Supplementary Data

Algae Bloom and Decomposition Changes the Phosphorus Cycle Pattern in Taihu Lake

Chaonan Han *, Yan Dai, Ningning Sun, Hao Wu, Yu Tang and Tianhao Dai

School of Civil Engineering, Nanjing Forestry University, Nanjing 210037, China
* Correspondence: hcn_125@163.com; Tel.: +86-13022593296

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Table S1. Water quality parameters of Taihu Lake.

Site	pH	DO (mg/L)	Temperature (°C)	EC (μs/cm)
East of lake	7.8	9.4	30.5	355
Middle of lake	7.7	7.3	30.8	382
Meiliang bay	8.2	13.5	31.5	364

Table S2. Molar Fe/P ratios and PO_4^{3-}, Fe^{2+} diffusion fluxes from pore water to overlying water of Taihu Lake.

Site	Molar Fe/P ratios	PO_4^{3-} flux ($mg/m^2 \cdot d$)	Fe^{2+} flux ($mg/m^2 \cdot d$)
East of Lake	2.01~12.98 (8.06)	0.24	1.74
Middle of lake	1.02~5.54 (2.26)	0.37	0.22
Meiliang bay	1.03~7.24 (1.94)	0.45	0.65

Table S3. Abundance and diversity index of sediment bacteria communities of Taihu Lake.

Site	Shannon	Simpson	ACE	Chao	Coverage
East of lake	6.187	0.0055	2462.189	2441.253	0.984
Middle of lake	6.418	0.0040	2561.551	2515.113	0.985
Meiliang bay	6.321	0.0057	2675.150	2690.066	0.981

