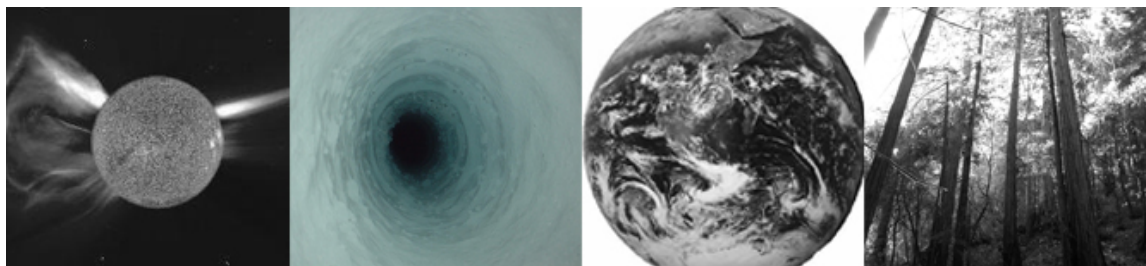


# Environmental Sciences And **CREATE** Seminar Series

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## Controls on ebullition in Alaskan peatlands following permafrost degradation

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Over the past two centuries, atmospheric  $\text{CH}_4$  concentrations have more than doubled. Causes for variability in the growth rate of atmospheric  $\text{CH}_4$  concentrations are unclear because we have limited understanding of the spatial and temporal variations of individual  $\text{CH}_4$  sources, including northern wetlands underlain by permafrost. For assessing feedbacks between carbon storage in northern wetlands and Earth's climate systems, it is crucial to understand  $\text{CH}_4$  emission sources. Carbon rapidly cycling between plants and microbes has a near zero effect on atmospheric carbon, while decomposition of older carbon, which was not part of the active carbon cycle for millennia, results in a net flux of carbon to the atmosphere. As permafrost in northern ecosystems continues to thaw, more organic matter that was previously thermally and physically protected within permafrost will be available for mineralization. This talk will focus on a study that aimed to identify physical and environmental controls on ebullition in collapse bogs in interior Alaska.



All are welcome.

Thursday, **October 10<sup>th</sup>**, 2013

1:15 – 2:05PM

Physical Sciences Centre 2045

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