Turbulence-Enhanced Nutrient Supply: A Key Driver of Algal Growth in the Arctic

Supplementary Material

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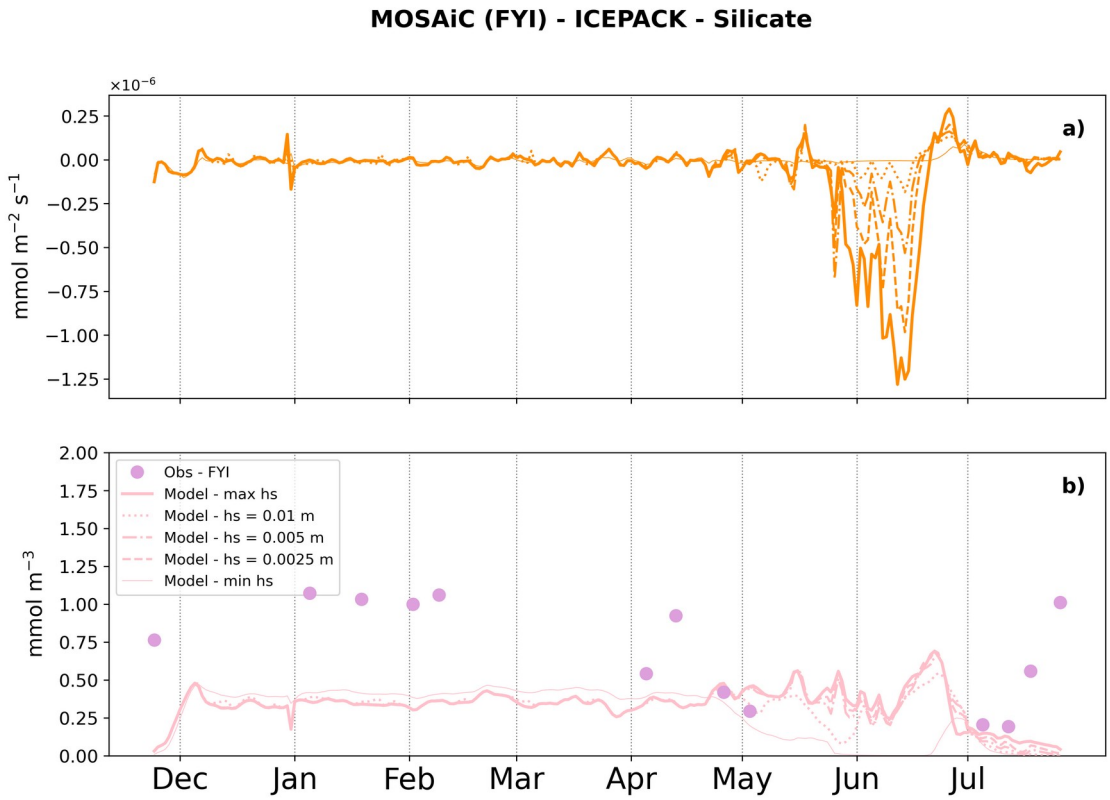

Figure S1: Same as Figure 4 for the MOSAiC case study, but for a) silicate fluxes and b) silicate concentration in the bottom 10 cm of ice.

