



Facilitating Cross-Sector Communication

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Pine Plantation Research and Decision Support Tool Rollout

May 16-17, 2017 Athens, GA



United States
Department of
Agriculture

National Institute
of Food and
Agriculture



This Talk

- Tasks
- Findings
- Takeaways

RESEARCH

EXTENSION

EDUCATION



PINEMAP Challenge

Create, synthesize, and *disseminate* the knowledge that enables southern pine landowners to:

- Manage forests**

to increase carbon uptake by 15% by 2030;

- Increase efficiency**

of nitrogen/fertilizer inputs by 10% by 2030;

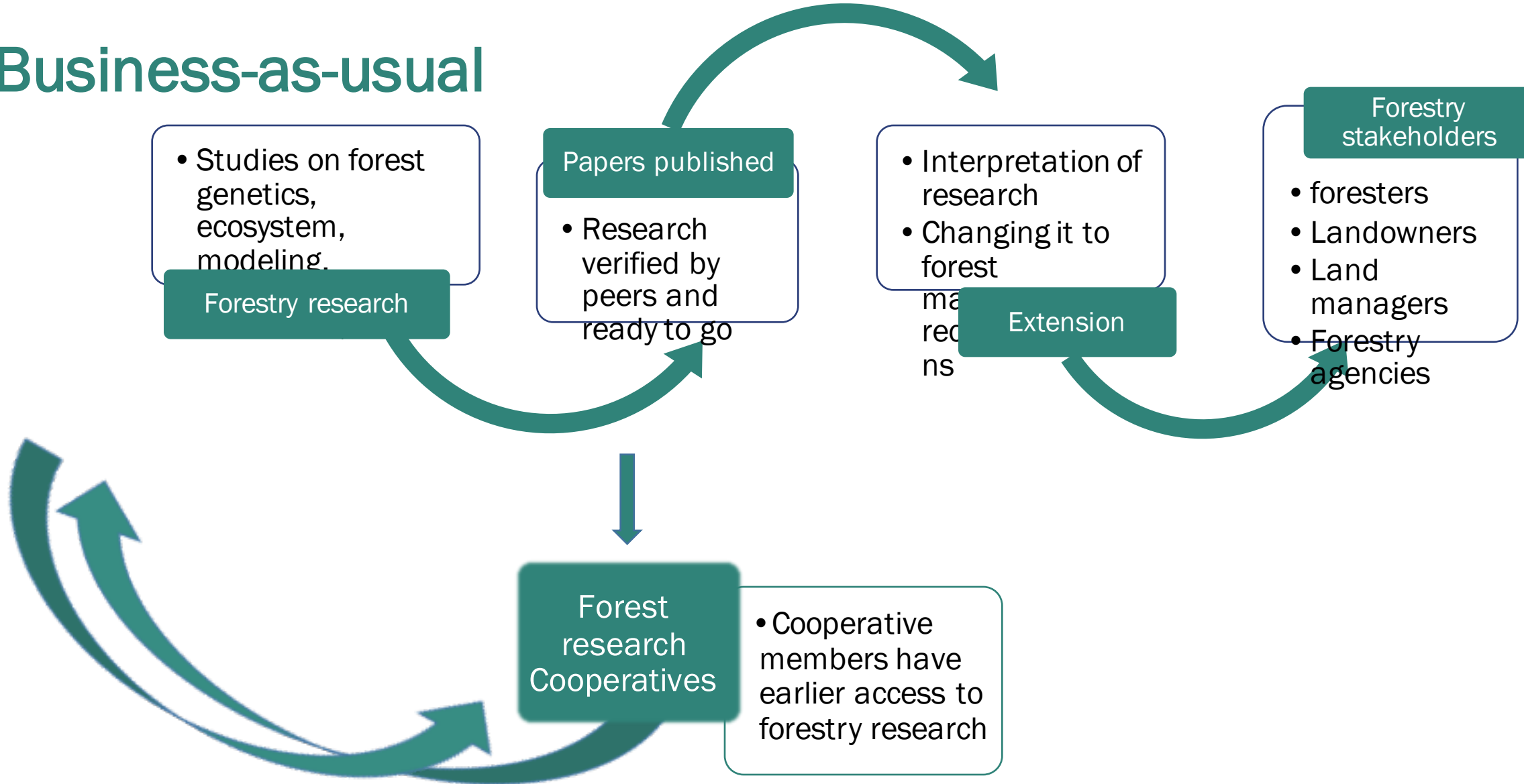
- Adapt forest management approaches and plant improved tree varieties**

to increase forest resilience and sustainability under variable climates.



