



CAN DREDGING AND PHOSLOCK DECREASE METHANE EMISSIONS BY CHANGING THE MICROBIAL COMMUNITY?



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Shallow lakes are major hotspots of methane (CH_4), the second most potent greenhouse gas worldwide. Methanogens in the sediment produce CH_4 , while methane oxidizers consume CH_4 , thereby mitigating CH_4 emissions. How disturbances of shallow lakes such as dredging, the removal of the upper layer of the sediment, and addition of phoslock, which binds phosphate, affect the microbial community in the sediment, as well as the CH_4 emissions, is poorly understood.

In this project, you will work at the mesocosms outside of the greenhouses. Half of the mesocosms have been dredged, and half of the mesocosms had phoslock added. You will study how activity of microorganisms in the CH_4 cycle, as well as CH_4 emissions, have changed as a result of disturbances.

You will gain skills in gas flux measurements, lab and molecular techniques, biogeochemistry, shallow lakes, microbial community ecology and multivariate analysis.

Most work will be either outside at the greenhouses working on CH_4 emissions, or inside the lab working on microbial community ecology, depending on your main interests.