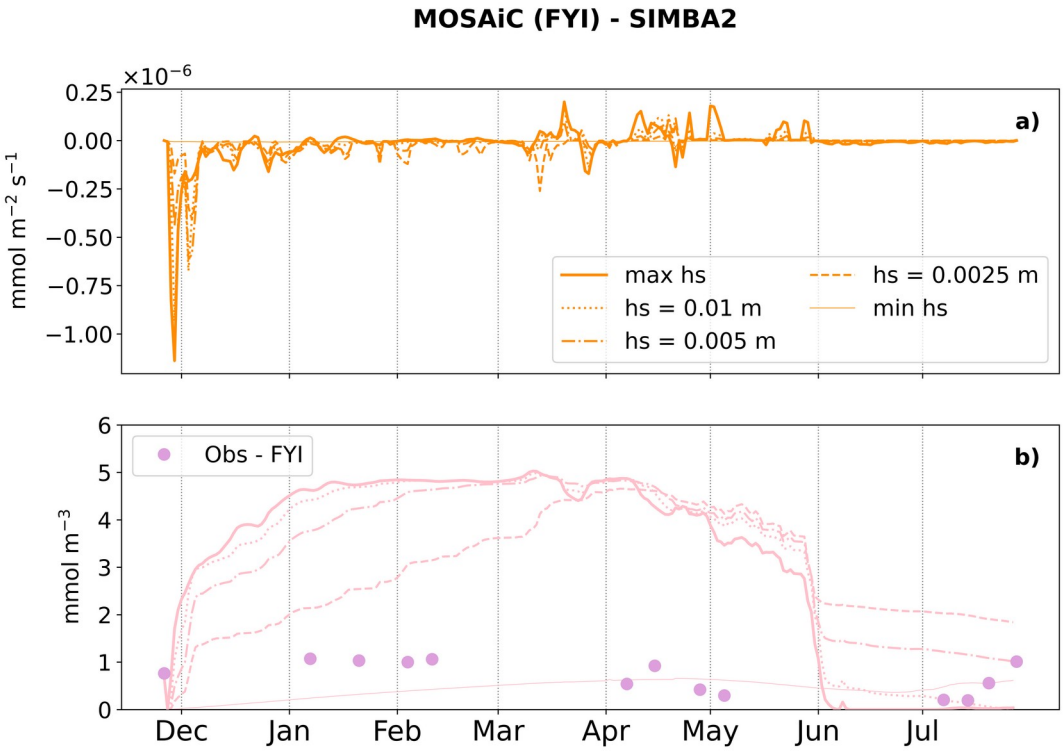

Figure S2: Same as Figure 5 for the MOSAiC case study, but for a) silicate fluxes and b) silicate concentration in the bottom 10 cm of ice.

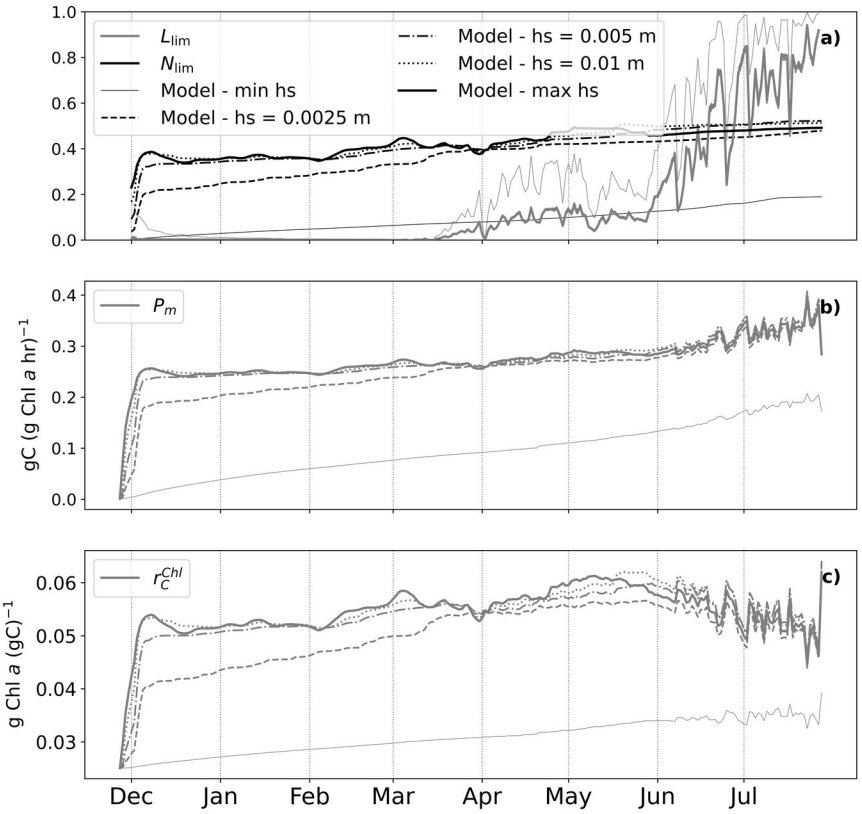

Figure S3: SIMBA2 results for the MOSAiC case study showing a) nutrients and light limitation; b) Maximum photosynthetic efficiency P_m and c) chla:C ratio. Note that in the legend in panel a) the colour of the line shows whether the limitation source is light (grey) or nutrients (black), whereas the line style represents the runs with different value of surface roughness.

