

## Phytoplankton chlorophyll



Variations in phytoplankton chlorophyll a were studied in Lake Poyang, and these variations were compared with those observed in its tributaries. Samples were collected from January 2009 to January 2013 during the dry, mid-dry and wet seasons. The study showed that chlorophyll a concentrations were significantly higher in the wet season than in the dry and mid-dry seasons ( $p < 0.0001$ ) in the lake; a comparative analysis of Lake Poyang and its tributaries showed significant differences in chlorophyll a between the two ecosystems during the wet season but not during the dry and mid-dry seasons. During the wet season, the underwater light conditions were significantly elevated and water retention time increased substantially (25.5 d). In combination, these factors contributed to a significantly higher chlorophyll a concentration during the wet season than that during the dry and mid-dry seasons in the lake; the effect of nutrients on the phytoplankton was not obvious. The large variations in water retention time during the three seasons indicated that Lake Poyang has the combined characteristics of a river and a lake. The short retention times during the dry and mid-dry seasons produced no difference in chlorophyll a between the lake and its tributaries, whereas the long retention time

during the wet season facilitated phytoplankton growth in the lake.

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