



**April 14-15, 2015**  
**Morgantown, WV**

# Climate Change and West Virginia's Forests



# Northern Institute of Applied Climate Science

*NIACS is a multi-institutional partnership*

## Forest Service

- Northern Research Station
- Eastern Region
- Northeastern Area S&PF



**ncasi**

## Non-FS partners

- Michigan Technological University
- National Council for Air & Stream Improvement
- Trust for Public Land
- College of Food, Agriculture and Natural Resource Sciences



[www.nrs.fs.fed.us/niacs/](http://www.nrs.fs.fed.us/niacs/)





CLIMATE HUBS

# NORTHERN FORESTS SUB HUB



**The Climate Is Changing.  
How Will You Manage For It?**

The region's forests are a national asset; they contain:

**42%** of U.S. forests

**32%** of U.S. timberland

**41%** of U.S. population

## The climate is changing

*The climate has changed and will*

### The Northern Forests Sub Hub

assists natural resource managers, woodland owners, and others interested in forests with integrating climate change information into planning, decision making, and management activities.

## Science delivery

The USDA Climate Sub Hub delivers science-based tools and information to land managers so they can make climate-informed decisions now.

The Sub Hub is a collaborative effort between agencies, universities, states, tribes and other groups. Connecting land managers to the

### The Sub Hub assists

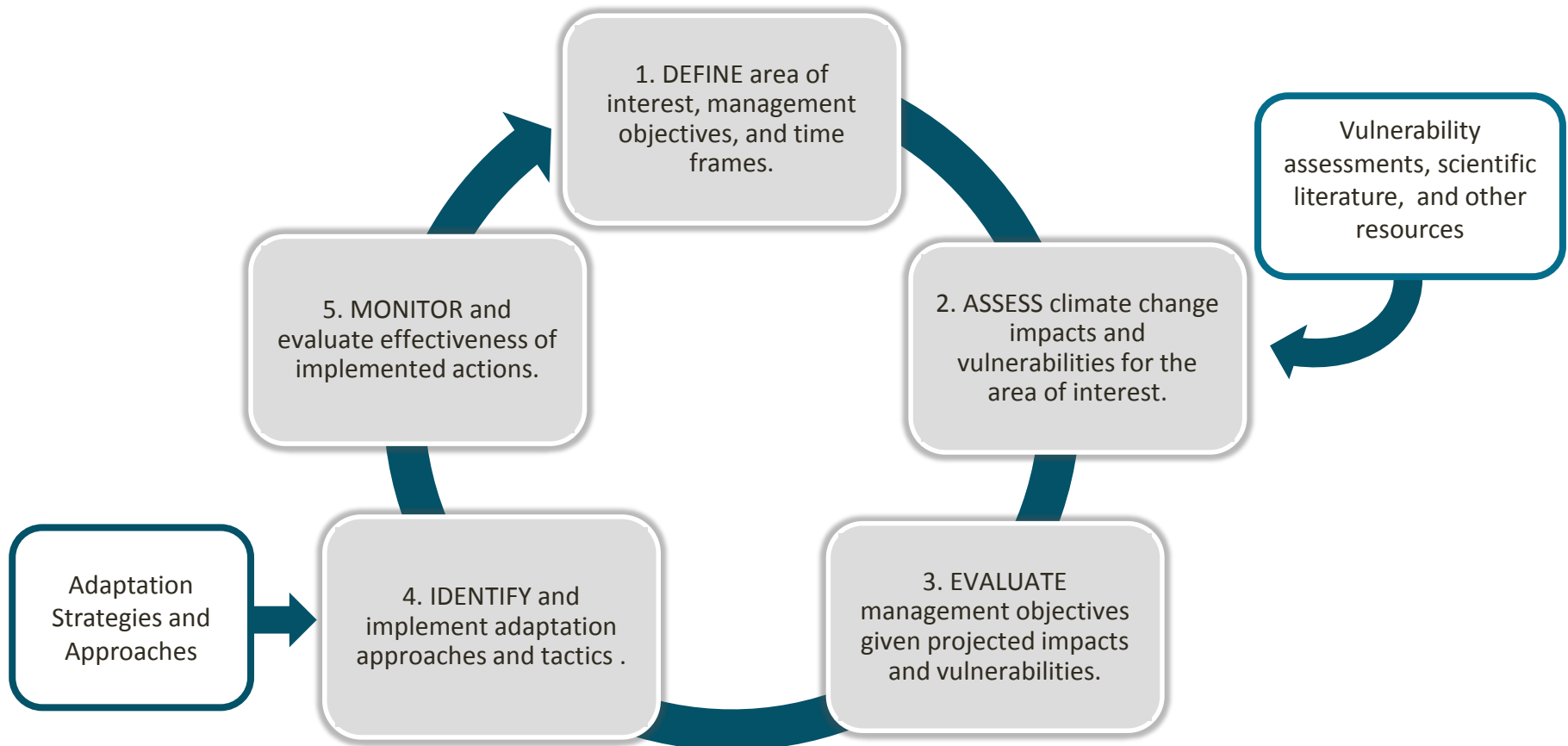
- Professional Resource Managers
- Cooperative Extension agents
- Private Landowners
- USDA Technical Service Providers

