List of supplementary Tables

Table S1: Component scores coefficient matrix with the extraction method of principal component analysis and rotation method of Varimax with Kaiser Normalization.

Table S2: The results of linear regression analysis between the major drivers and response variables at Meiliang bay of Large shallow Lake Taihu.

Table S3: Generalized Additive Model (GAM) results of temporal trends of individual variables. The coefficient of determination (R^2), general cross-validation score (GCV) and percentage of variance (%) of wind and water quality variables (log-transformed) showing their linearity or non-linearity. The estimated degree of freedom (edf) and significance (p-value) of the model calculated from bootstrapping.

Table S4: GAM results of wind speed vs environmental variables. The model presented linearity/non-linearity in terms of R^2, GCV, and % of the variance. The bootstrapping smoother coefficients [p-value and estimated degree of freedom (edf)] has also been provided.

Table S1

Component Score Coefficient Matrix				
	Component			
	1	2	3	4
Wind	.076	-.113	-.029	-.620
Temperature	-.077	.065	.449	.178
Secchi	-.162	-.028	-.087	.281
SS	.185	.026	.069	-.234
DO	.106	-.034	.040	.412
Chl-a	-.127	.439	.116	.064
pH	.302	.017	-.203	.061
EC	.119	.062	-.511	.048
COD	.026	.382	-.229	-.022
TN	.262	.002	-.036	-.056
TP	.267	-.155	-.072	.121
TOC	.004	-.352	-.037	-.156

Table S2

Wind vs	Water temperature	DO	Chl-a	TP	TN	Secchi depth
R^2	0.01	0.02	0.39	0.21	0.02	0.01
P-value	0.6697	0.6172	**0.0073**	0.0614	0.5620	0.7521
Water temperature vs	TN	TP	Chl-a	DO		
R^2	0.03	0.00	0.00	0.09		

P-value	0.5222	0.9109	0.9901	0.2331		
DO vs	TN	TP	Chl-a			
R^2	0.09	0.01	0.09			
P-value	0.2501	0.7299	0.2505			

Table S3

	R^2	GCV	% of variance	p-value	edf
Wind	0.06	0.65	6.08	0.0006	1
Chl-a	0.16	0.16	15.9	0.0000	1
DO	0.01	0.01	2.23	0.4130	2.68
Temperature	-0.01	0.08	0.03	0.8050	1
TN	0.19	0.04	20.8	0.0000	3.63
TP	0.05	0.06	7.34	0.0267	4.18
SS	0.09	0.09	11.5	0.0025	4.09
Secchi	0.14	0.05	16.0	0.0000	5.38

Table S4

Wind vs	R^2	GCV	% of variance	p-value	edf
Chl-a	0.03	0.19	3.25	0.01	1
Temperature	-0.01	0.08	0.02	0.84	1
DO	0.00	0.01	0.72	0.24	1
EC	-0.00	0.01	0.32	0.47	1
TN	-0.01	0.05	0.01	0.88	1
TP	0.01	0.05	1.95	0.39	1.97
SS	0.01	0.09	1.47	0.18	1.12
TOC	-0.01	0.05	0.06	0.78	1

List of supplementary Figures:

Figure S1: The Correlation plot extracted from principle component analysis by means of 2 PC correlations, the biplot mentioned combined pre-shift and post-shift scenarios while these plots are showing individual coordinate correlation eigenvalues.

Figure S2: Plot of three principle components where first three eigenvectors has been retained to suffice reflecting majority of information of all data.

Figure S3: The annual changes in average values of major drivers and response variables at Meiliang bay of large shallow lake Taihu.

