

Supplementary materials

## Water Level Fluctuation Requirements of Emergent Macrophyte *Typha angustifolia* L.

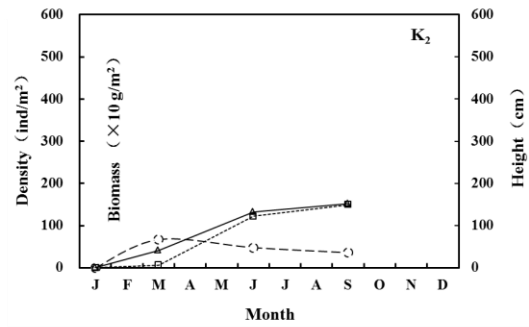
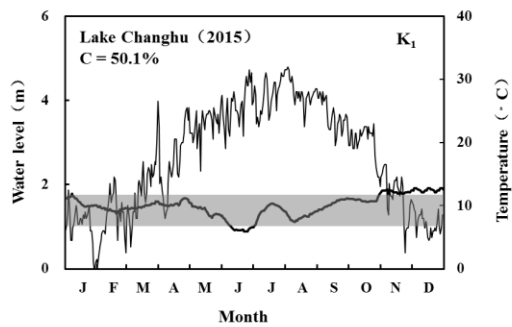
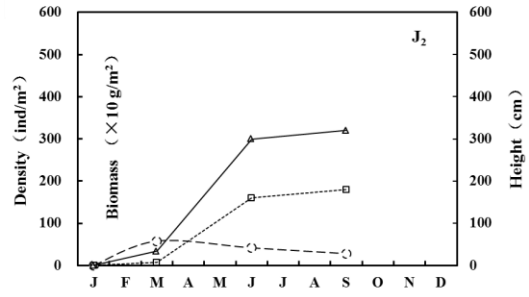
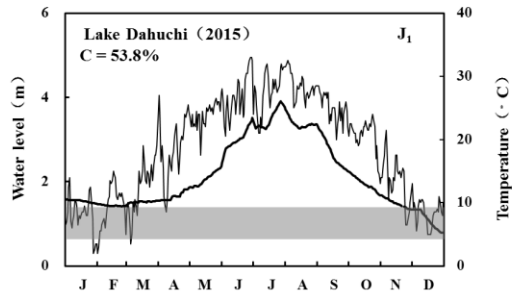
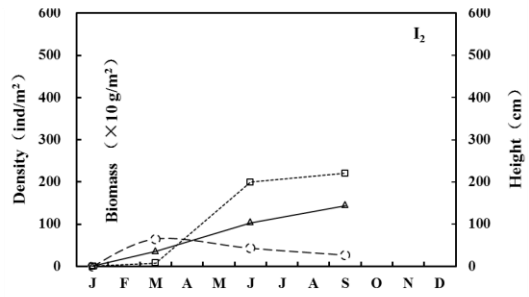
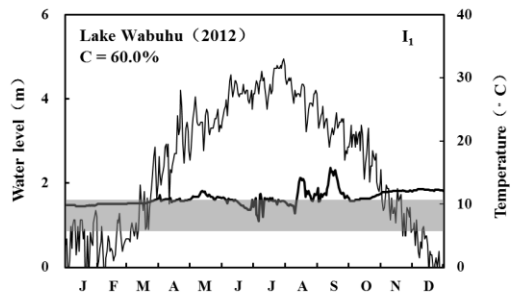
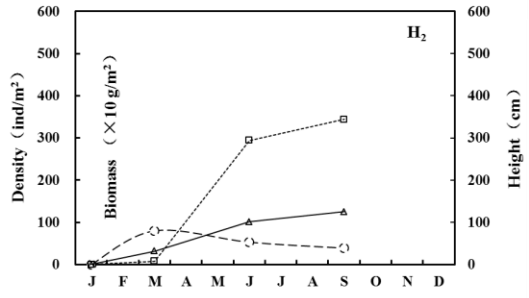
