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SAMURS Abstract

Abstract:

Current forest landscape dynamics allow for many of the catastrophic wildfires we see across the west coast, prompting urgent need to restructure the way we manage fire across the United States. The premise of this study is to examine how mixed-conifer subalpine forest composition is affected by different severities of wildfire. Research was conducted at randomly chosen GIS plots at severe, moderate, low, and no burn fire severity. Sapling, tree species & composition, and dead-woody fuel composition analysis were conducted at each individual plot. Statistical analysis was performed on our pre-fire and post-fire landscapes, as well as different severities of fire comparing the differences in fuel loading and species composition/density. This was achieved through ANOVA testing, and we found that fuel loading was substantially impacted across various fire severities with fuel loading post-fire declining as severity increased. Dominant tree species *Pinus contorta*, *Pinus ponderosa*, and *Abies concolor* pre-fire were continuing to make up the majority of the landscape at low-no severity fires, and becoming moderately less frequent as severity increased post-fire. *The same three trees remained dominant saplings post-fire.* The results of the project can be used to create computer models of what future landscapes will possibly look like, where fire can be applied, and where risk assessments can be conducted.