Research to Stakeholder Pipeline

Business-as-usual

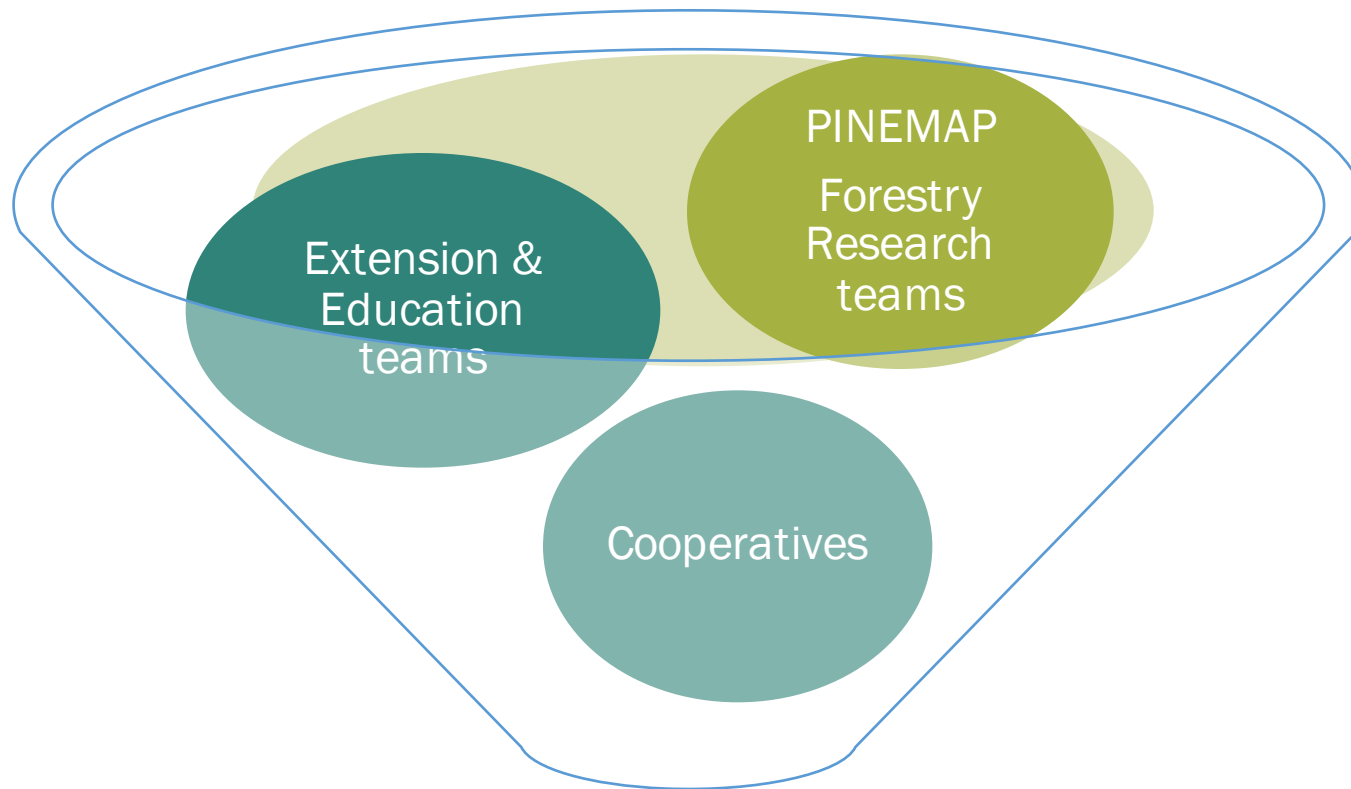




RESEARCH

EXTENSION

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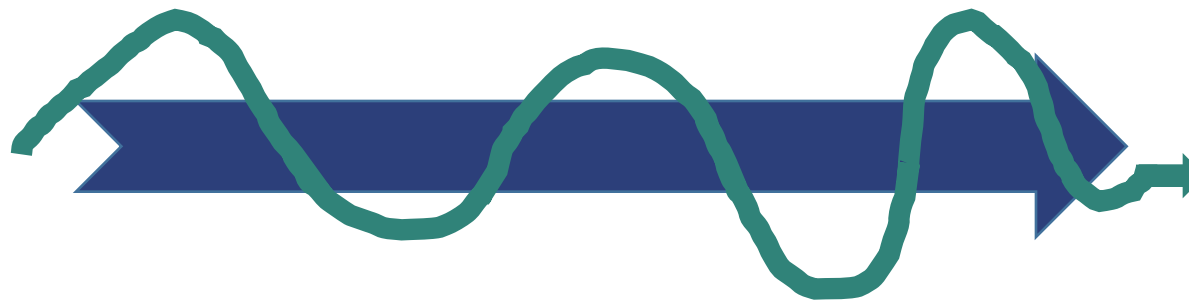


Forest managers



Our Tasks

PINEMAP
Forestry
research

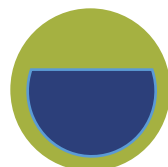


Changes in forest
management



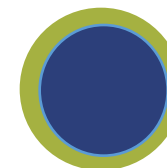
Needs

Define Existing
Stakeholder
needs and
climate needs



Share

Disseminate
Research
Results



Message

Refine the
message(s)
and become
the
messengers

Task # 1

Capture Stakeholder Needs





Main Stakeholders

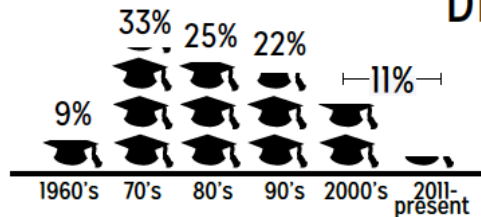
- **Foresters**
- **Industrial Cooperative members**
- **Extension agents**
- Forest landowners
- Limited resource landowners
- Tree farmers
- Educators/Students K-grad school



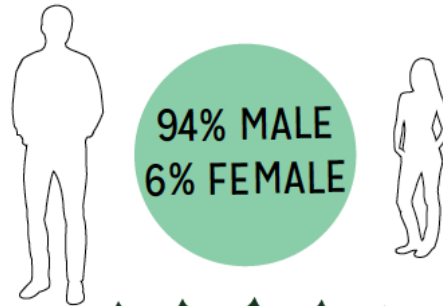
Stakeholder Research

- Needs
- Interests
- Receptivity
- Demographics

DEMOGRAPHICS OF SURVEY RESPONDENTS



A LARGE PERCENTAGE OF RESPONDENTS COMPLETED THEIR EDUCATION IN THE LATE 1970's. CONVERSELY, THERE WERE FEWER GRADUATES FROM THE PAST SEVEN YEARS WHO RESPONDED.



