The Effect of Climate Change on Carbon Sequestration in Pinus ponderosa

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This experiment examined changes in total annual precipitation and average annual temperature and their impacts on the natural carbon sequestration of Pinus Ponderosa. Tree core samples were taken from Washington and Deschutes Counties, two different climate zones. Two samples were taken from each of fifteen trees in each county, resulting in a total of sixty samples. Forty rings from each sample were measured using a micrometer, representing data from the last twenty years of growth (2001-2020). The first set of rings, corresponding to 2021, was disregarded. Through a series of T-tests, it was determined that there was a statistical difference between the total annual ring width (mm) in each county. Regression analysis testing revealed that the difference in the growth of the trees was not highly correlated to either total annual rainfall or average annual temperature. This suggests there may be another significant factor or combination of factors affecting the growth of Pinus Ponderosa and its ability to sequester carbon.

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