# April 14 – Agenda

- 9:30 West Virginia's Changing Climate
- 10:15 Climate Change Effects on Forest Ecosystems
- 10:00 *Break*
- 11:00 Climate Change Effects on Hydrology and Wildlife
- 12:00 *Lunch*
- 1:00 Adapting Forests to Climate Change
- 1:30 Real-world Examples of Forest Adaptation
- 2:15 *Break*
- 2:30 Activity: Integrating Climate Change Into Your Work
- 4:00 Adjourn

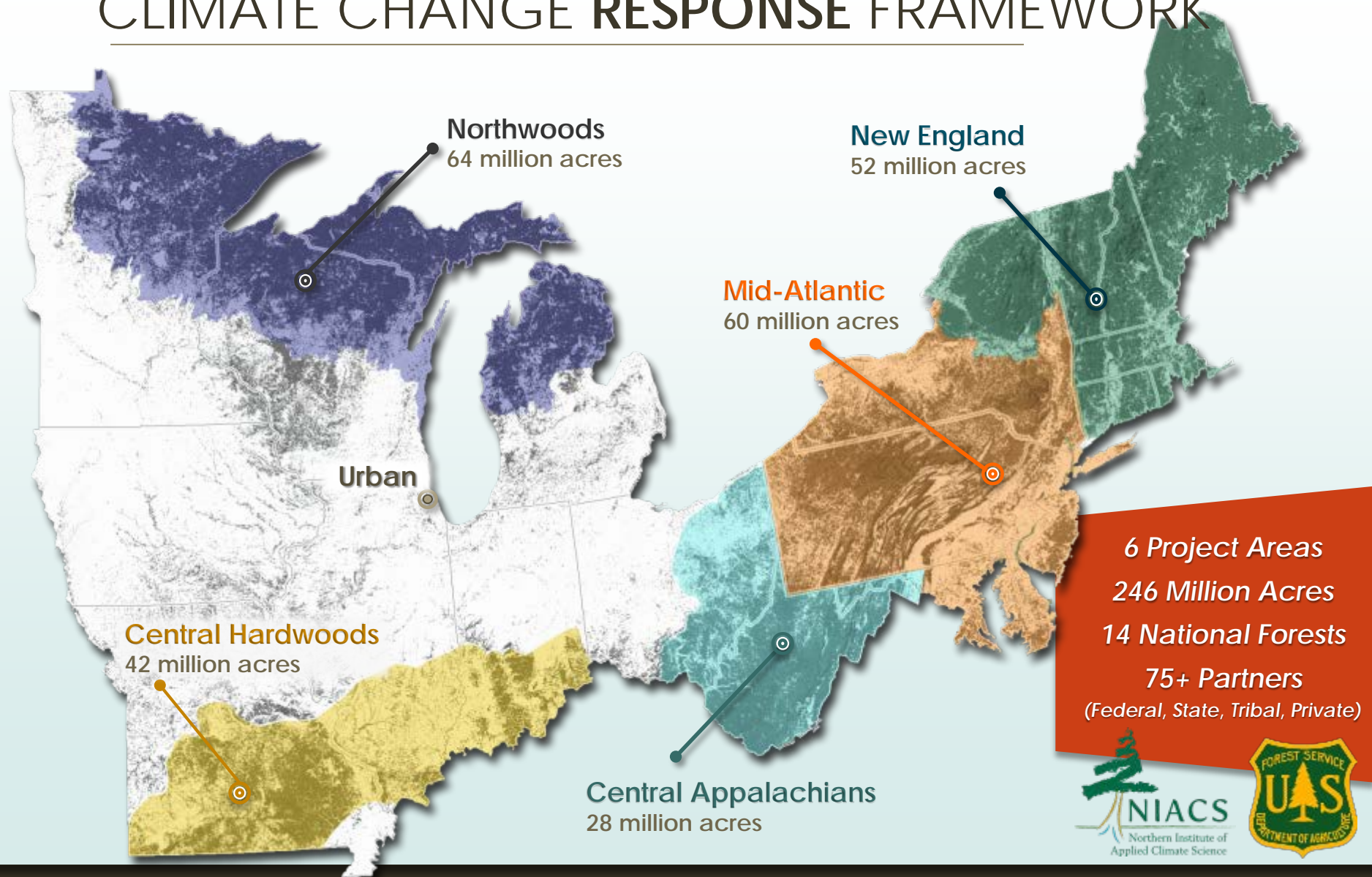
# April 15– Hands-on Training

An active, hands-on training, to assist natural resource professionals in incorporating climate change considerations and identifying actions for adaptation into their own real-world management and conservation projects.





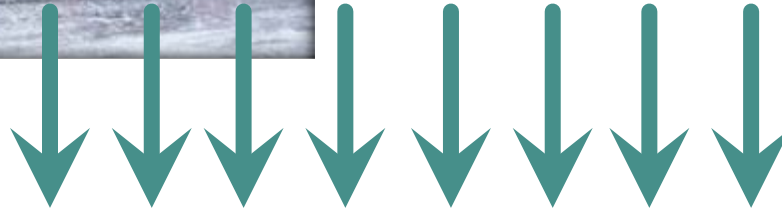
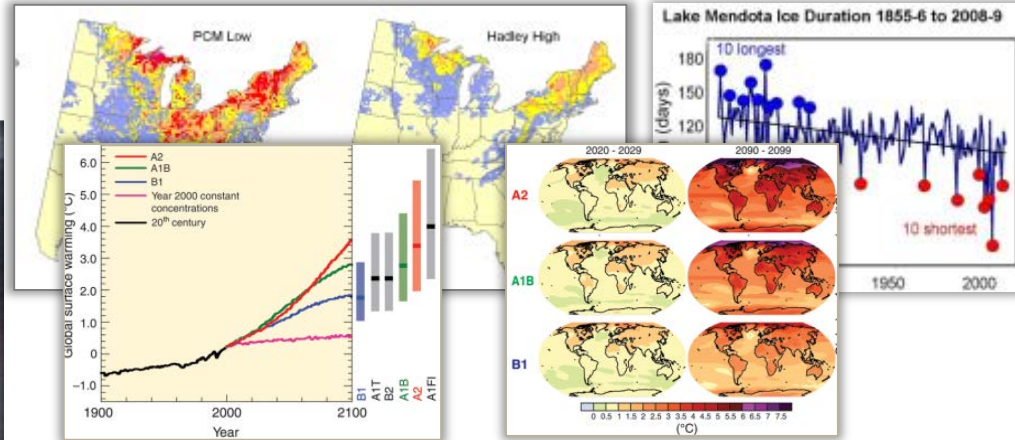
# CLIMATE CHANGE RESPONSE FRAMEWORK