MOST HAVE A BACHELOR'S DEGREE IN FORESTRY;
ABOUT 23% HAVE A MASTER'S DEGREE;
AN ADDITIONAL 9% HAVE DOCTORATES.



A LITTLE MORE THAN 10% OF RESPONDENTS HAVE WORKED IN THE PROFESSION FOR TEN YEARS OR LESS; ABOUT 20% HAVE WORKED 11-20 YEARS; 26% HAVE WORKED FOR 21-30 YEARS; ABOUT 34% HAVE WORKED 31-40 YEARS; LESS THAN 10% HAVE WORKED FOR MORE THAN 40 YEARS.

Acknowledging the “E” in the Room

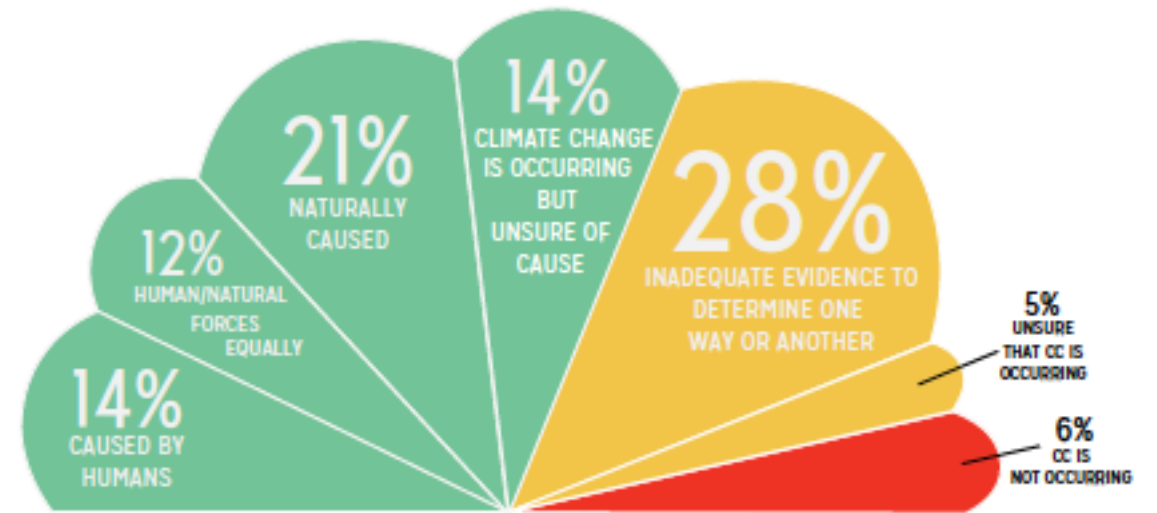




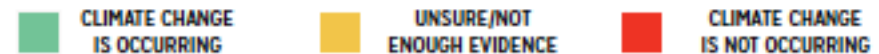
Foresters

- 61% agreed Climate Change occurring

“IN MY LIFETIME, I HAVE NOTICED
A CHANGE IN THE CLIMATE.”
LEVEL OF AGREEMENT



WHAT IS CAUSING CLIMATE CHANGE?

