

Continuing Project

Physiologic Response to Commercial Fertilization Programs in Pacific Northwest Forest Plantations

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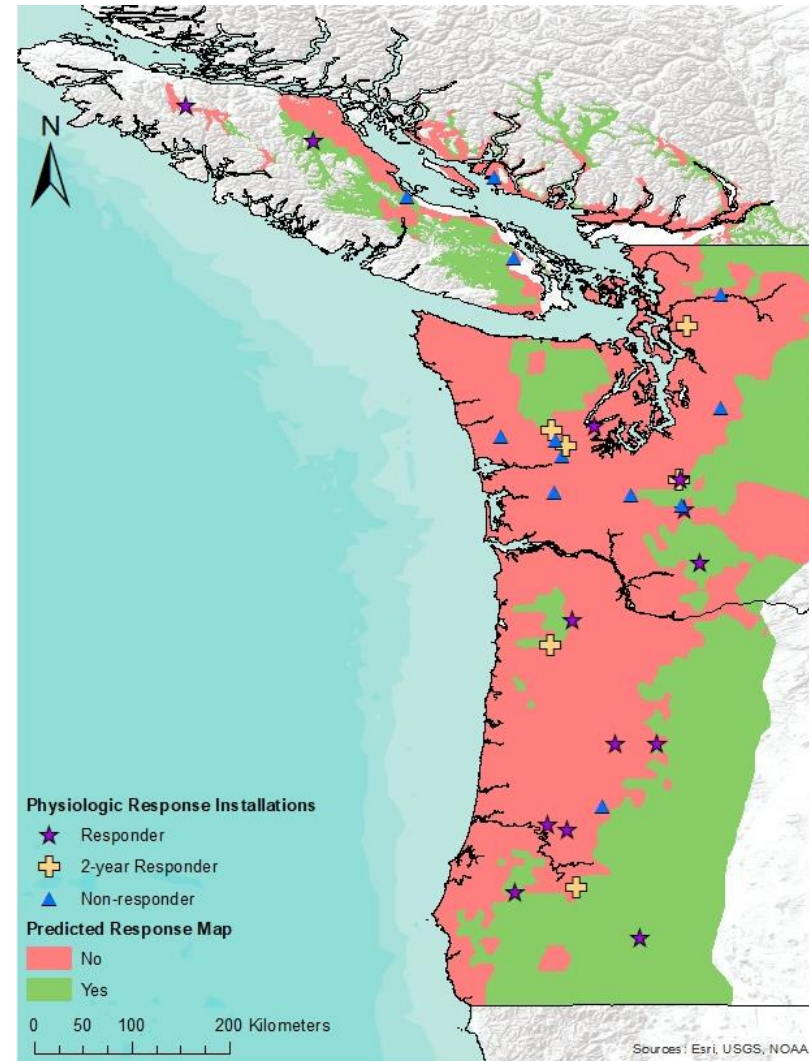
Project Overview

Objectives

1. Investigate mechanisms of physiologic response to fertilization under soil and site conditions
2. Develop regional silvicultural guidelines for commercial forest operations
3. Provide data to inform changes in silvicultural treatments due to future climate change

Methods

1. Measure earlywood and latewood growth on previously fertilized Douglas-fir installations
2. Determine change in C and O isotopes due to fertilization up to six years after fertilization
3. Estimate physiologic response to fertilization in responding, temporary responding, and non-responding installations

