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*The Evaluation of the Resuspension of Cyanobacterial Toxins into the Water Column in Eight Lakes*

This study was focused on the potential of resuspension of sediments to introduce cyanobacterial toxins into the water during the winter. Climate warming may result in an increase of Cyanobacteria as they do well in warm climates and therefore challenge water quality. The issue is that some Cyanobacteria release Cyanotoxins that can be harmful to human health and aquatic ecosystems. Cyanotoxins accumulated in the sediment can be recycled into the water through resuspension events. By resuspending lake sediments in water and analyzing the water samples for toxin concentrations, the sediment is used to test for the potential of sediment resuspension to cause problems related to cyanobacterial toxins during the winter. I collected water and sediment samples from 8 different Lakes. The first test I performed was a Chlorophyll-a test that provided an estimate of algal biomass. I also tested for Microcystins and Anatoxin-a concentrations with Test Strips. More data was collected through World Lake Database for maximum depth and chlorophyll concentrations. Also, the EPA for Microcystins concentration and lake depth. In my overall findings, I concluded that the amounts of Microcystins and Anatoxin-a found in the Eight Colorado Lakes, including samples of water and sediments, were not concerning for the safety of the public if the toxins were re-suspended during the winter into the water. These results suggest that there would be no health risks associated. I was also able to conclude there was a positive correlation between an increasing amount of chlorophyll and Microcystin concentration in shallow lakes.