Climate-Informed  
Conservation and Forest Management

[forestadaptation.org](http://forestadaptation.org)

# When we started...



# Responding to Climate Change

**There is not a single “answer”**

~~Manager's Guide~~

~~Decision Tree~~

~~E-Z Whiz-bang Tool~~

***Critical to start with:***

**The place**

**Management goals  
& objectives**

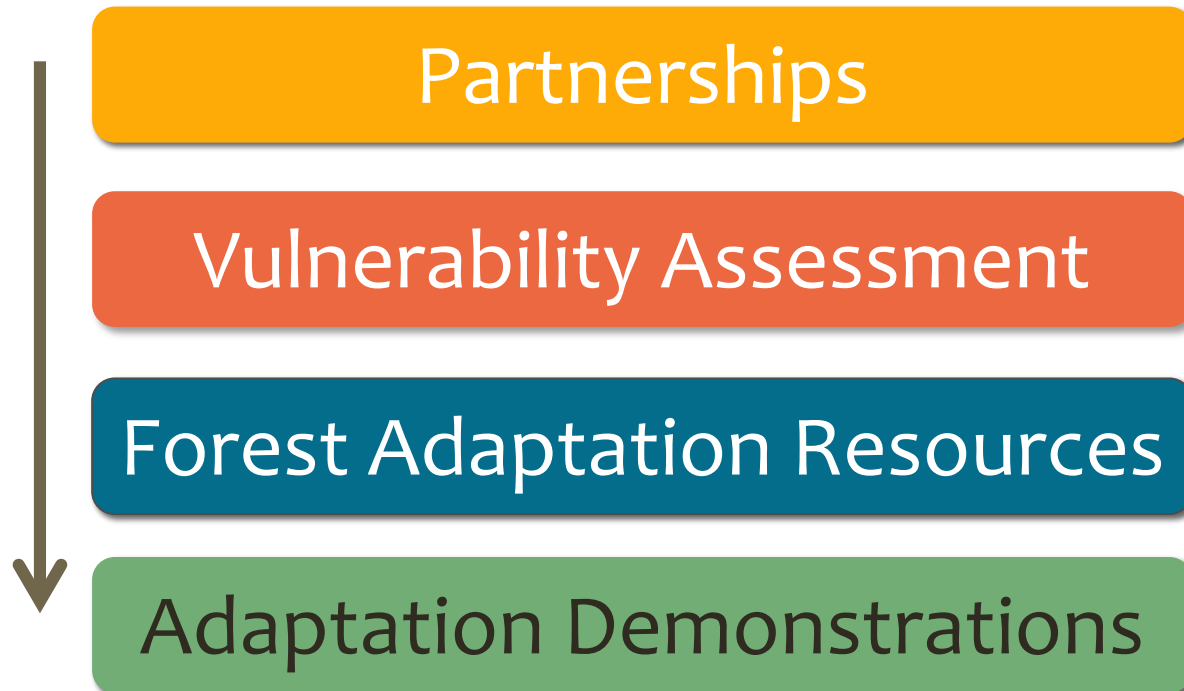




# Climate Change Response Framework

Structured, process oriented, works on multiple scales

## Components:



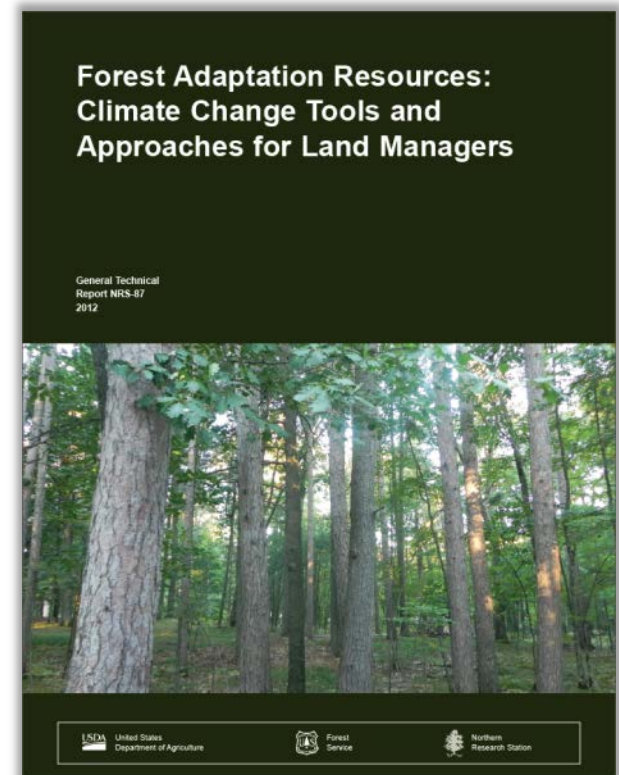
