This week in Soil Science

Soil controls on carbon dynamics in the temperate rainforests of British Columbia and their sensitivity to clear-cutting.

Oliver Heath, MSc Student, supervisor Jean-Thomas Cornelis

Friday, Sept 22, 3:00-4:00 pm

Abstract

As global attention is turning to the drivers of greenhouse gas related climate change, research relating to the natural sequestration of carbon is becoming increasingly relevant. British Columbian forests soils represent a substantial and potentially sensitive pool of carbon. As much forested land in B.C. is managed for timber harvest, these soils are subject to human-caused disturbance. Despite this, the dynamics of carbon within these soils has not received proportionate research attention. Therefore, understanding the carbon dynamics within these soils, and their sensitivity to disturbance is a major step in predicting future fluxes of carbon between the earth and atmosphere.

In this project, we are attempting to understand the link between soil processes, properties, and the dynamics of forest soil carbon sequestration to a depth of one meter. For this reason, we selected three different sites across B.C. with contrasting soil properties as our study locations. We also hoped to probe the impact of deforestation on the capacity of these soils to store carbon by comparing clearcut and undisturbed forests within our study locations. We chose to sample subsoil as well as topsoil, as deep soils often contain significant carbon stocks. Carbon quantification, elemental analyses and assessment of microbial activity will be used to attempt to answer our research hypotheses. We aim to contribute to a greater understanding of drivers of carbon flow in the forest soils of B.C., and the impact humans can have on these processes.

Bio

Oliver Heath is an alumnus of the University of Victoria undergraduate chemistry program who is undertaking a master's of soil science at UBC. He is currently studying the role pedogenic processes hold the dynamics of carbon in forest soils. Another focus of his research is the impact of forestry-based disturbance on those same soils. His project will be done in collaboration with the UBC faculty of Land and Food systems and the Mother Tree Project. Oliver hopes that his research can be used to minimize environmental damage that could lead to an acceleration of climate change.

ALL WELCOME

Join us in-person (McMl room 154) or via zoom (zoom id 669 2240 3792 passcode 500
URL https://ubc.zoom.us/j/66922403792?pwd=dStHeXhscHBZczE5UHVDek1YYUJ2Zz09
Please note that this week's speaker will present via zoom