Introduction

- The Arctic is warming at a rapid rate, resulting in greater fire frequency and severity
- Fires have a direct effect on plant communities through combustion and indirect effect through changes in environmental conditions and soil nutrient availability
- This study addresses the question: What are the impacts of fire on the growth and berry production of Rubus chamaemorus (cloudberry), an important subsistence plant?

Sampling design



Figure 1. Map of study site located in the Yukon-Kuskokwim Delta. Sample sites were located in burned areas between the years of 1940-2014 (yellow), burned areas from fires in 2015 (red) and areas unaffected by fires.

Methods

- Sample sites were located in areas that burned in 2015 (New Burn), in 1972 (Old Burn), and in areas with no record of fire (Unburned).
- In each burn history we measured soil moisture(%), soil temperature (°C), thaw depth (cm), plant growth characteristics (plant area, leaf area) and flower/fruit phenology in 48 (0.025 m2) plots.
- We collected two leaf samples per plot for specific leaf area and nutrient analysis.

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Discussion

- peoples



- **Future Work**

Lower soil moisture content in the unburned area shown in the top graph could give insight into environmental conditions as a result of fire history • The lower number of plants in the burned areas in the second graph could have negative implications for future subsistence consumption by local native

• The decrease in average crown area for burned plots has potential implications for changing morphology of the cloudberry in response to burn

• Further processing of collected samples to get comparative data on plant and berry nutrient content, leaf area, and berry production, and fruit/flower phenology

Continued / further analysis of data to explore differences in phenology and morphology along landscape gradients