# Vulnerability Assessments

- High-quality information about future change in climate and potential effects on forest ecosystems
- In New England, synthesizing current state and regional assessments to highlight greatest risks



# Forest Adaptation Resources

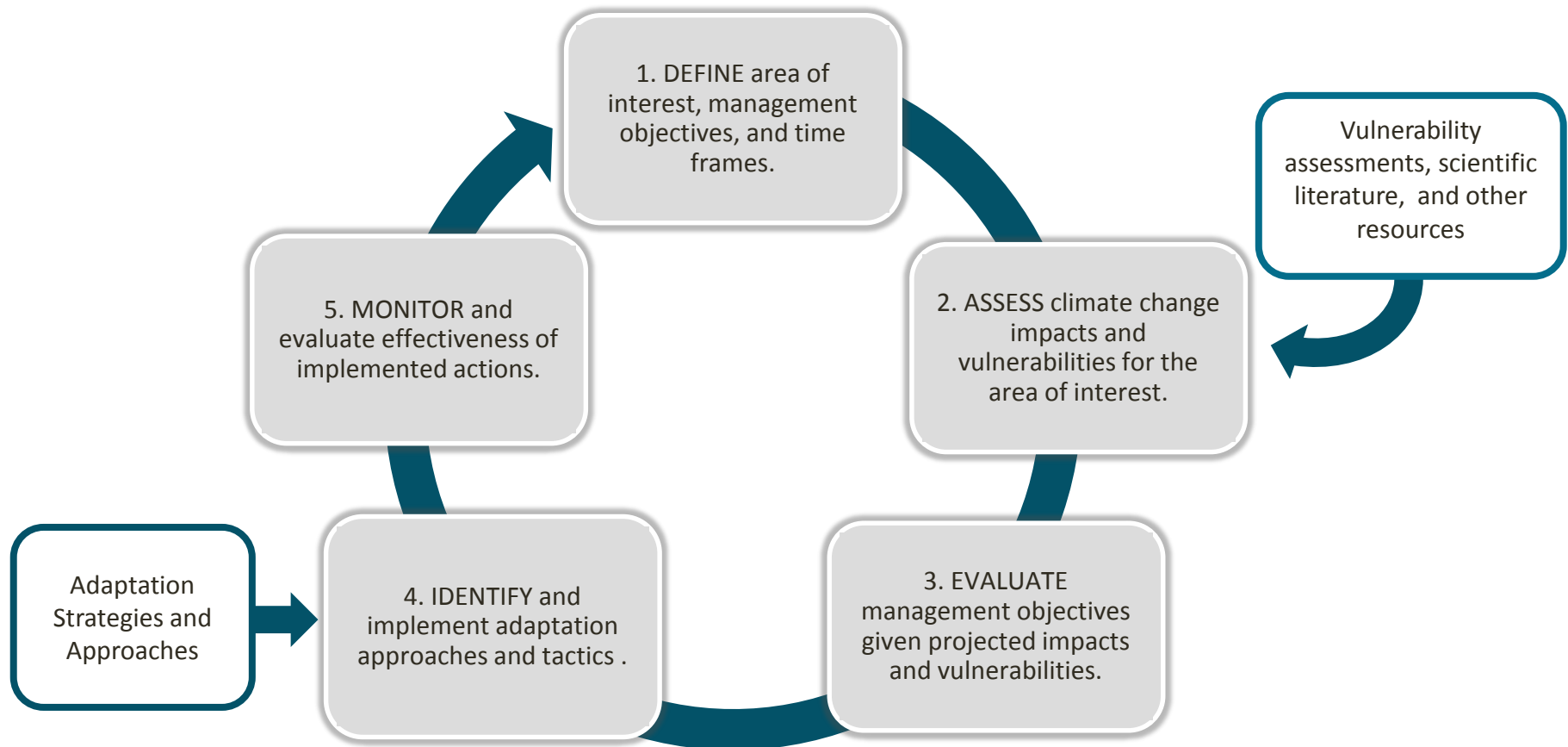
- Designed for a variety of land managers
- Does not make recommendations
- Menu of strategies & approaches for climate change adaptation
- Adaptation workbook process for implementation





