

1 *Supplement of*

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3 **Changes in water quality and ecosystem processes at extreme summer low**
4 **flow of 2018 with high-frequency sensors**
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16 Supplementary Information includes Figures S1-S3.

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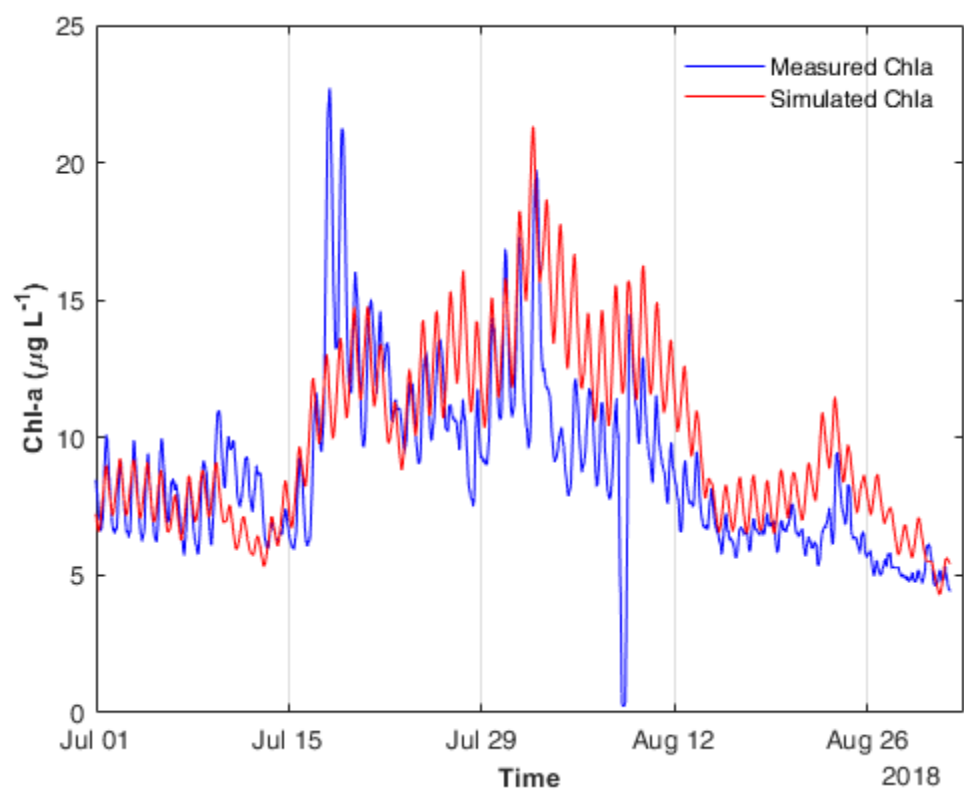


Fig. S1 Measured and simulated Chl a concentration in the ExLF period at the STF station.