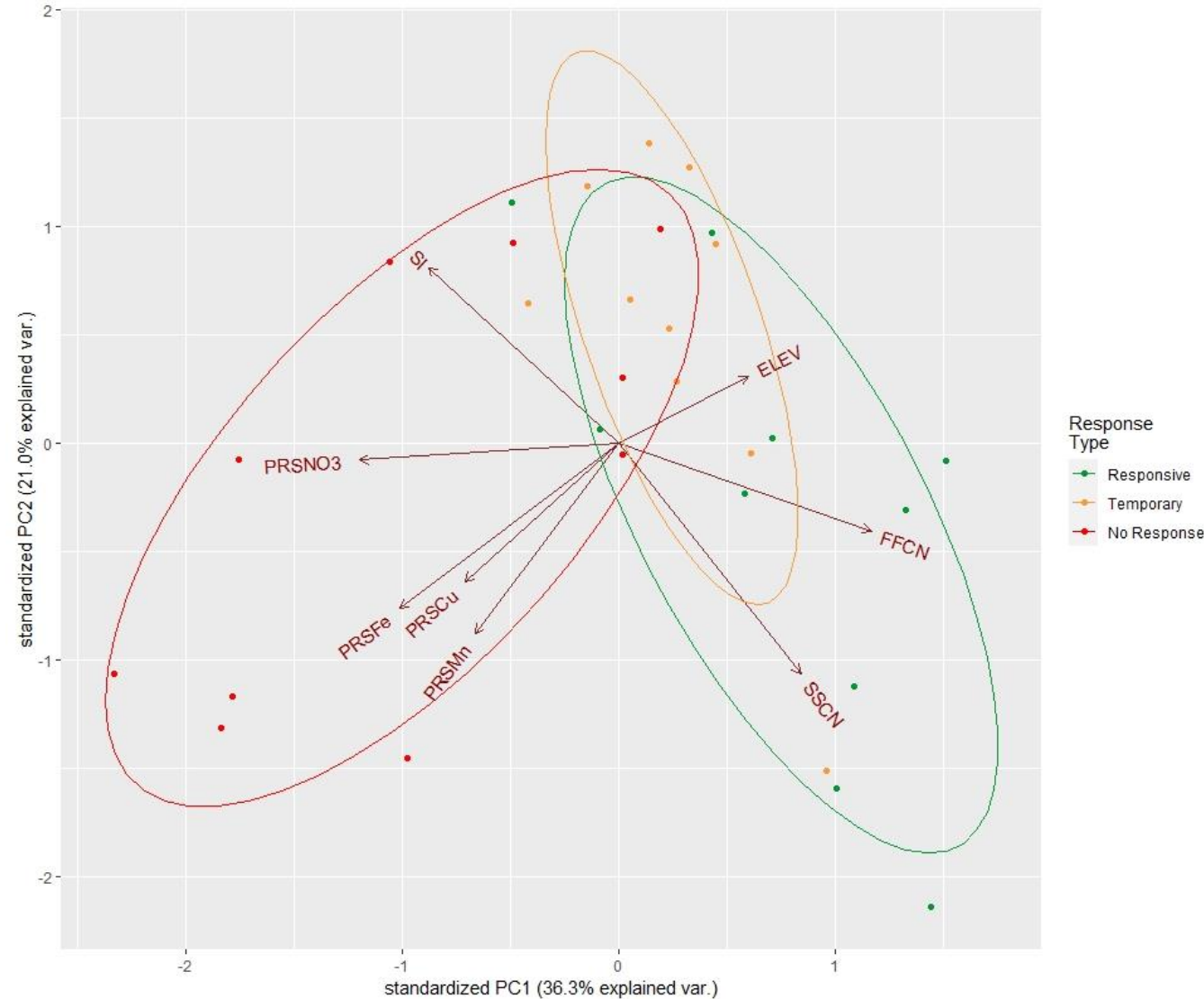


Current Progress

- 30 installations cored, dated, and measured for earlywood and latewood growth
- 15 installations split into earlywood and latewood for -4 - 6 years after fertilization
 - Waiting for rings 2-4 years prior to fertilization to be analyzed
 - Will start splitting tree rings of next 15 installations
- Examined differences between responding, temporary response, and non-responding installations



Current Progress



- Responders have greater elevation, forest floor and soil C:N ratio
 - Lower site index
- Temporary responders have the lowest PRS Fe, Cu, and Mn adsorption
- Non-responders had the greatest PRS NO₃ adsorption



Future Plans

- Analyze next 15 installations for C and O isotopes
- Publish peer-reviewed publications from the results of this study