# Forest Adaptation Resources

Provides **structured process** to integrate climate change considerations into management planning and activities



# Forest Adaptation Resources

Step-by-step **Adaptation Workbook** for planning

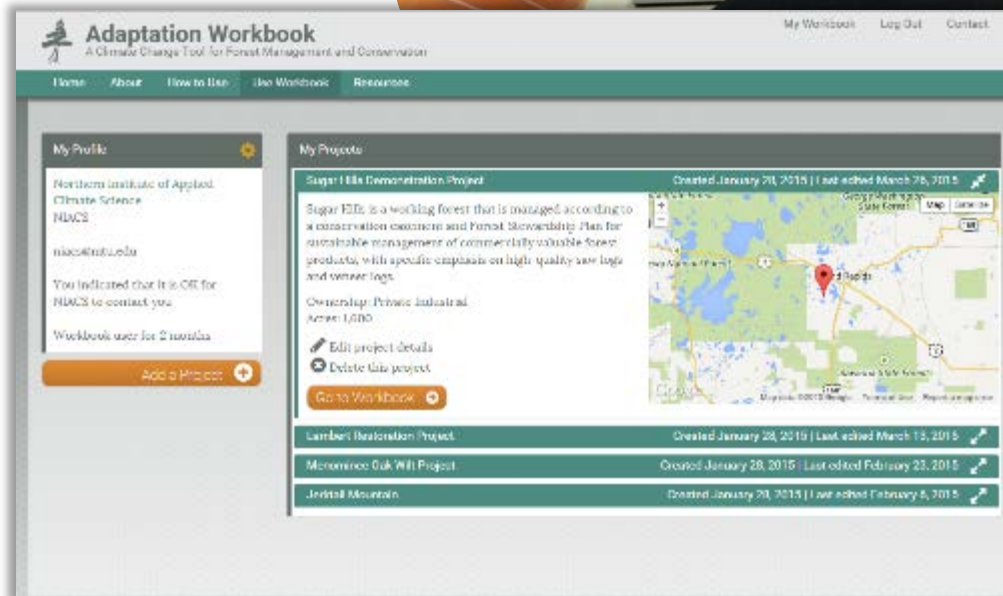
Management Objectives	Challenges	Opportunities	Feasibility	Other Considerations

Adaptation Actions			Benefits	Drawbacks/ Barriers	Recommend Tactic?
Approach (From Chapter 2)	Tactic	Time Frame			

# Forest Adaptation Resources

## Ways the **Adaptation Workbook** can be used:

- Coordinator facilitates individual or small group
- Forest Adaptation Planning and Practices workshop
  - General (West Virginia)
  - Public agencies (NRCS, DNR)
  - Conservation (WCS; DU; TNC)
- Managers use the workbook independently
  - NEW Online version!!
  - [www.adaptationworkbook.org](http://www.adaptationworkbook.org)



