

## Supplementary Information

**Table S1.** Environmental variables summarized as the mean values and ranges in Lake Chaohu during bloom from June to October 2012.

Parameter	June	July	August	September	October
TN (mg L <sup>-1</sup> )	2.22 (1.15–5.09)	1.83 (0.65–3.59)	1.25 (0.56–3.03)	1.45 (0.63–3.67)	1.57 (0.80–3.49)
NH <sub>4</sub> <sup>+</sup> -N (mg L <sup>-1</sup> )	0.70 (0.21–3.55)	0.22 (0.06–0.49)	0.20 (0.06–0.65)	0.21 (0.04–1.16)	0.15 (0.11–0.19)
NO <sub>3</sub> <sup>-</sup> -N (mg L <sup>-1</sup> )	0.28 (0.21–0.38)	0.24 (0.06–0.70)	0.11 (0.08–0.23)	0.22 (0.08–0.61)	0.17 (0.07–0.49)
NO <sub>2</sub> <sup>-</sup> -N (mg L <sup>-1</sup> )	0.06 (0.01–0.18)	0.06 (0.00–0.37)	0.01 (0.00–0.07)	0.02 (0.00–0.12)	0.01 (0.00–0.07)
TP (mg L <sup>-1</sup> )	0.13 (0.04–0.39)	0.13 (0.04–0.24)	0.09 (0.03–0.22)	0.12 (0.04–0.27)	0.15 (0.04–0.28)
PO <sub>4</sub> <sup>3-</sup> -P (mg L <sup>-1</sup> )	0.04 (0.00–0.26)	0.01 (0.00–0.03)	0.01 (0.00–0.02)	0.03 (0.00–0.12)	0.03 (0.00–0.52)
DIC (mg L <sup>-1</sup> )	14.39 (11.66–17.28)	13.69 (9.64–15.00)	12.58 (8.74–15.67)	13.38 (10.04–17.71)	14.42 (11.94–16.22)
DOC (mg L <sup>-1</sup> )	5.14 (4.53–7.46)	5.10 (4.48–5.70)	4.50 (4.07–4.97)	5.45 (4.64–6.72)	4.50 (3.99–5.19)
Chl-a (µg L <sup>-1</sup> )	23.73 (10.04–52.45)	30.07 (5.70–89.40)	42.61 (6.19–89.06)	18.78 (5.86–32.14)	21.76 (6.64–53.57)
Water temperature (°C)	27.43 (26.21–28.12)	27.68 (26.30–29.28)	30.18 (29.48–30.75)	22.63 (22.11–23.63)	18.77 (18.43–19.45)
pH	8.29 (7.42–8.74)	8.69 (8.50–8.84)	9.13 (8.70–9.40)	6.29 (5.22–6.74)	5.71 (4.73–6.37)
DO (mg L <sup>-1</sup> )	8.97 (4.60–10.11)	8.70 (5.17–10.08)	6.18 (4.47–7.64)	9.41 (8.33–10.53)	10.67 (4.79–14.97)
Secchi depth (m)	0.36 (0.25–0.45)	0.28 (0.20–0.42)	0.57 (0.20–0.90)	0.43 (0.30–0.65)	0.30 (0.15–0.55)
Water depth (m)	2.86 (1.90–3.40)	3.50 (2.40–4.20)	3.88 (2.70–4.50)	4.00 (2.60–4.50)	3.66 (2.90–4.30)
Conductivity (µS cm <sup>-1</sup> )	348.78 (283.00–392.00)	317.20 (294.00–344.00)	303.33 (240.00–340.00)	280.48 (213.00–351.00)	282.44 (223.00–329.00)