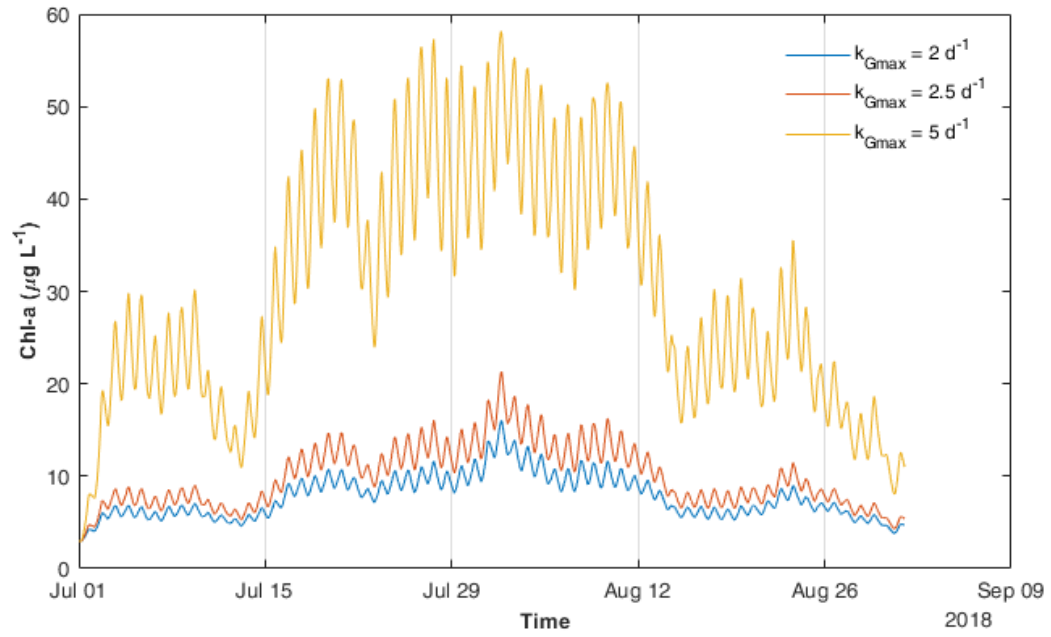
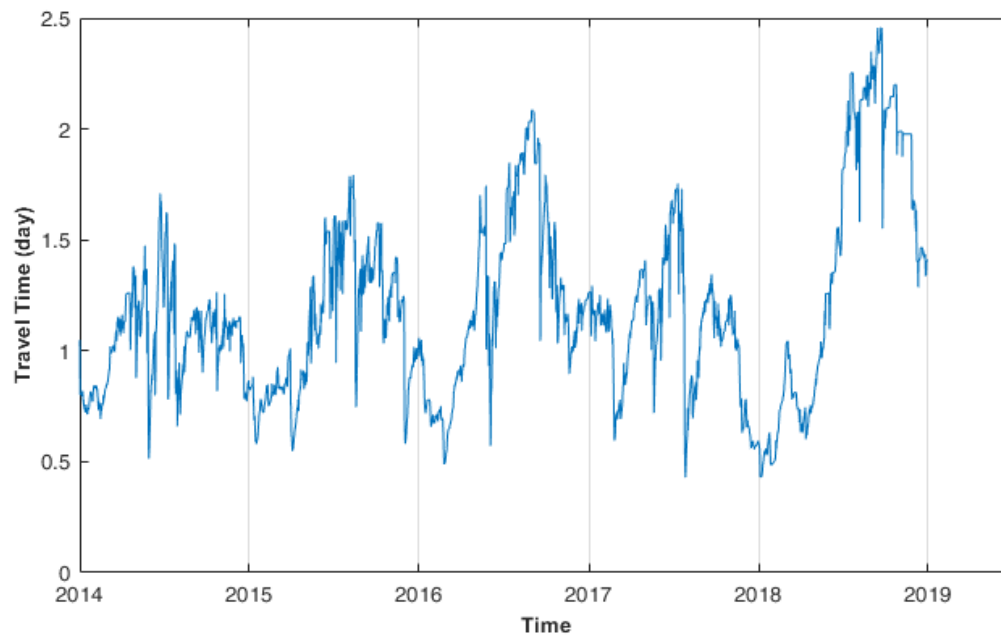


Fig. S2 Simulated Chl *a* concentrations in the ExLF period at STF with different values of phytoplankton maximum growth rate constant at 20°C (k_{Gmax}) applied to the water quality model in Huang et al. (2022). The optimal value for k_{Gmax} is 2.5 d⁻¹ in the original model set-up in Huang et al. (2022). With the changing k_{Gmax} values, both the overall Chl *a* concentrations and the diurnal delta of the concentration changed accordingly.



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30 **Fig. S3** Water travel time from GGL to STF in the Lower Bode reach in 2014-2018.

31 **References**

- 32 Huang, J., Borchardt, D. and Rode, M. 2022. How do inorganic nitrogen processing pathways
33 change quantitatively at daily, seasonal, and multiannual scales in a large agricultural stream?
34 Hydrol. Earth Syst. Sci. 26(22), 5817-5833.