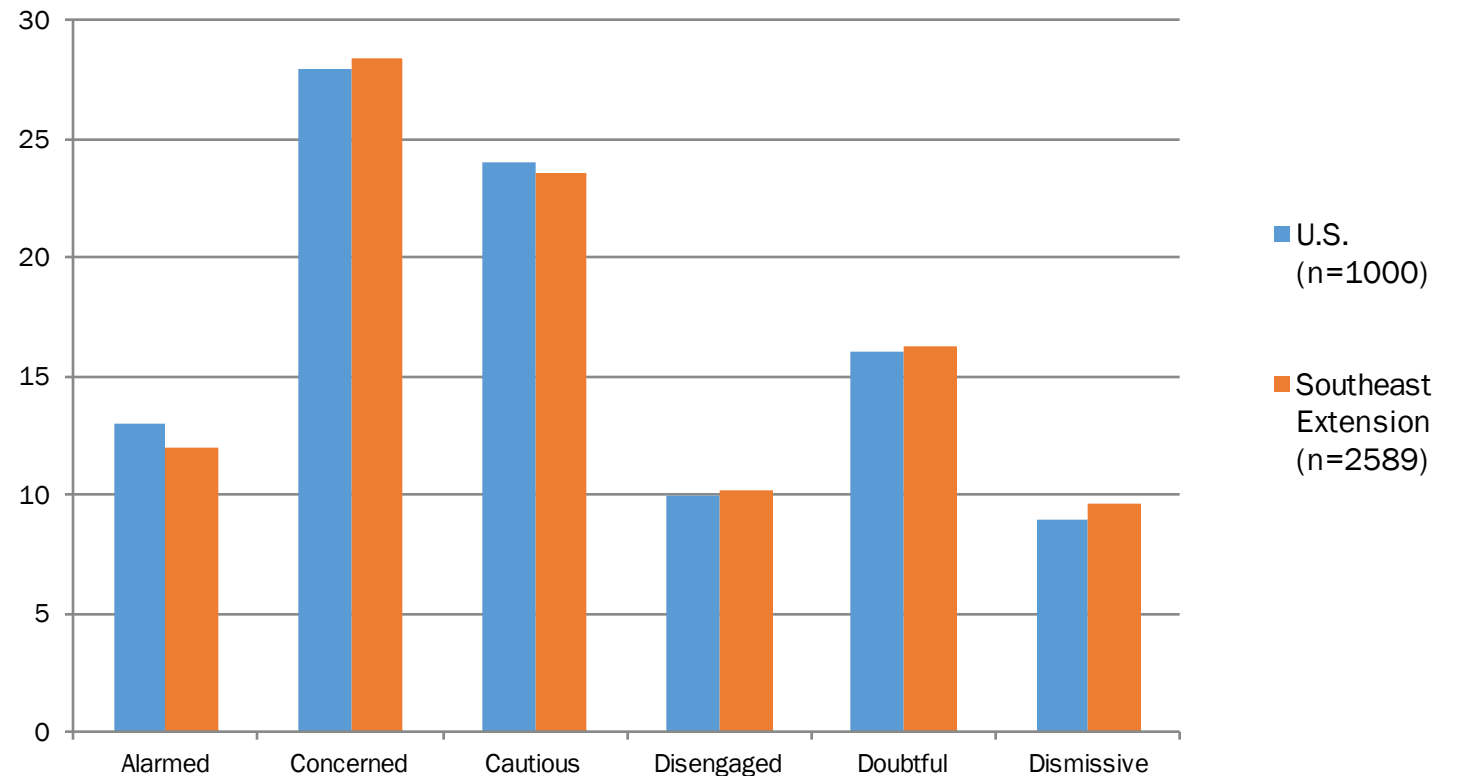




Extension agents

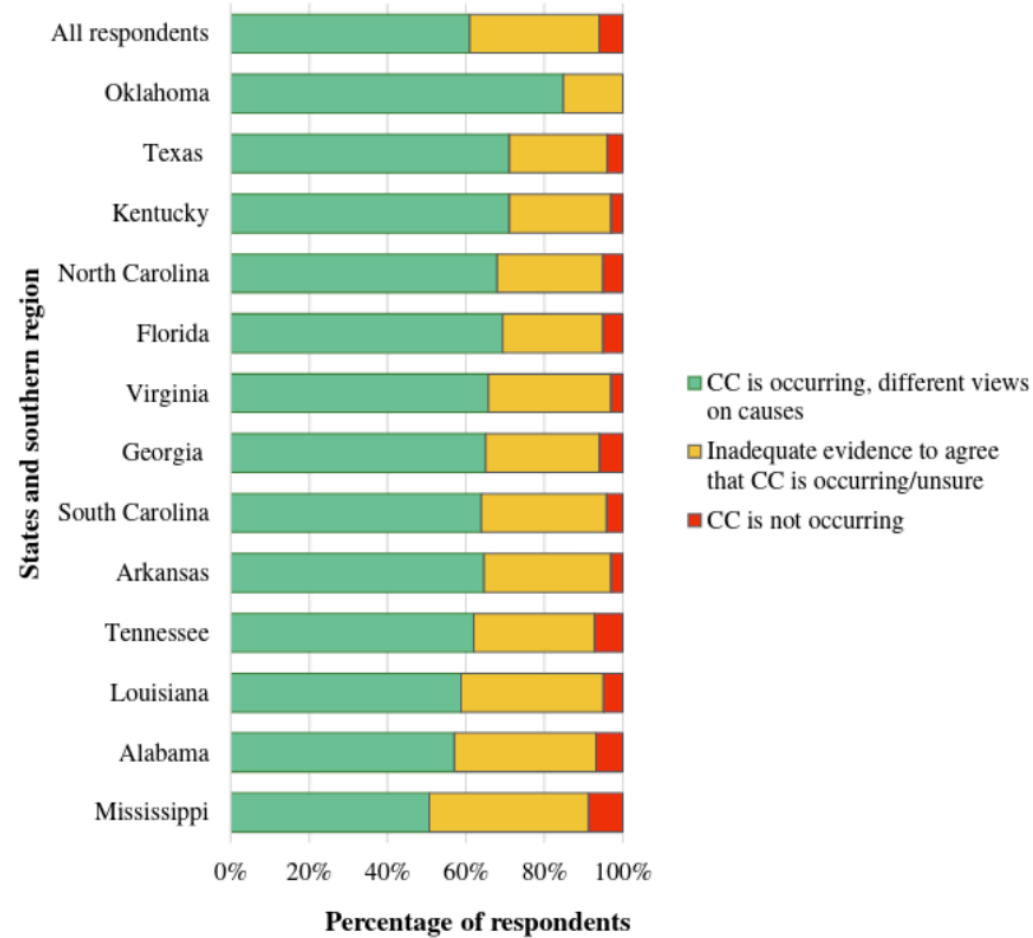
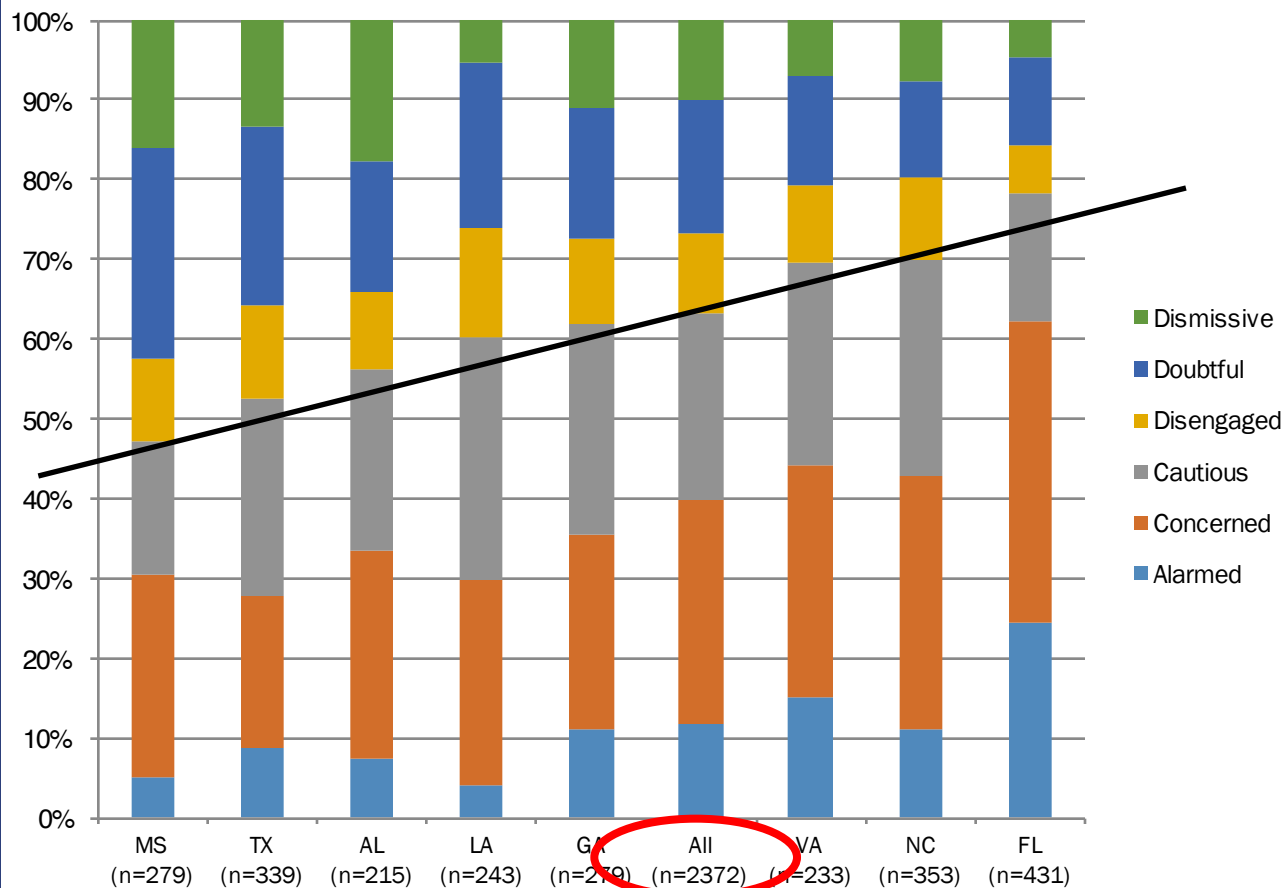
As a whole, Extension professionals mirror the general public in perceptions of climate change.

- 70% Cautious, Concerned or Alarmed about Climate Change
- Gender and Political Differences
- Obstacles to Outreach on Subject





