

Adaptive Silviculture for Climate Change Project Summary

Background Information

The Adaptive Silviculture for Climate Change (ASCC) project represents an effort to establish a series of experimental silvicultural trials in 4-5 distinct forest types spread across the eastern and western United States.

Each trial will serve as part of a multi-region study focused on understanding long-term ecosystem responses to several broad-spectrum climate change adaptation options.

Project Goals

1. Populate a multi-region study design with ecosystem-specific climate change adaptation treatments in 4-5 different forest types across the United States using input from an expert panel of regional scientists and local managers.

- Identify Experimental Forests or National Forests to host ASCC workshops and adaptive silviculture trials.
- Select a focus ecosystem/forest type and probable study area on each host Forest.
- Assess climate change impacts and vulnerabilities relevant to management goals for the study area.
- Develop climate change adaptation treatments in the themes of *resistance*, *resilience*, and *transition* for each study area.
- Identify monitoring and data collection needs and protocols.
- Initiate collaborative efforts to implement on-the-ground treatments and monitoring programs.

2. Introduce natural resource managers to conceptual tools and approaches that help integrate climate change into silvicultural planning and decision-making.

- Discuss regional climate change projections, impacts, and vulnerabilities.
- Identify possible climate change adaptation approaches and tactics based on local ecosystems, specific site conditions, and real-world management objectives.



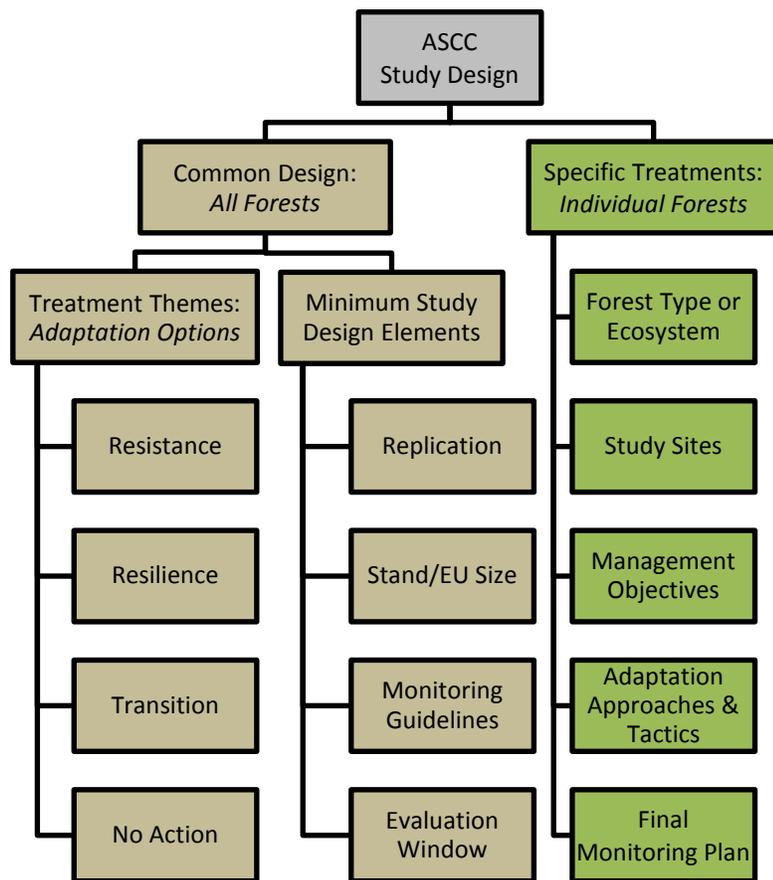


Figure 1. Individual ASCC trials are shaped by both a common study design (brown boxes) and local factors (green boxes).

Study Design Basics

- ASCC has a two-tiered design that will allow us to investigate broad questions about climate change adaptation across all study sites while also addressing questions with application to on-the-ground management at the individual study sites (Figure 1).
- Each ASCC trial will include replicated silvicultural treatments that represent a set of common climate change adaptation options.
- Treatment specifics at individual locations will vary based on local conditions, management objectives, and climate change vulnerabilities.
- A set of management goals will provide guidance during treatment development at individual study sites to ensure that resistance, resilience, and transition treatments can be compared across sites.
- These common management goals focus on treatment outcomes related to species composition, forest health, productivity, and responses to extreme events.
- We will use an adaptive planning process to guide treatment development and implementation based on the Adaptation Workbook section of the [Forest Adaptation Resources: Climate Change Tools and Approaches for Land Managers](#) (Swanston and Janowiak 2012).

Key Participants

A **Science Committee** composed of USFS and university scientists has been developing the project's structure and study design.

Expert Panels composed of scientists with regional expertise and key managers from each host Forest will help select locations and develop detailed treatment prescriptions for each study area.

Focus Groups composed of managers from the host Forest and collaborating organizations will receive climate change adaptation training and help identify possible adaptation approaches and tactics for local ecosystems.

ASCC Project Team

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