

Dominance by cyanobacteria hampers human use of lakes and reservoirs worldwide. Previous studies indicate that excessive nutrient loading and warmer conditions promote dominance by cyanobacteria, but evidence from global scale field data has so far been scarce. The aim of the paper is to show that although warmer climates do not result in higher overall phytoplankton biomass, the percentage of the total phytoplankton biovolume attributable to cyanobacteria increases steeply with temperature. Our analysis is based on a study of 143 lakes along a latitudinal transect ranging from subarctic Europe to southern South America. Our results reveal that the percent cyanobacteria is greater in lakes with high rates of light absorption. This points to a positive feedback because restriction of light availability is often a consequence of high phytoplankton biovolume, which in turn may be driven by nutrient loading. Our results indicate a synergistic effect of nutrients and climate. The implications are that in a future warmer climate, nutrient concentrations may have to be reduced substantially from present values in many lakes if cyanobacterial dominance is to be controlled.

GENERAL ACADEMIC WORDS vs. *TOPIC RELATED (DISCIPLINE SPECIFIC WORDS)*

(1) **Dominance** *by cyanobacteria* **hampers human use** of *lakes and reservoirs worldwide*. (2) **Previous studies indicate** that **excessive** *nutrient loading* and *warmer conditions* **promote dominance** *by cyanobacteria*, but **evidence** from **global scale field data** has so far been **scarce**. (3) In this **paper** we **show** that although *warmer climates* do not **result** in **higher overall** *phytoplankton biomass*, the **percentage** of the **total** *phytoplankton biovolume* **attributable** to *cyanobacteria* **increases steeply** with *temperature*. (4) Our **analysis** is **based** on a **study** of 143 *lakes* along a *latitudinal transect* **ranging** from *subarctic Europe* to *southern South America*. (5) Our **results reveal** that the **percent** *cyanobacteria* is greater in *lakes* with **high rates** of *light absorption*. (6) This **points** to a **positive feedback** because **restriction** of *light availability* is often a **consequence** of **high** *phytoplankton biovolume*, which in turn may be **driven by** *nutrient loading*. (7) Our **results indicate** a **synergistic effect** of *nutrients* and *climate*. (8) The **implications** are that in a **future** *warmer climate*, *nutrient concentrations* may have to be **reduced substantially** from **present values** in many *lakes* if *cyanobacterial dominance* is to be **controlled**.

KEY WORDS

(1) Dominance by cyanobacteria hampers human use of lakes and reservoirs worldwide. (2) Previous studies indicate that excessive nutrient loading and warmer conditions promote dominance by cyanobacteria, but evidence from global scale field data has so far been scarce. (3) In this paper we show that although warmer climates do not result in higher overall phytoplankton biomass, the percentage of the total phytoplankton biovolume attributable to cyanobacteria increases steeply with temperature. (4) Our analysis is based on a study of 143 lakes along a latitudinal transect ranging from subarctic Europe to southern South America. (5) Our results reveal that the percent cyanobacteria is greater in lakes with high rates of light absorption. (6) This points to a positive feedback because restriction of light availability is often a consequence of high phytoplankton biovolume, which in turn may be driven by nutrient loading. (7) Our results indicate a synergistic effect of nutrients and climate. (8) The implications are that in a future warmer climate, nutrient concentrations may have to be reduced substantially from present values in many lakes if cyanobacterial dominance is to be controlled.

My key words:

climate; cyanobacteria; light; nutrients; phytoplankton

The actual keywords of the article:

climate change; cyanobacteria; Europe; light; nutrients; phytoplankton; shade; South America; temperature; trophic state

METALANGUAGE (language you could use in your own writing)

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HEDGING (language you use to soften your sentences)

(1) Dominance by cyanobacteria hampers human use of lakes and reservoirs worldwide. (2) Previous studies indicate that excessive nutrient loading and warmer conditions promote dominance by cyanobacteria, but evidence from global scale field data has **so far** been scarce. (3) In this paper we show that although warmer climates do not result in higher overall phytoplankton biomass, the percentage of the total phytoplankton biovolume attributable to cyanobacteria increases steeply with temperature. (4) Our analysis is based on a study of 143 lakes along a latitudinal transect ranging from subarctic Europe to southern South America. (5) Our results reveal that the percent cyanobacteria is greater in lakes with high rates of light absorption. (6) This **points to** a positive feedback because restriction of light availability is **often** a consequence of high phytoplankton biovolume, which in turn **may be driven** by nutrient loading. (7) Our results **indicate** a synergistic effect of nutrients and climate. (8) The implications are that in a future warmer climate, nutrient concentrations **may have to be reduced** substantially from present values in **many** lakes **if** cyanobacterial dominance is to be controlled.