Location, location, location

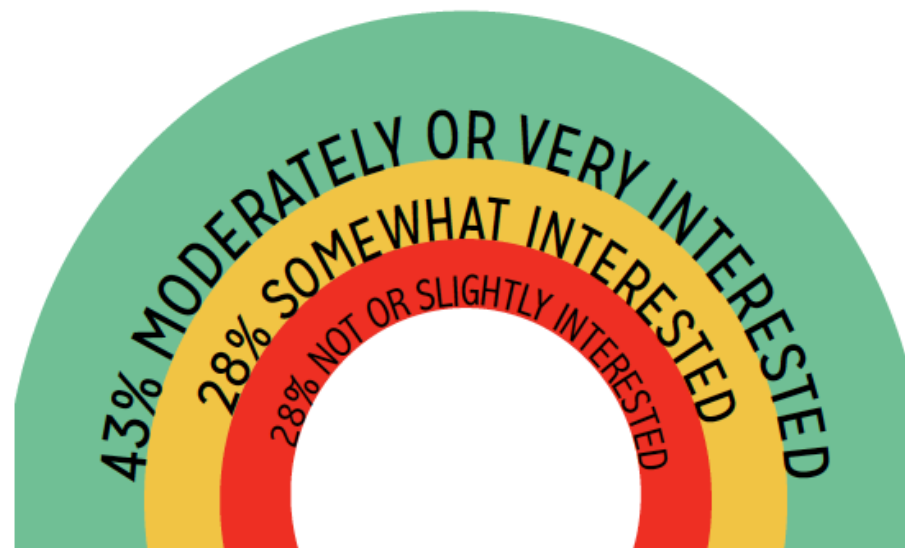




Risk Reduction and Resilience

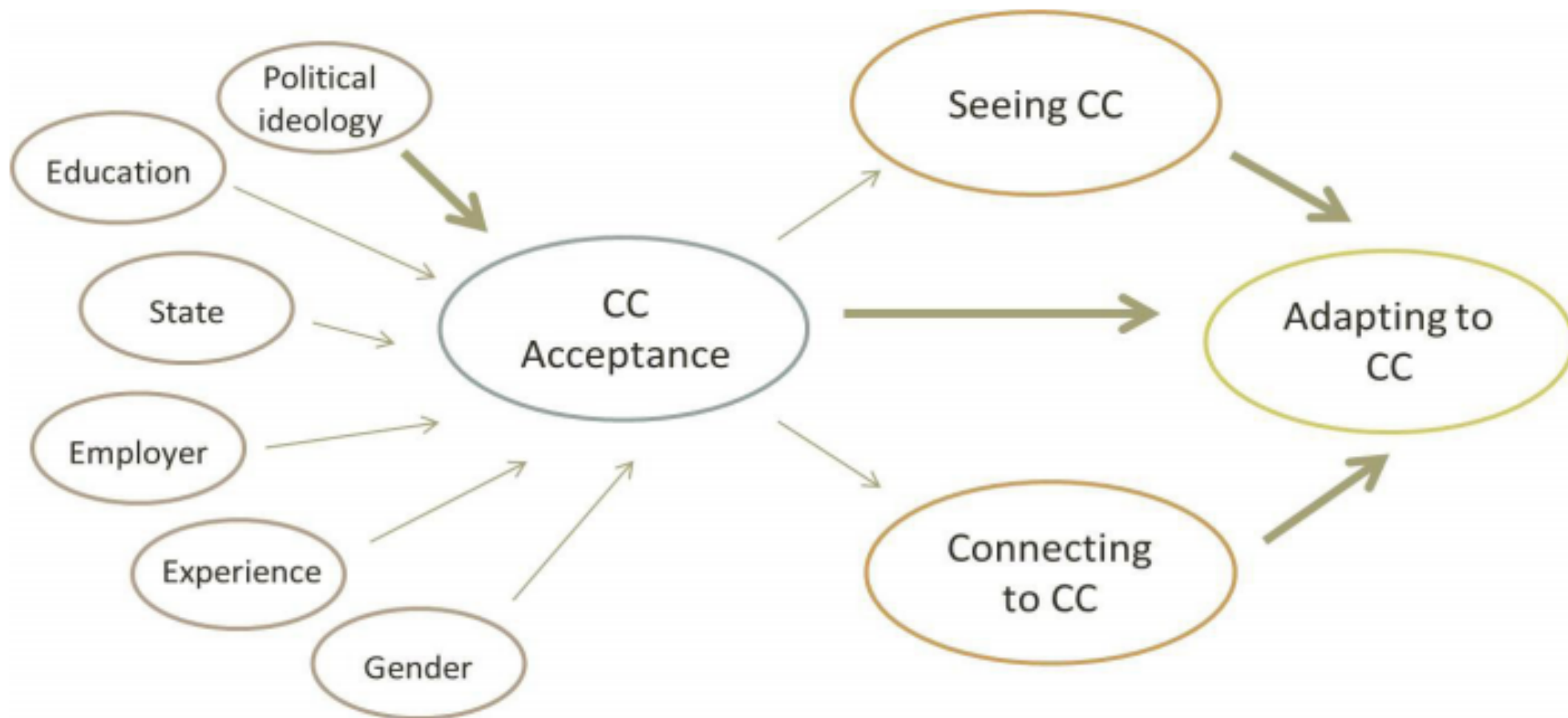


HOW INTERESTED ARE YOU IN LEARNING MORE ABOUT FOREST MANAGEMENT STRATEGIES THAT PROMOTE FOREST HEALTH AND RESILIENCY?



