

Abstract Submitted
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Laboratory and Field Observations of *Microcystis aeruginosa* in nearly homogeneous turbulent flows¹ ANNE WILKINSON, MIKI HONDZO, MICHELE GUALA, University of Minnesota — *Microcystis aeruginosa* is a single-celled cyanobacterium, forming large colonies on the surface of freshwater ecosystems during summer, and producing a toxin (microcystin) that in high concentration can be harmful to humans and animals. In addition to water temperature, light and nutrient abundance, fluid motion is also an abiotic environmental factor affecting the growth and metabolism of *Microcystis*. Systematic investigations in a laboratory bioreactor are paired with field measurements in the lacustrine photic zone from two sites in Lake Minnetonka (MN) to ensure that dissipation levels, water temperature, dissolved oxygen and pH are correctly reproduced under laboratory conditions. Laboratory results for biomass accrual and photosynthetic activity suggest that turbulence levels within the range observed in the field, mediates the metabolism, rather than the cell population growth, of *Microcystis aeruginosa*.

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