Controlled burning influence on forest floor processes.

Lead by: Mathew Swallow

Theme: Soils and Nutrient Cycling

Status: Continuing

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Participants

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Background

Timber harvesting can affect long-term forest productivity by altering patterns of nutrient cycling in the soil. Results from recent studies suggest that post-harvest changes in nutrient cycling are caused by a decline in soil microbial activity in response to reduced labile carbon availability. Some studies have also found that organic materials altered by fire can have a negative impact upon soil microbes. On the other hand, fire typically boosts microbial activity and increases nitrogen mineralization. Building on these hypotheses, the link between forest floor carbon chemistry, nitrogen availability and the associated microbial community will be examined and compared in plots that have been harvested with slash distributed on the soil surface, and adjacent plots that have also had the surface slash burned.

Objectives

It is hoped that this study will provide insights into the causal mechanisms responsible for differences among stands and treatments.

Key Results

n/a