Concerns linked to Action

Connect Concern to Adaptive Action





Forest Cooperative Top Research Needs

92%

Forest growth and productivity

79%

Timber supply

70%

Land values and land use options

64%

Forest insect or disease outbreaks



Specific Research Needs

Important/V.
Important

75%

- Resilient GENOTYPES

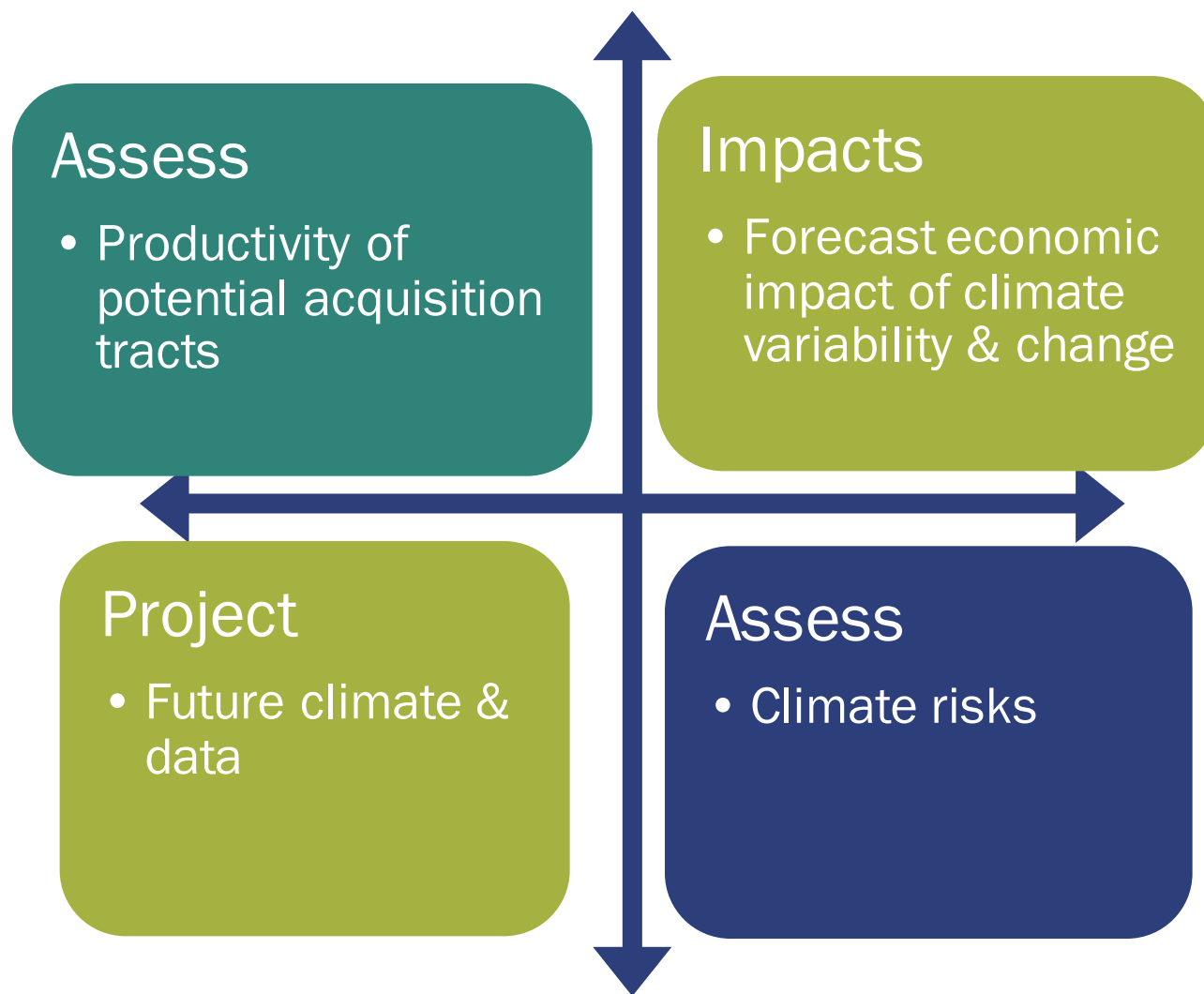
72%

- Enhanced YIELD Breeding
- Silvics for Rigor/Productivity

68%

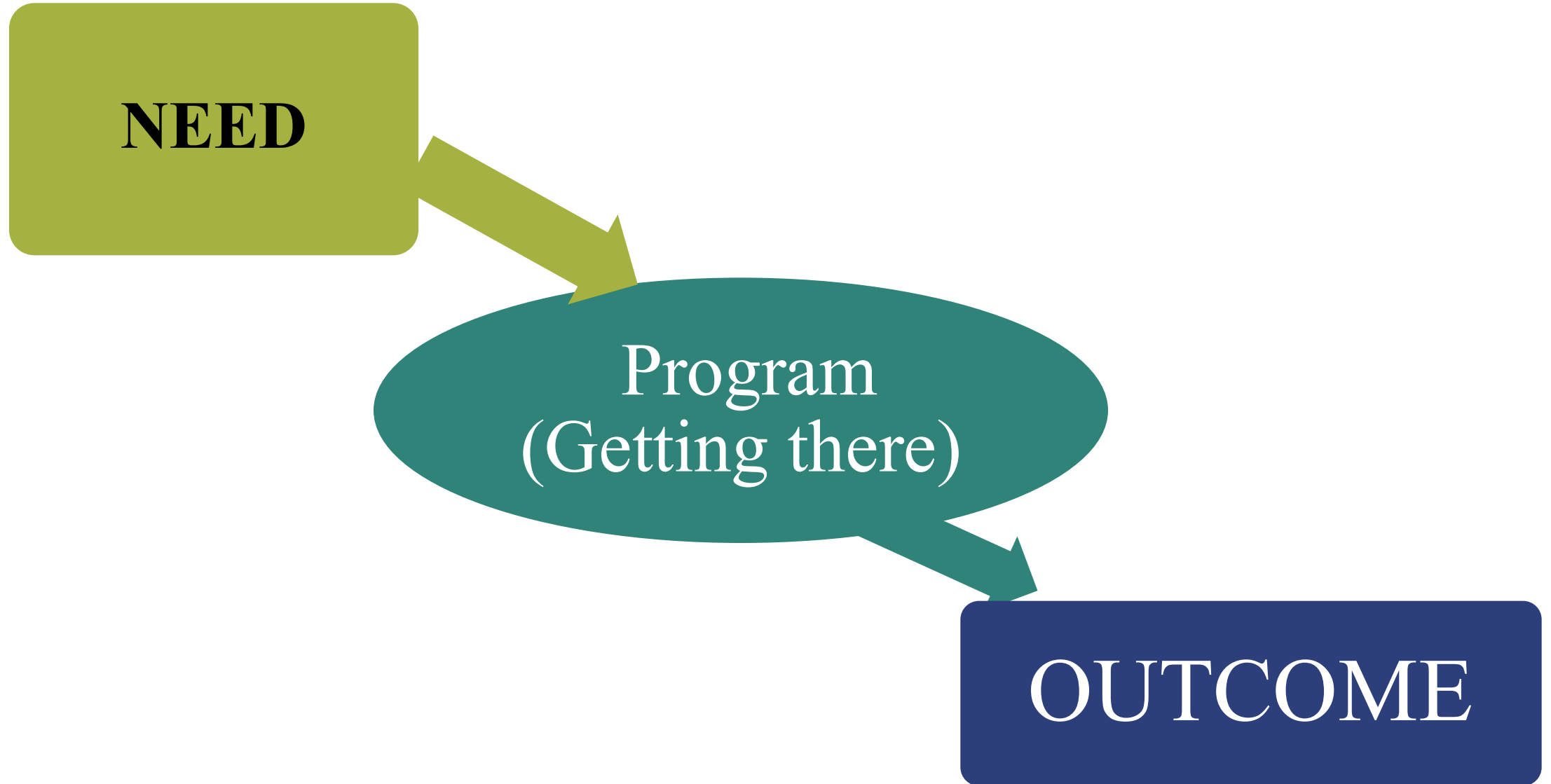
- Species/Genotype Selection
- Fertilization to Enhance Growth

