

RESTORATION ECOLOGY IN PINYON-JUNIPER ECOSYSTEMS

GRAND JUNCTION, COLORADO, MESA COUNTY

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PROJECT INTRODUCTION



Dr. Miranda Redmond's research in Pinyon-Juniper woodlands of the Southwest aims to develop modern management techniques that will encourage resiliency in a very drought-stressed ecosystem. My position contributed to long-term monitoring of tree recruitment and mortality.

INTERNSHIP GOALS

- Contribute to research efforts and gain knowledge about the Pinyon-Juniper ecosystem
- Understand the mechanisms that are driving change
- Utilize new tools in the field and use them proficiently
- Collect and record field data
- Build community connections beyond the Front Range

HOW DOES THIS APPLY TO YOUR EDUCATION

- Gained invaluable field experience
- Insight into a future career in science
- Learned about developing an experimental field design

WHAT YOU DID

UNDERSTORY VEGETATION MONITORING

- Field stints ranging from 4-8 days- Camping!
- 3 locations: NW Colorado, SW Colorado, and Flagstaff AZ
- Each location consisted of 3 study sites, each with 45 sample trees
- Collected data at each tree: juvenile health status, stand structure, and focal tree status
- Assisted with collecting ecophysiology measurements; water potential, photosynthetic gas exchange
- Captured hemisphere photos of each tree for annual comparison



WHAT YOU LEARNED



- Deeper understanding of Pinyon-Juniper ecosystem and driving forces that are affecting functionality
- The importance of accurately collecting, labeling and dating field data
- Utilize field tools such as a laser hypsometer and pressure bomb
- Developed data entry skills

NEXT STEPS

- Assist with data entry and analysis
- Help to discover trends in the data
- Eventually assist in developing management recommendations for Pinyon-Juniper ecosystem
- Apply for graduate school