Environmental Science Graduate Program Student Seminar Series

Investigating Plant Biomass and Carbon Stocks in a Subarctic Wetland

- **Samantha McCabe**

Cunz 330 | 9-7-18 | 3 - 4 pm

Abstract:

Permafrost thaw is an alarming result of a warming climate, yet also a source of more warming. It has been observed that environmental changes due to permafrost thaw are affecting the annual carbon balance, concerning CO2 and CH4. These environmental changes include a shift in the vegetation communities, which weigh on the stability of the ecosystem's atmospheric carbon sink function. In addition, the shifting plant communities alter the system's hydrology, microbial communities, pH, temperature, and more. Stordalen Mire, a northern peatland in Sweden, was chosen for its active thawing and because it has been intensively studied since the 1970s. This project will consider vegetation shifts, to analyze how plant litter inputs change in quality and quantity across the thaw gradient. It will build on earlier studies and datasets from Stordalen, provided by the Department of Energy funded IsoGenie project. The subsequent goal is to understand the vegetation's impact on the net exchange of green house gases.

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