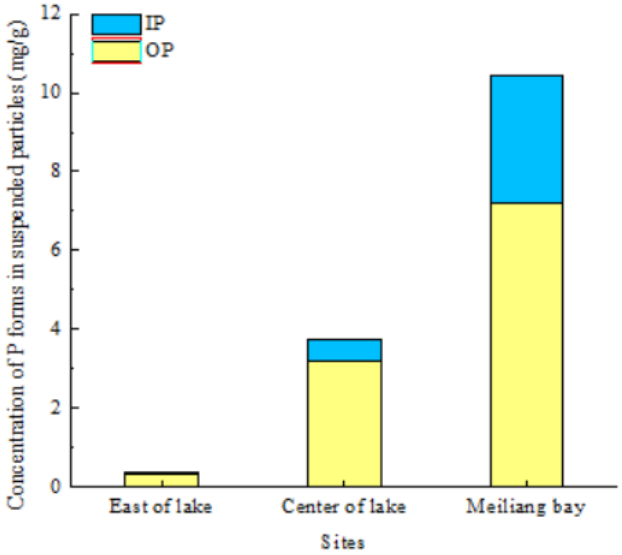

Figure S1. Concentrations of P forms in suspended particles of Taihu Lake

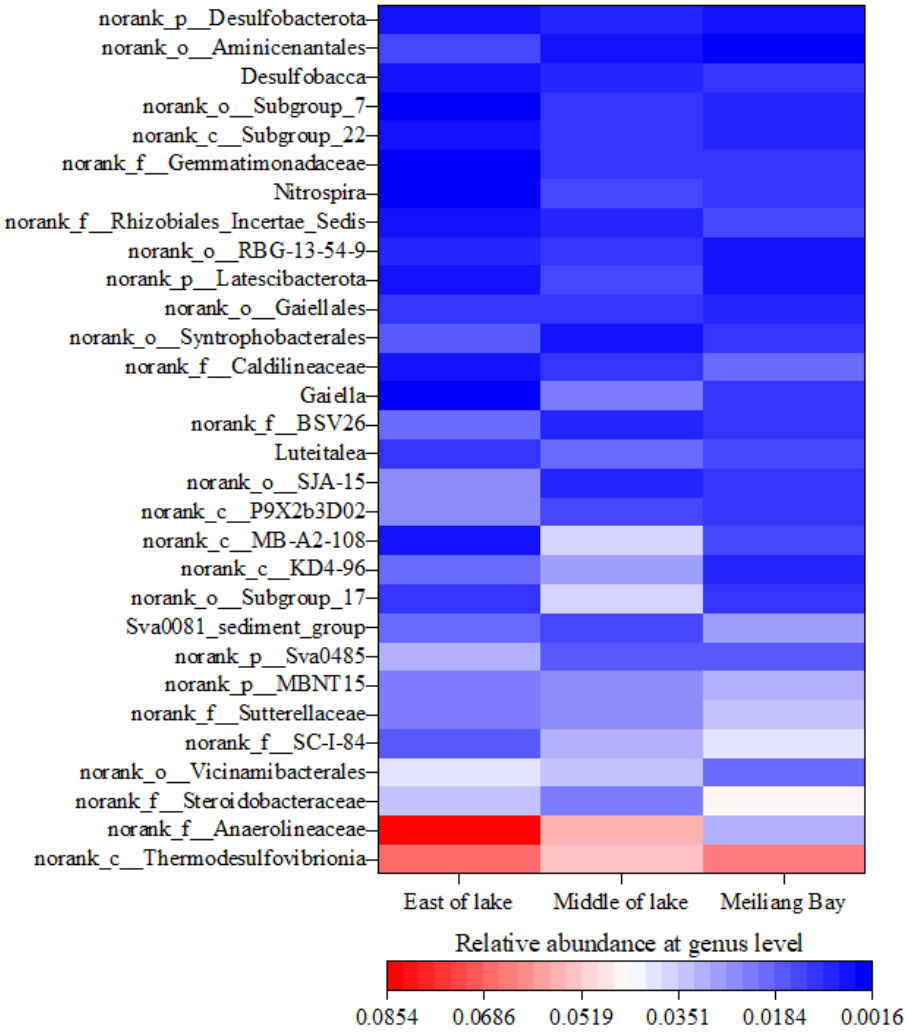

Figure S2. Heatmap plot of the top thirty bacterium at genus level in surface sediments of Taihu Lake.

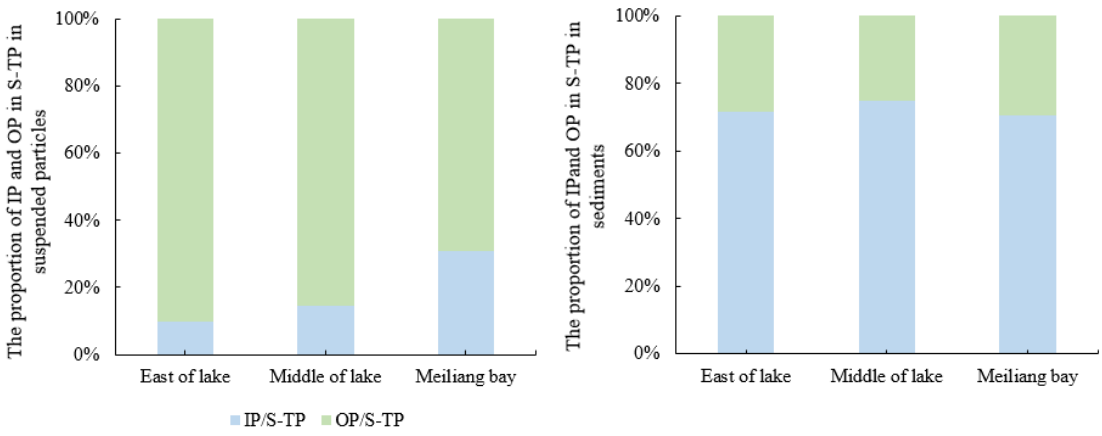

Figure S3. The Proportion of IP and OP in S-TP in suspended particles and sediments of Taihu Lake