Figure S1

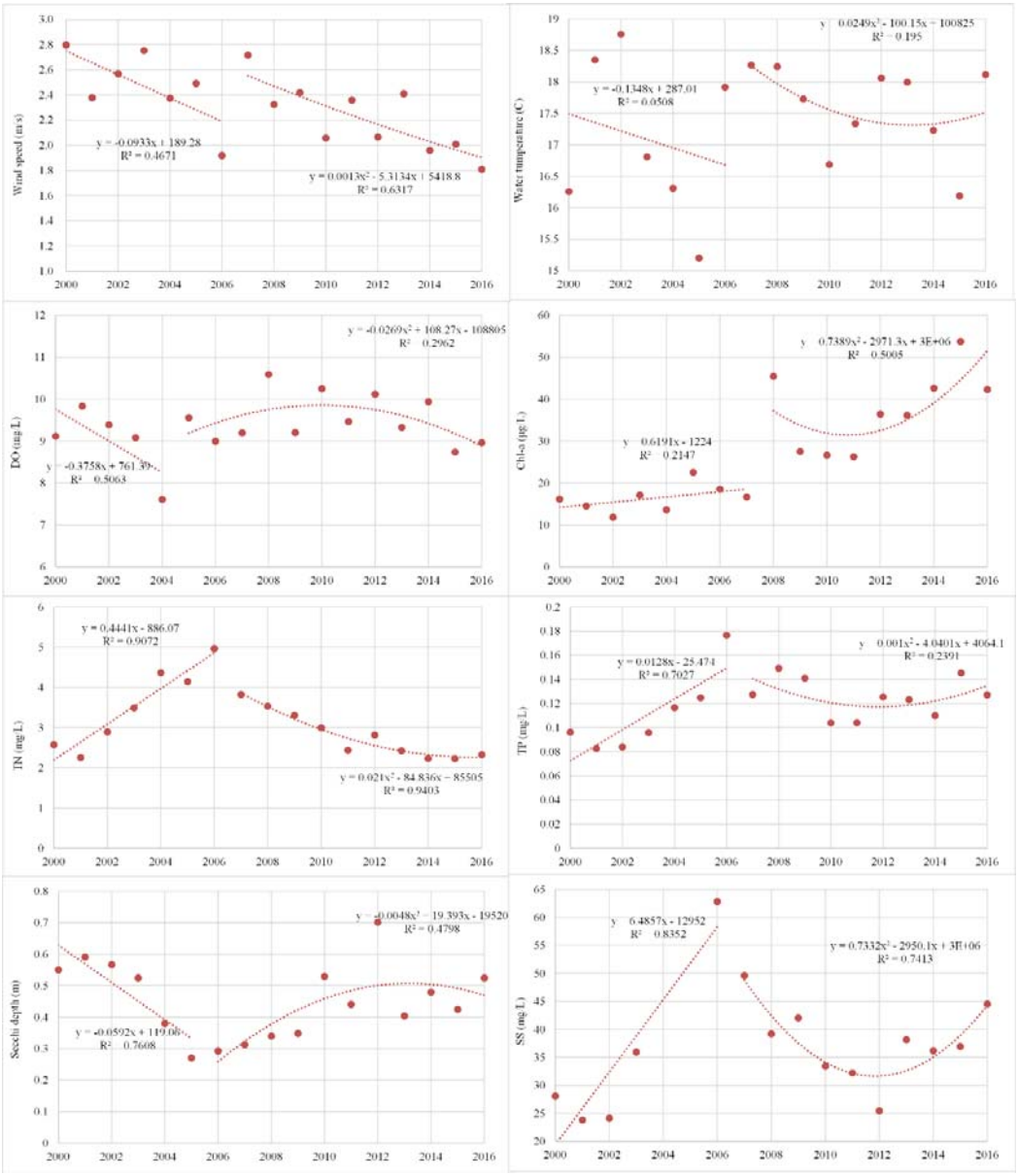
Wind speed (m/s)
y = -0.0933x + 189.28
R² = 0.4671
y = 0.0013x² - 5.3134x + 5418.8
R² = 0.6317
Water temperature (C)
y = 0.0249x² - 100.15x + 100825
R² = 0.195
y = -0.1348x + 287.01
R² = 0.0508
DO (mg/L)
y = -0.0269x² + 108.27x - 108805
R² = 0.2962
y = -0.3758x + 761.39
R² = 0.5063
Chl-a (μg/L)
y = 0.7389x² - 2971.3x + 3E+06
R² = 0.5005
y = 0.6191x - 1224
R² = 0.2147
TN (mg/L)
y = 0.4441x - 886.07
R² = 0.9072
y = 0.021x² - 84.836x + 85505
R² = 0.9403
TP (mg/L)
y = 0.001x² - 4.0401x + 4064.1
R² = 0.2391
y = 0.0128x - 25.474
R² = 0.7027
Secchi depth (m)
y = -0.0048x² + 19.393x - 19520
R² = 0.4798
y = -0.0592x + 119.08
R² = 0.7608
SS (mg/L)
y = 6.4857x - 12952
R² = 0.8352
y = 0.7332x² - 2950.1x + 3E+06
R² = 0.7413

Figure S2

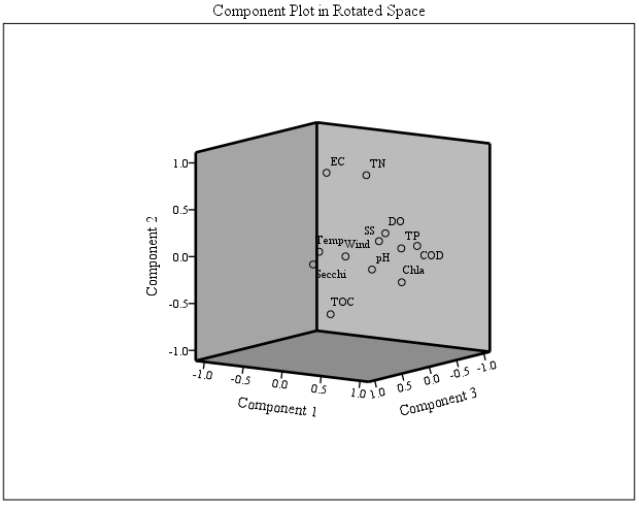

Figure S3