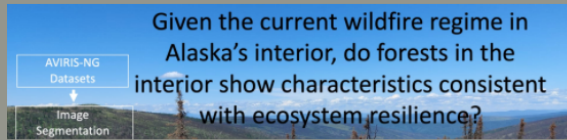# Assessing Alaskan Boreal Forest Landcover Affected by Climate-wildfire Interactions from Ground Truth Surveys and NASA Airborne Remote Sensing
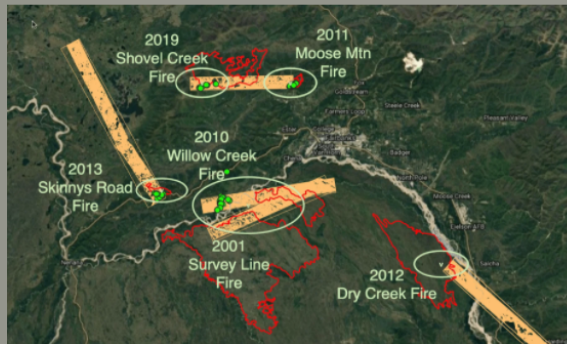
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Motivation for the work

Given the current wildfire regime in Alaska's interior, do forests in the interior show characteristics consistent with ecosystem resilience?

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Methodology

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Main Findings

- **Spectral analysis of LUE, LWC, and NPV showed tree stress in 2017 at a site that burned in 2019.**
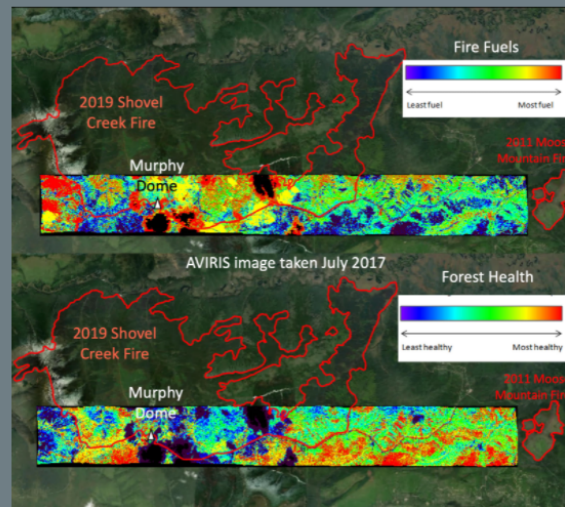

Figure 5. Spectral analysis of narrowband greenness, LUE, LWC and NPV of 2017 AVIRIS-NG image of Moose Mountain (Fairbanks, Alaska) shows ranges of fire fuels and forest health associated with tree stress. Red outlines show the boundary of the 2019 Shovel Creek fire. The peak of Murphy Dome (elevation 893 m) is shown for reference.

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Other Results & Implications

- **Tree seedling densities were 4 to 80 times larger in post-burned sites** than in unburned forest (Figure 7)

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Future Work, Acknowledgements, & References

Future Work:

- Reclassification of AVIRIS scenes directly based on post-GT confirmation of endmembers
- Analysis of radial growth from tree cores
- Further spectral analysis of tree stress in AVIRIS scenes
- A higher resolution vegetation map (including differentiation of aspen and birch forest) to track areas vulnerable to fire and insect attack.

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