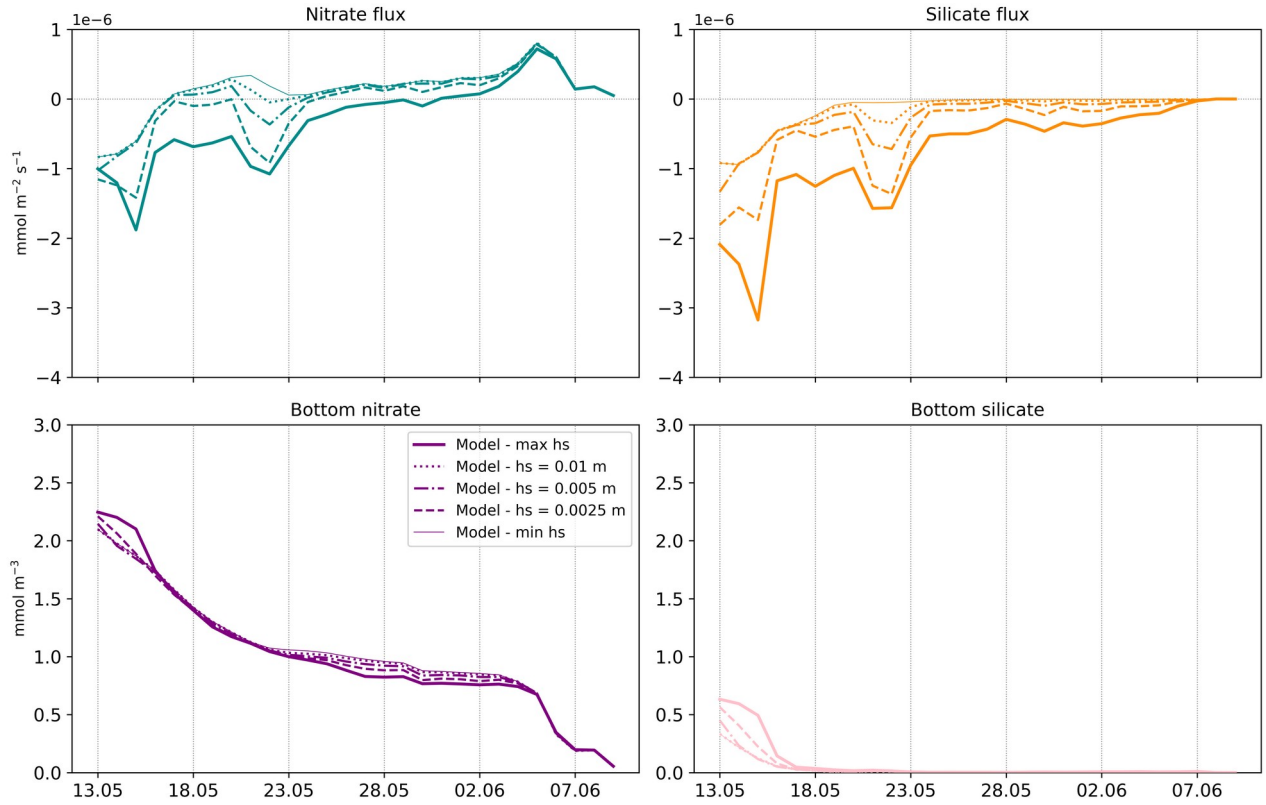

Figure S4: Fluxes (top row) and concentrations in the bottom of the ice (lower row) of nitrate and silicate for the N-ICE2015 case study, simulated with CICE+Icepack.