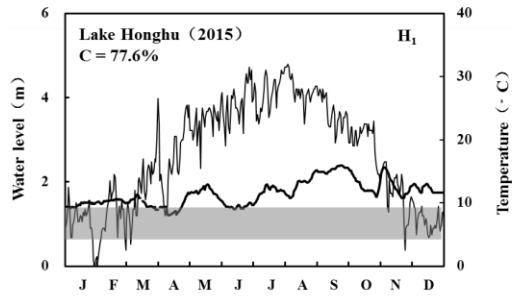
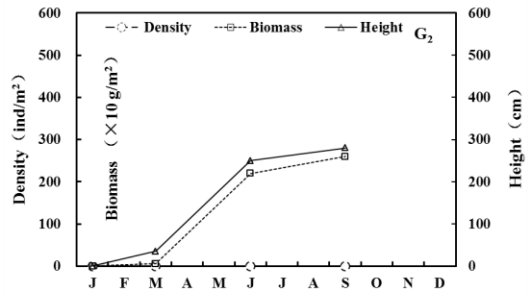
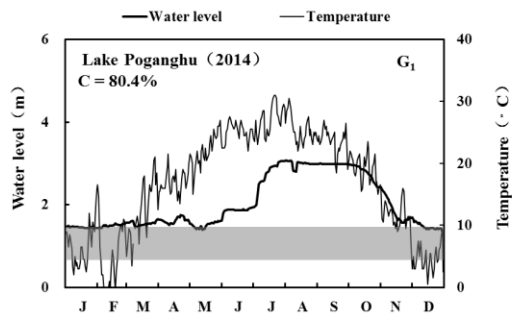
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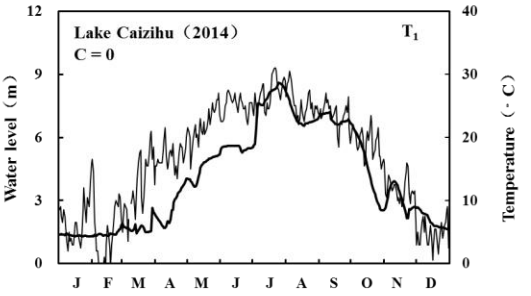
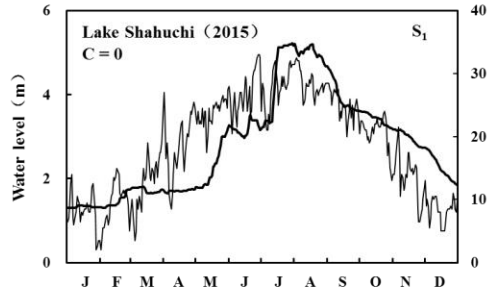
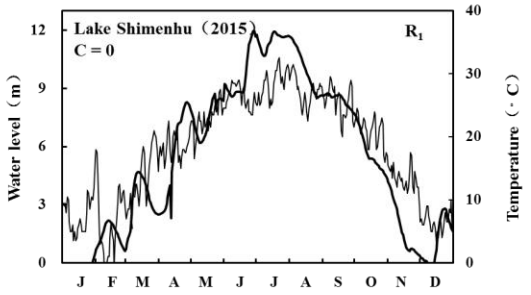
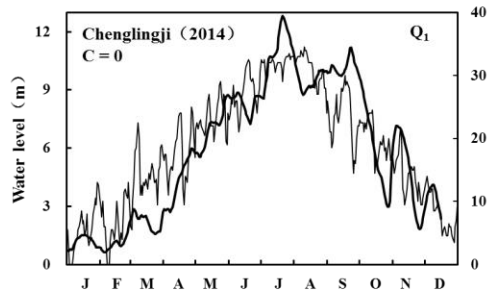
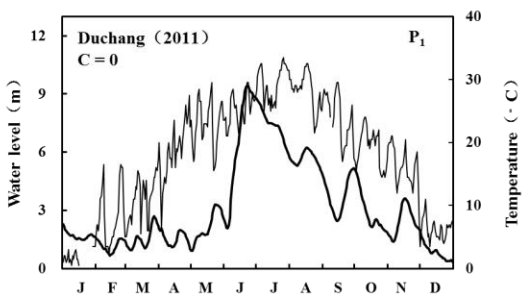
