

Internship Title: Climate Adaptive Forest Management in Colorado

Mentor Team:

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Other Mentors:

Blair Rynearson, Acting State Forest Manager, Colorado State Forest Service, Blair.Rynearson@colostate.edu

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Work Regions:

Jackson County, CO; Larimer County, CO; Archuleta County, CO (if possible)

Internship Goals, Scope and Objectives:

Climate change necessitates collaboration and an understanding of how foresters can begin to adapt management to meet the needs of a climatically altered future. The [Adaptive Silviculture for Climate Change \(ASCC\) Network](#) seeks to understand what climate adaptive management looks like in different forest types by bringing local experts, scientists and land managers together to develop experimental forest management approaches for specific forests, and then continues to assess the outcomes of these different treatments. The ASCC framework develops three experimental treatments centered on resistance, resilience and transition, with goals, objectives and evaluation criteria developed as part of a collaborative group consensus. In December 2020, the Colorado State Forest Service worked with the ASCC Network Leads (Nagel and Peterson at CSU) to develop a set of experimental treatments for the Colorado State Forest near Cameron Peak, CO.

While stakeholder engagement is high within individual projects, engaging broader audiences surrounding climate adaptation in forest management is more difficult. This internship position will help produce an outreach and engagement plan, which includes easily disseminated outreach materials that summarize ASCC forest management treatments, with special attention to differentiating resistance, resilience and transition adaptation approaches in the form of [story-maps](#) using GIS technology. Our student intern will work closely with mentors, ASCC Network personnel, members of the [Northern Institute of Applied Climate Science](#) and the Colorado State Forest Service (CSFS) Science and Data, Communications and Communities, and Forestry Services divisions to produce visual summaries of ASCC projects in Colorado (a second ASCC site is located on the San Juan National Forest). These maps will focus on climate change predictions, treatment development and the specific adaptation actions designed for the Colorado sites. These visual story-maps can be used by stakeholders to increase awareness and understanding of what climate adaptive forest management looks like within the state of Colorado.

Project Identification:

The recent (December 8-10, 2020) CO State Forest ASCC workshop highlighted additional data needs from field staff for the 2021 season, and helped foster a renewed effort to engage non-specialists in seeking funding for these projects. We see this internship as an opportunity to begin producing materials that can be easily understood and disseminated to various satellite stakeholder groups who work closely with CSFS staff, as well as for future needs of CSFS field staff in securing grant funding for forest management that meets the goals of the [2020 Colorado Forest Action Plan](#). Others within CSU Extension will benefit from this internship position as we increase our understanding and communication of climate change impacts to Colorado's diverse forest ecosystems.

Stakeholder Groups:

Colorado State Forest Service

Adaptive Silviculture for Climate Change Network managers and scientists

Forest and Rangeland Stewardship Department faculty and staff

Northern Institute of Applied Climate Science climate change specialists

USDA Forest Service Rocky Mountain Research Station

Additional forest managers in Colorado

Student Learning Outcomes:

Through participation in this internship position, the selected student will:

- Gain considerable understanding in the world of climate adaptive silviculture, from the use of silvicultural and ecological terminology, to an understanding of how climate change will impact different Colorado forest-types;
- Receive first-hand experience in working collaboratively across stakeholder groups to meet common goals of the ASCC Network;
- Gain experience with assessing and summarizing applied research related to climate change in Colorado;
- Gain experience in effective communication, especially of scientific insight, to provide a bridge between scientists/practitioners/land managers and diverse audiences; and
- Have an opportunity to collect project data, take photos, and experience first-hand the project site at the Colorado State Forest. Professional development opportunities overlap with other CSFS/WCNR intern workshops and training programs currently planned for the 2021 field season.

Desired Student Intern Qualifications:

- Demonstrated career interest in forestry or related natural resource fields
- Good academic standing within CSU
- Good written and oral communications
- Experience with ArcGIS
- Ability to use platforms like MS Word, Excel and PowerPoint
- Ability and willingness to travel to Colorado State Forest for 1-3 day-long trips, potentially including camping

Mentor Style:

We are excited to see what new ideas, insights, and skills this intern will bring to the ASCC Network. We will provide some models, guidance, and counselling of project ideas, but will encourage the intern to meet their personal goals for career development through experimentation and innovation. We will also provide connections to other professional forest managers and scientists in the field of climate adaptive silviculture, establishing networking opportunities for this intern. We will not micromanage, but instead provide support and encouragement to the intern as they work to achieve project and career goals through this position.

Housing:

Funds are limited for travel for these interns, and we wish to base the intern in the Front Range, thereby decreasing housing needs.