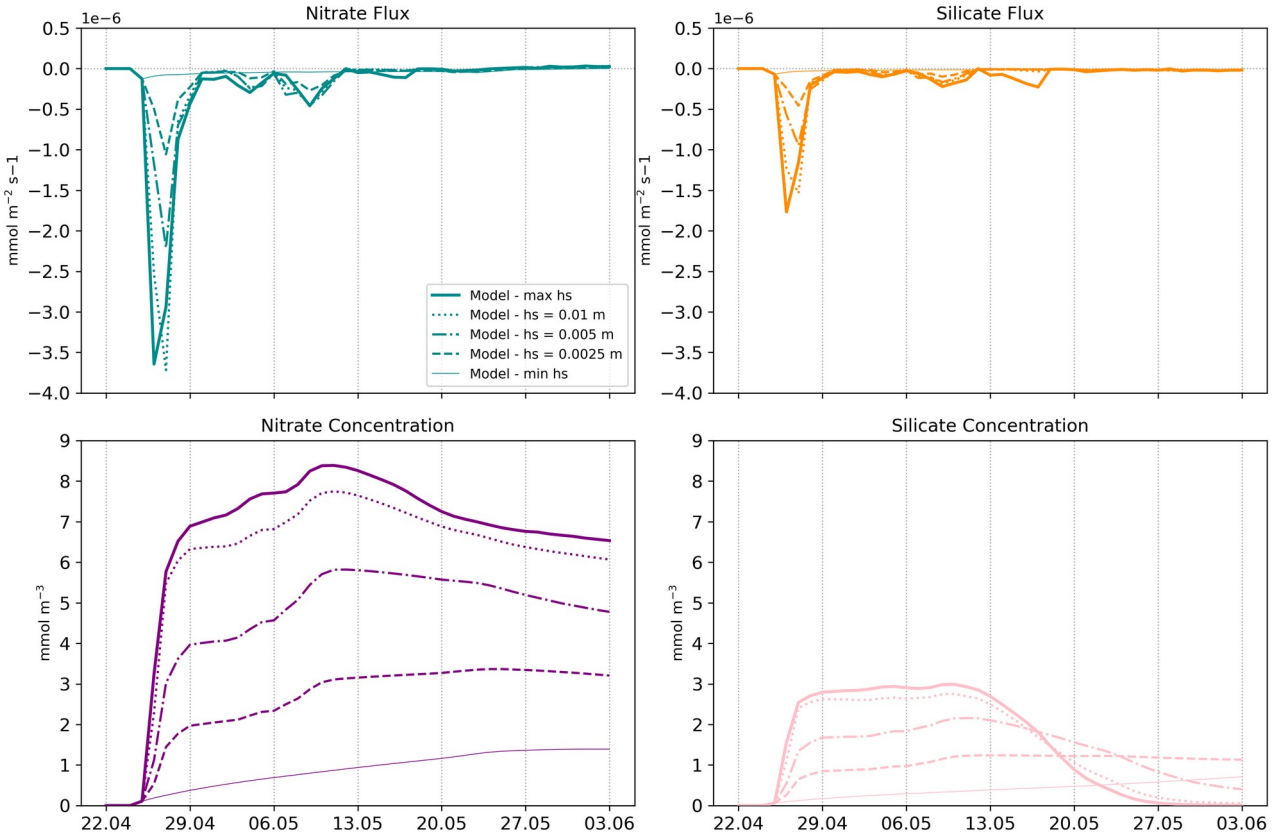

Figure S5: Same as Figure S4 but simulated with SIMBA

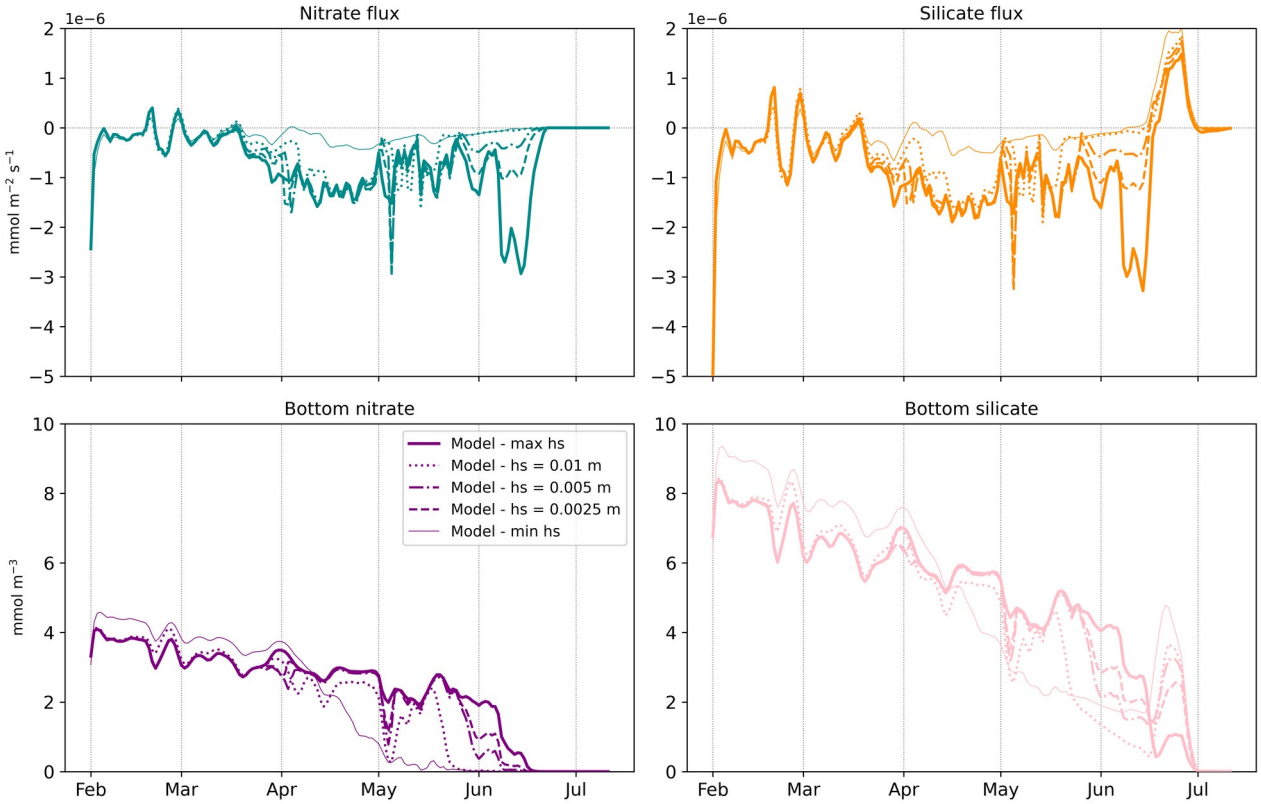

Figure S6: Fluxes (top row) and concentrations in the bottom