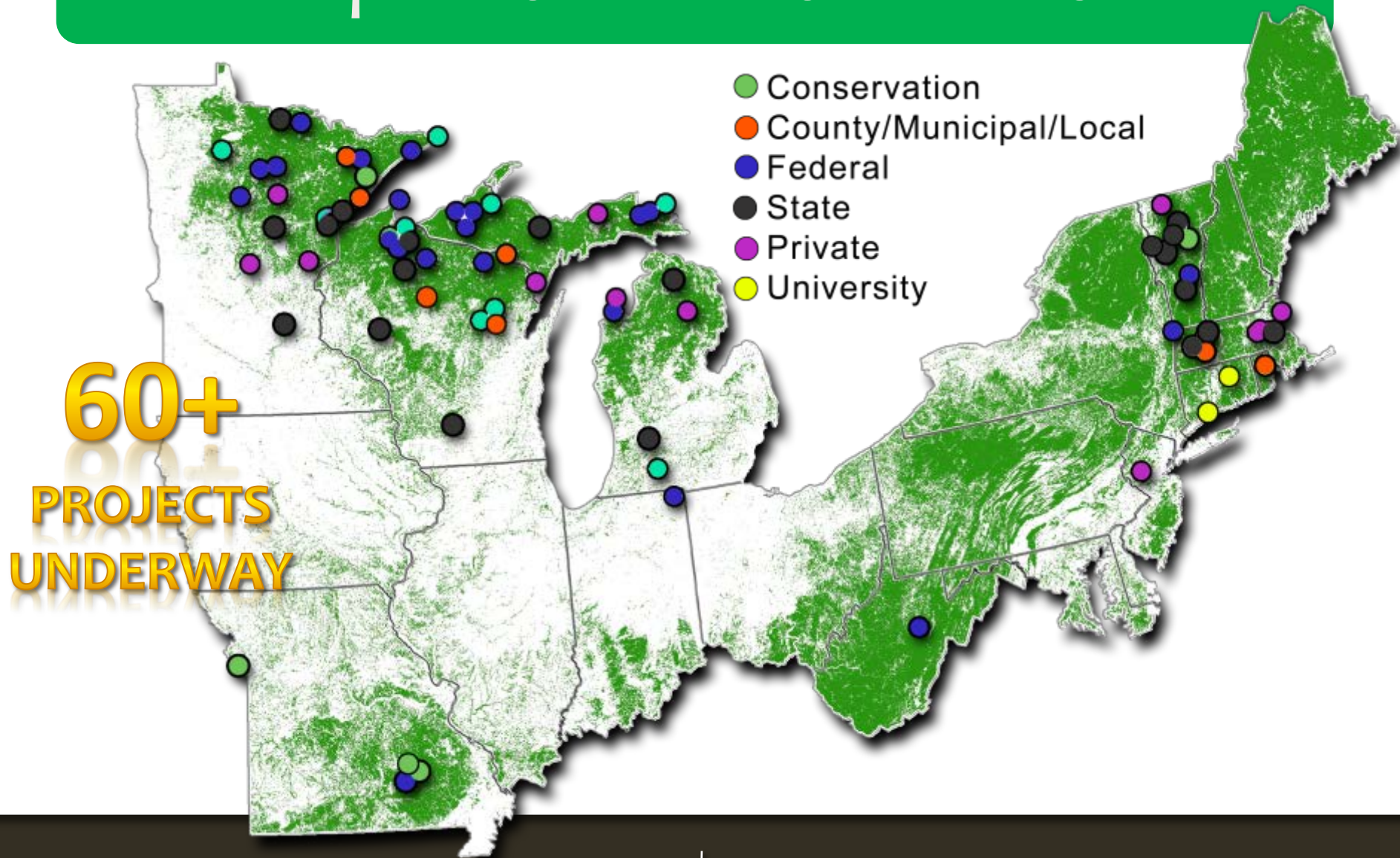




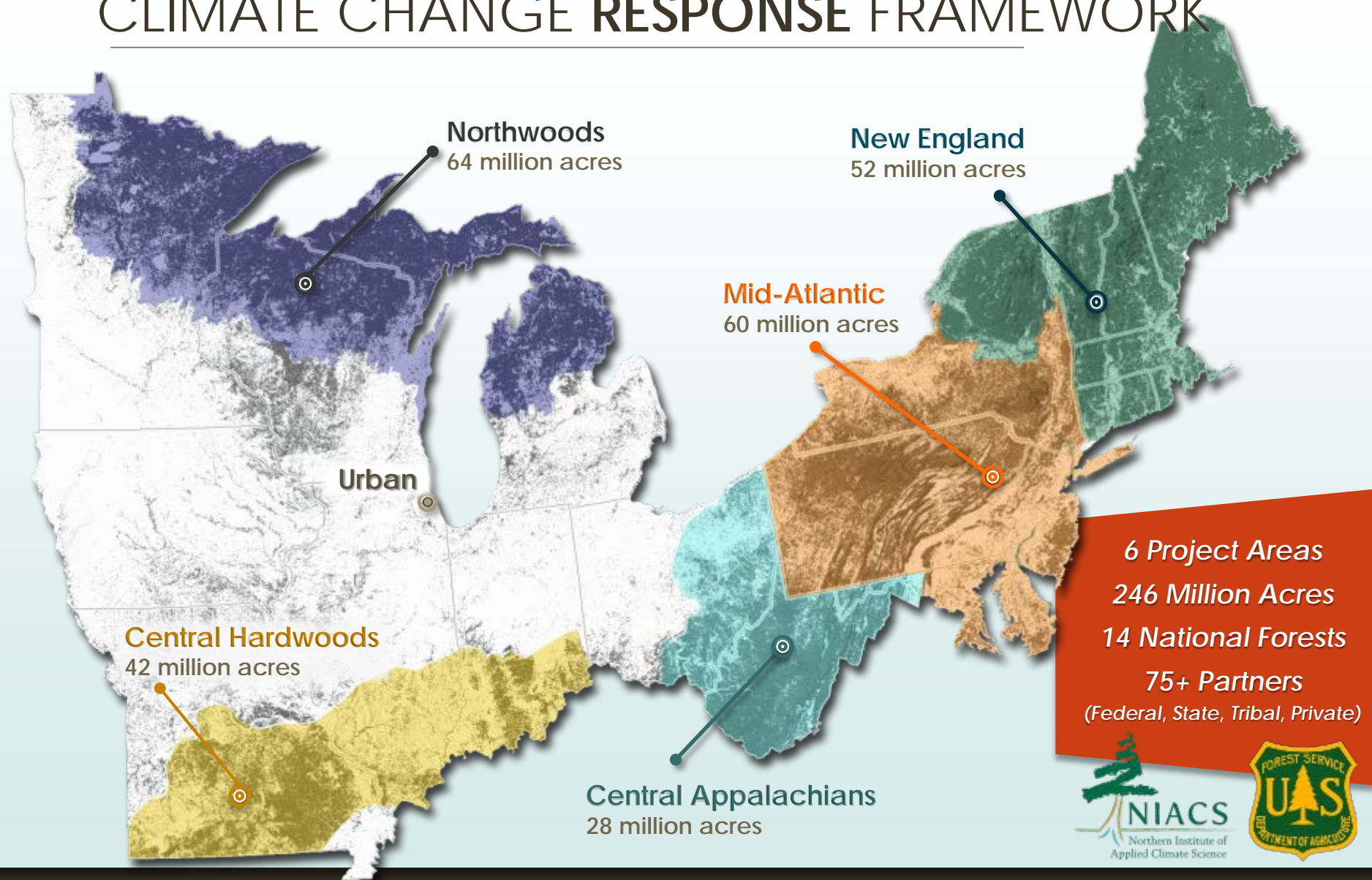
# Adaptation Demonstrations

- Provide **real-world examples** of forest management activities that:
  - Enhance the ability of forests to cope with changing conditions
  - Achieve land owner management goals
- Foster **cross-ownership** dialogue and learning
- Illustrate **diverse goals** and approaches

# Adaptation Demonstrations



# CLIMATE CHANGE RESPONSE FRAMEWORK



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