in nutrient supply rate.



23 Supplementary Figure 3: Fractional contribution of 6 phytoplankton types to total biomass:
24 mean of baseline period (2005-2024) in left column, mean of end of century period (2081-
25 2100) in centre column, and difference between the end of century and baseline periods in right
26 column. a-c) prokaryotes, d-f) picoplankton, g-i) coccolithophore, j-l) diazotrophs, m-o)
27 diatoms and p-r) mixotrophic dinoflagellates.

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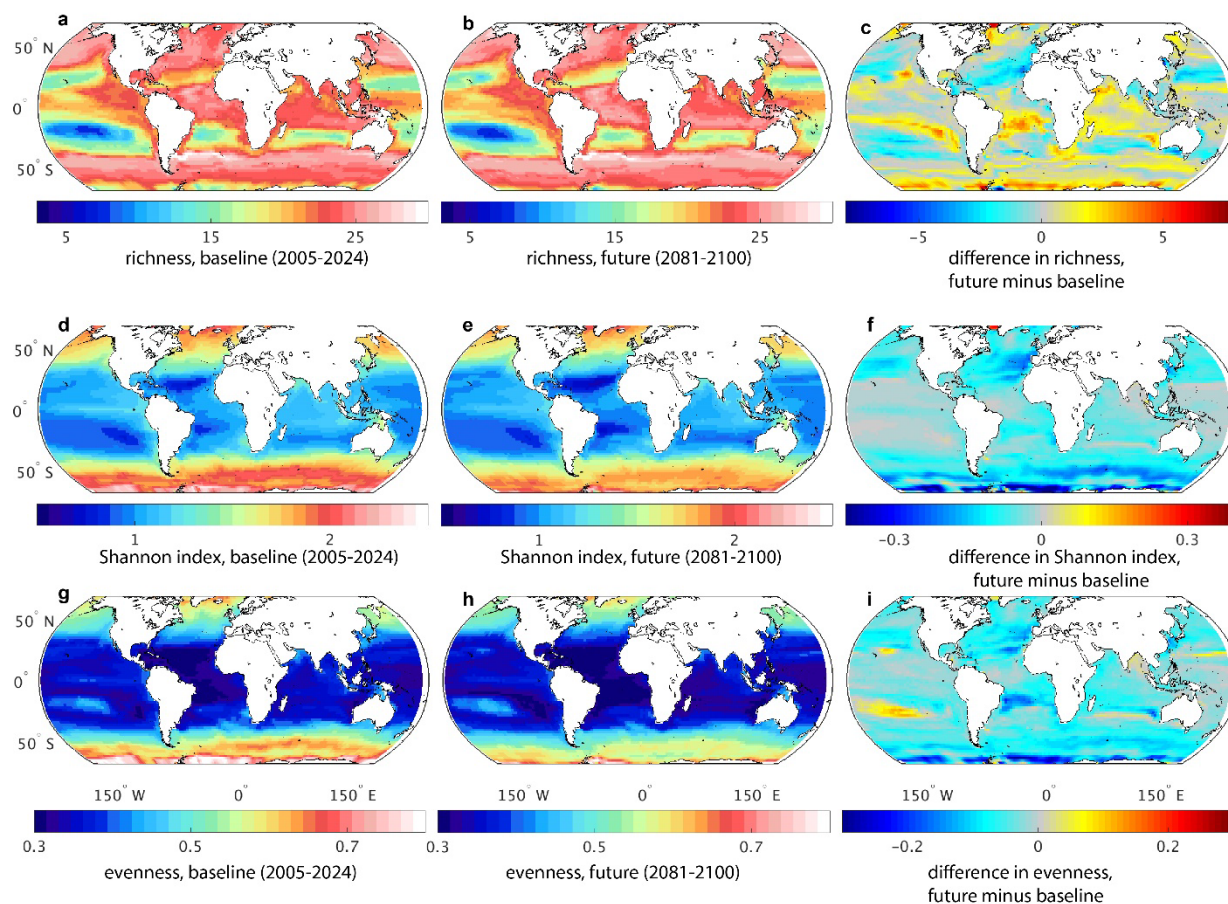


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30 Supplementary Figure 4: Fractional change in biomass over the upper 50 m for each of the 51
 31 plankton types between the means of 2005-2024 and 2081-2100. Columns denote different
 32 functional groups, and rows indicate the size (equivalent spherical diameter, μm). Note that the
 33 zooplankton have a different size range (right y-axis).

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38 Supplementary Figure 5: Phytoplankton richness (a-c), Shannon index (d-f), and evenness of
 39 phytoplankton population (g-i) for mean of baseline period (2005-2024) in left column, mean
 40 of end of century period (2081-2100) in centre column, and difference between the end of
 41 century and baseline periods in right column.

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