of the ice (lower row) of nitrate and silicate for the Resolute case study, simulated with CICE+Icepack.

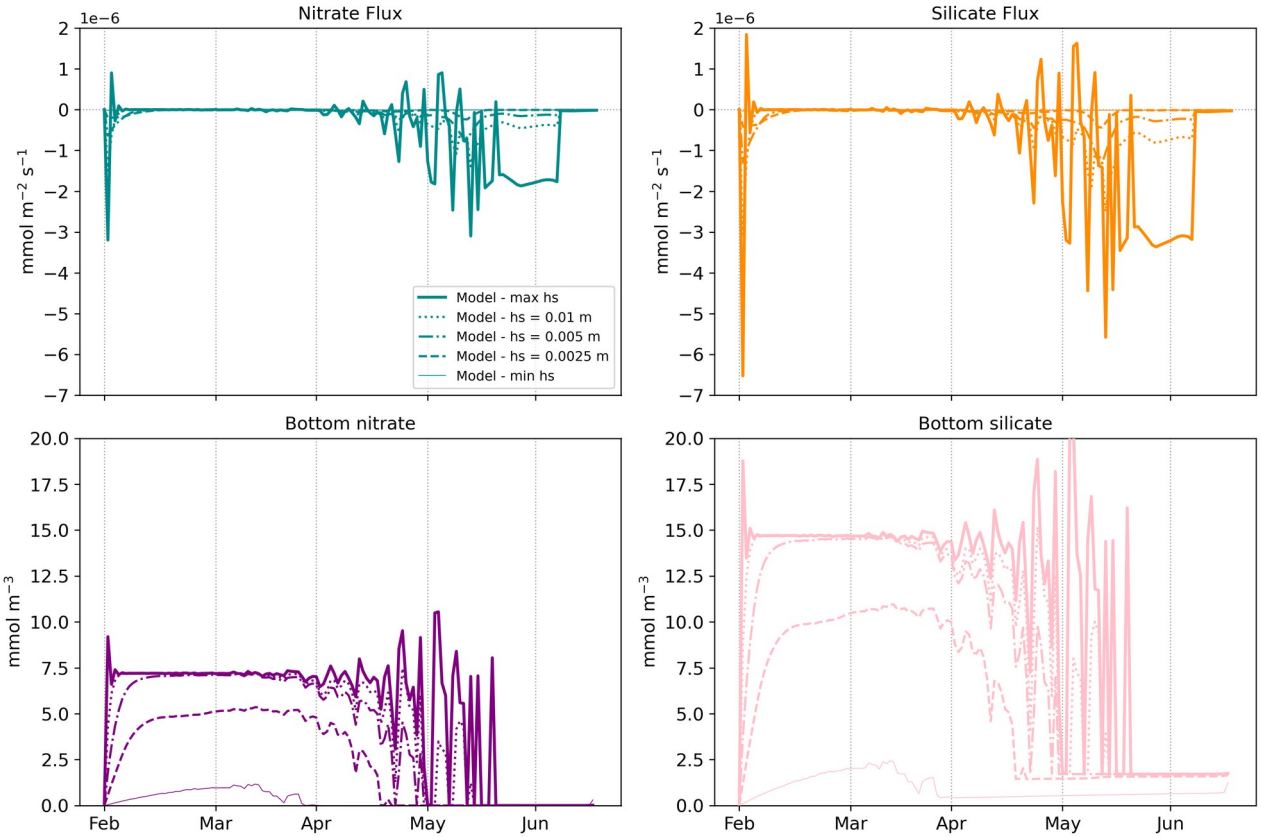

Figure S7: same as Figure S6 but simulated with SIMBA2