Adaptive Silviculture for Climate Change (ASCC)
Experimental Treatment Definitions and Goals

	Adaptation Treatment Definition	Adaptation Treatment Goal
Resistance	Actions that improve the defenses of the forest against anticipated changes or **directly defend the forest against disturbance** in order to **maintain relatively unchanged conditions**.	Maintain relatively unchanged conditions over time.
Resilience	Actions that accommodate some degree of change, but **encourage a return to a prior condition or desired reference conditions following disturbance**.	Allow some change in current conditions, but encourage an eventual return to reference conditions.
Transition	Actions that intentionally accommodate change and enable ecosystems to **adaptively respond to changing and new conditions.**	Actively facilitate change to encourage adaptive responses.
No Action	Since climate change impacts all forests globally, we cannot maintain a true "control." With this in mind, we consider an approach in which forests are allowed to respond to climate change in the **absence of direct silvicultural intervention** as an appropriate baseline for many questions.	Allow forests to respond to climate change without direct management intervention.

Developing the ASCC Experimental Treatments:

ASCC Network Experimental Goals: Broad, desired outcomes of the overall ASCC experimental study.

- Create a multi-region study with locally-suited climate change adaptation treatments, using input from an expert panel of regional scientists and local managers; and
- Introduce natural resource managers to conceptual tools and approaches that help integrate climate change into resource management and silvicultural decision making.

Definitions:

1. **Management Goals*:** Broad, general statements, usually not quantifiable, that describe the desired outcomes of each adaptation treatment (*resistance, resilience, transition, no action*).

2. **Desired Future Conditions (DFCs)*:** A description of the land or resource conditions that are believed necessary to fully meet the ***goals*** and ***objectives*** of each adaptation treatment.

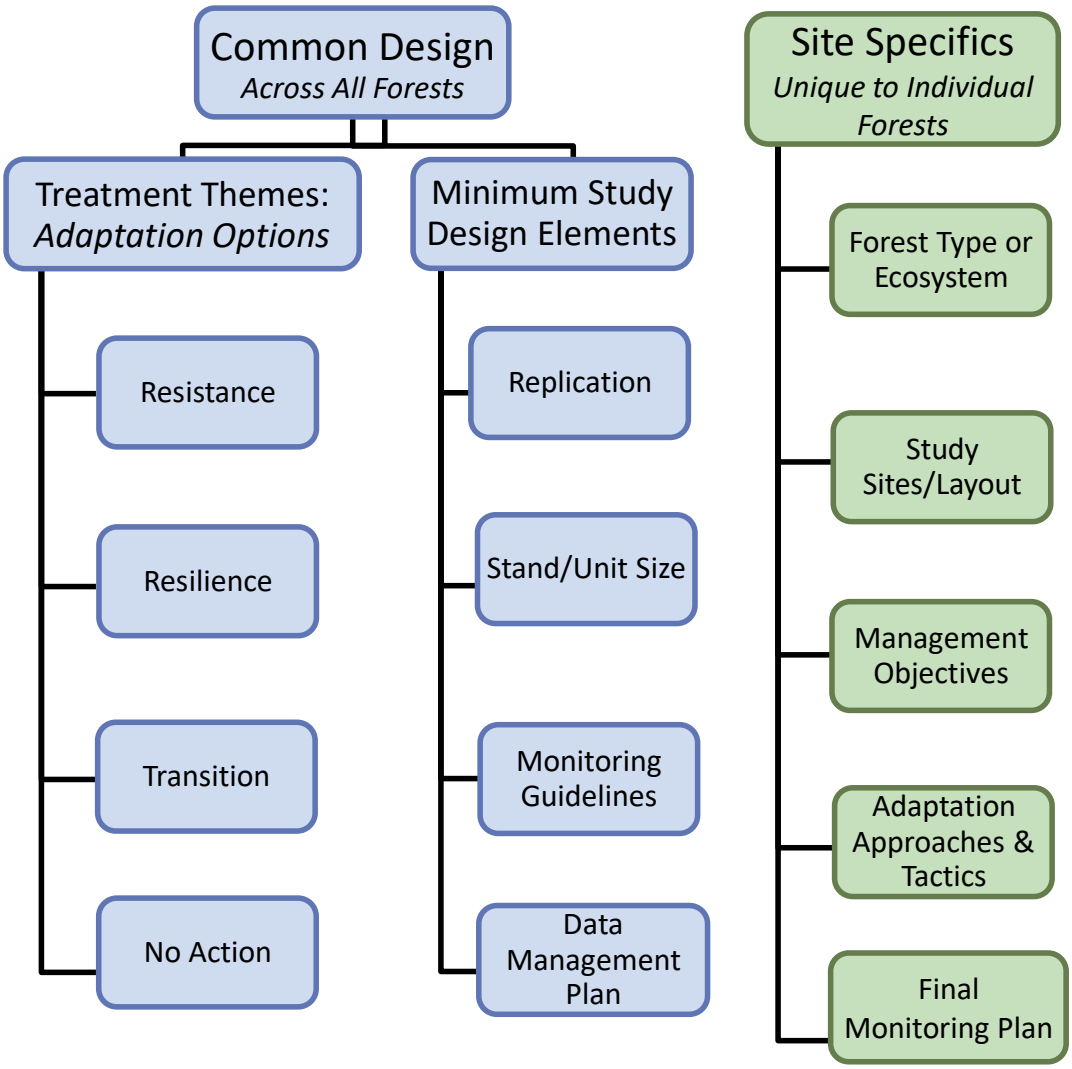
3. **Management Objectives*:** A concise, time-specific statement of measurable planned results that correspond to pre-established ***desired future conditions.***
   note – an **objective commonly includes information on resources to be used, forms the basis for further planning to define the precise steps to be taken and the resources to be used and assigned responsibly in achieving the identified **goals***

4. **Practice*:** A specific activity, measure, course of action, or treatment undertaken on a forest ownership.

5. **Practice = Tactic**

**Definitions from: SAF Dictionary of Forestry 2018*

How the ASCC Project Fits Together



ASCC Network Common Design Standards:

- ***Adaptation Options & Replication***: All ASCC study sites consist of replicates of the four treatments (resistance, resilience, transition, and no action) across a reasonably ***uniform study area***.
- ***Evaluation Window:*** A common measurement protocol within a determined evaluation window (short- and long-term) and includes pre-treatment measurements ahead of treatment implementation, allowing for future cross-site comparisons.
- ***Monitoring Guidelines:*** A common set of core monitoring variables, including overstory, mid-story, and understory forest composition, assessment of forest health, and measures of productivity or other ecosystem services. Each ASCC experimental unit is measured before and after treatment implementation, and is re-measured at consistent time intervals (i.e. 3, 5 and 10 years following treatment).
- ***Data Management Plan*****:** Sites follow a standard set of guidelines to assure the long-term preservation of experimental notes, metadata, and data. Each ASCC site maintains basic pre- and post-treatment monitoring data in a common template format to facilitate future collaborative research.

ASCC Network Site Specifics:

- Each ASCC site is a different forest type and has its own site-specific characteristics, opportunities, and constraints, layout concerns, management objectives, and tactics.
- Each ASCC treatment unit is operational in scale and reflects the broader socio-environmental context.
- A panel of expert scientists and managers at each ASCC study site determine the particular study areas within their region that are appropriate for treatment, and tailor the specific treatment design elements to local conditions and concerns.