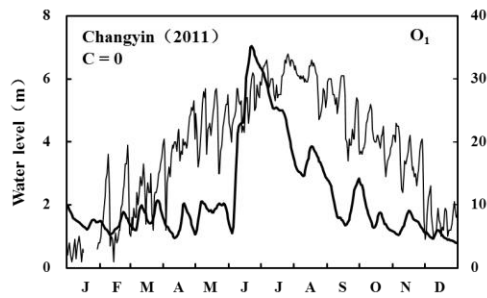
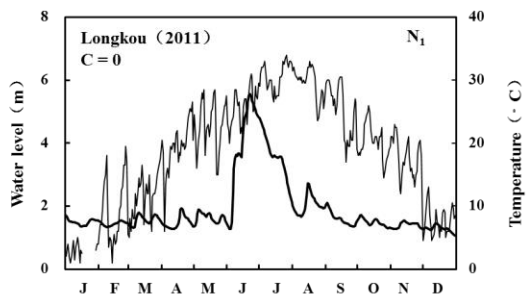
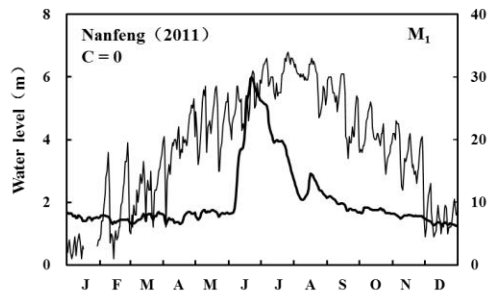
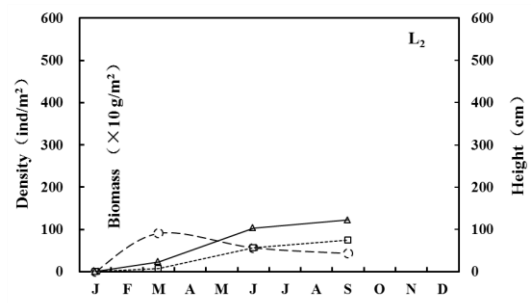
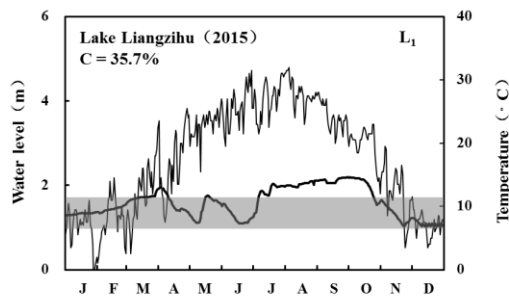
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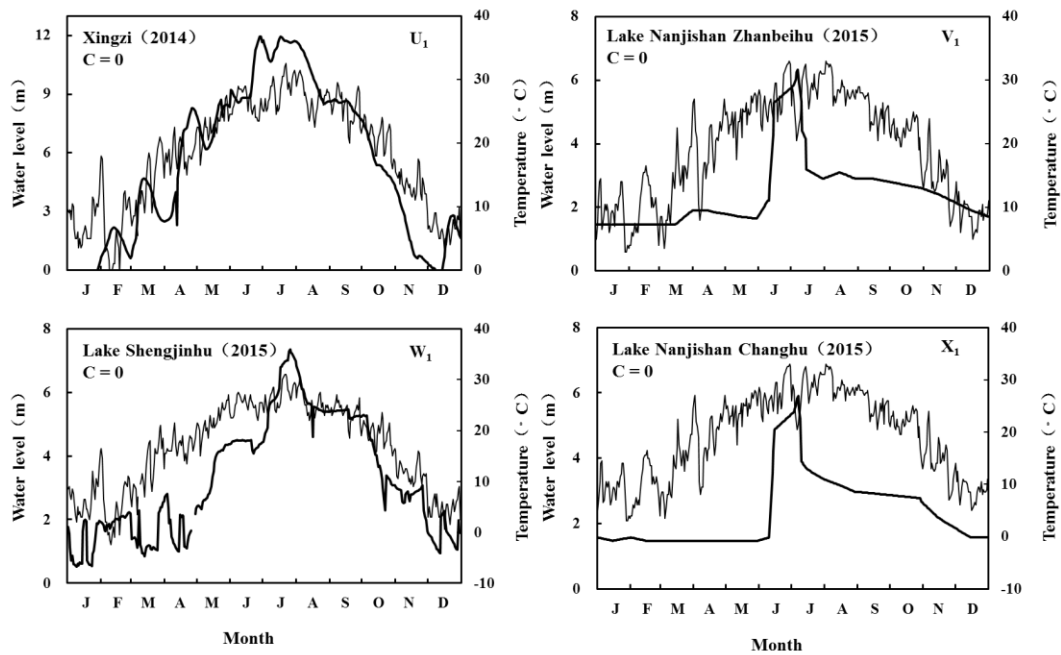
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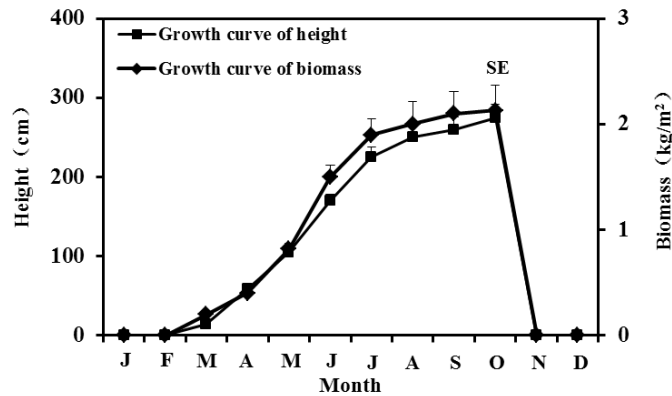


Month

Month



**Figure S1.** Relationships between the distribution elevation, coverage of *Typha angustifolia* and annual water level and temperature (G<sub>1</sub>-X<sub>1</sub>) and seasonal changes of the density, biomass and height of *Typha angustifolia* in lakes (G<sub>2</sub>-O<sub>2</sub>). Water level represents standardized water level (= observed water level data – mean water level between Jan and Mar + 1.5 m). The shaded area represents the distribution range of *Typha angustifolia*. C indicates coverage of *Typha angustifolia*.



**Figure S2.** Phenology of growth of *Typha angustifolia* at Lake Donghu in 2015. The bars indicate one standard error (n = 8).

Table S1 Hydrological characteristics description of three kinds of WLF type in lakes

Three kinds of WLF types in lakes	Hydrological characteristics description	Lakes in this group
Quasi-natural fluctuation	Lakes with quasi-natural fluctuations tend to follow the natural level of the Yangtze River. Generally, the water level is low from January to March, beginning to rise gradually from April to June, reaching the maximum between July and September, and then gradually decreasing . They include lakes connected to and disconnected from the river.	C <sub>1</sub> ,F <sub>1</sub> ,G <sub>1</sub> , J <sub>1</sub> ,Q <sub>1</sub> ,R <sub>1</sub> , S <sub>1</sub> ,T <sub>1</sub> ,U <sub>1</sub> ,W <sub>1</sub>
Intermittent fluctuation	Lakes with intermittent fluctuations are mainly sub-lakes in flooded areas. During the dry season, flooded areas form many independent sub-lakes, which become connected with the main lakes in the flooding season. Water levels are low from January to May. They rise rapidly to a maximum in June, because of the the rapid rise the in the main lake area. After this flood, levels remain relatively high in these sub-lakes, and decrease to a minimum gradually after October.	A <sub>1</sub> ,E <sub>1</sub> ,M <sub>1</sub> , N <sub>1</sub> ,O <sub>1</sub> ,P <sub>1</sub> , V <sub>1</sub> ,X <sub>1</sub>
Reservoir-like fluctuation	Lakes with reservoir-like fluctuations are completely disconnected from the rivers and show relatively little amplitude of fluctuation. The highest water level occurs in the flood season from July to September. However, by the following March, high water level is maintained because the closure of dams for water storage. Water level gradually decreases from April-June to an annual minimum, because of water consumption in the lakes and use for agricultural irrigation .	B <sub>1</sub> ,D <sub>1</sub> ,H <sub>1</sub> , I <sub>1</sub> ,K <sub>1</sub> ,L <sub>1</sub>