Top Research Needs: Models & Projections



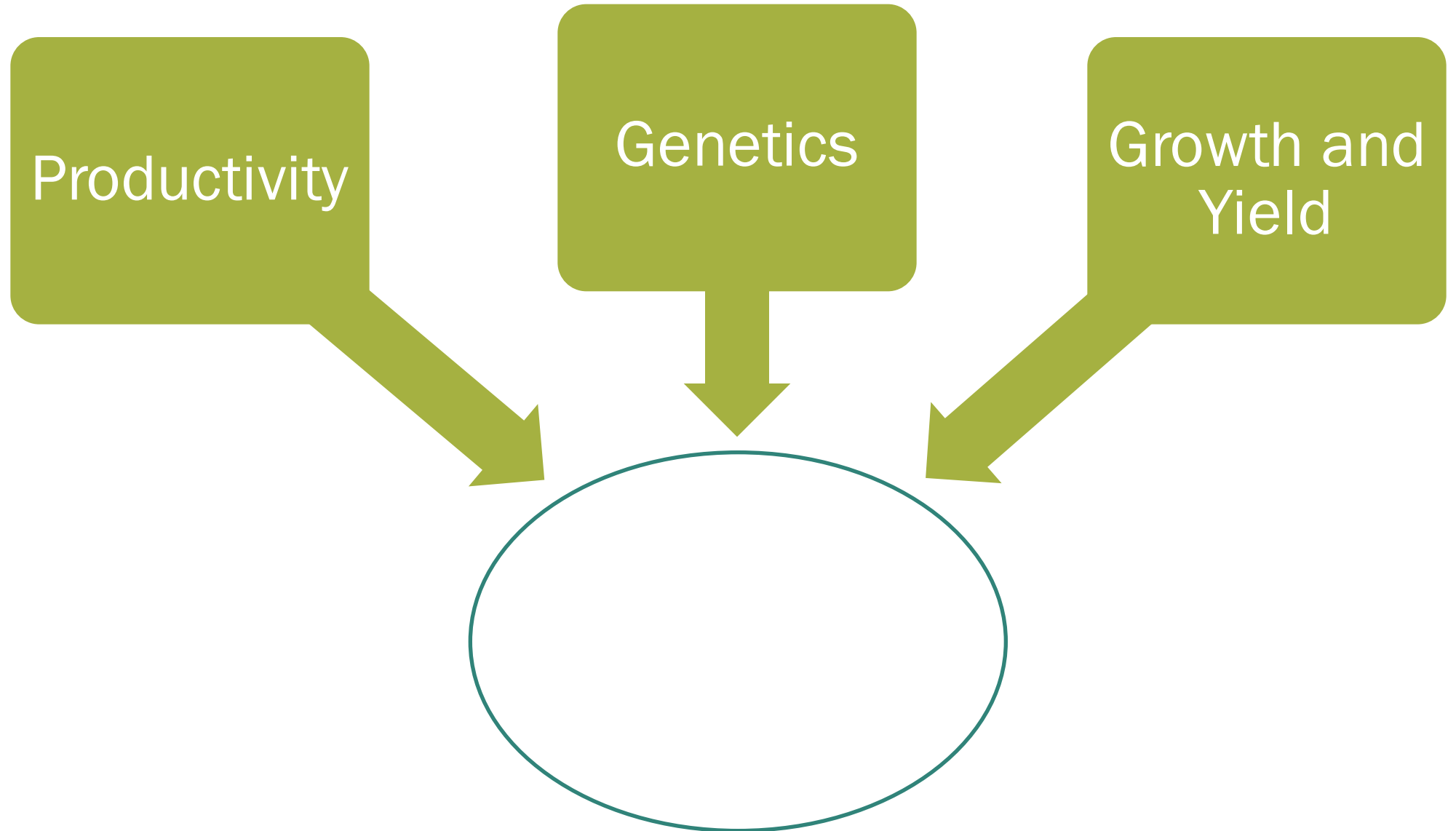


Standard Extension Approach



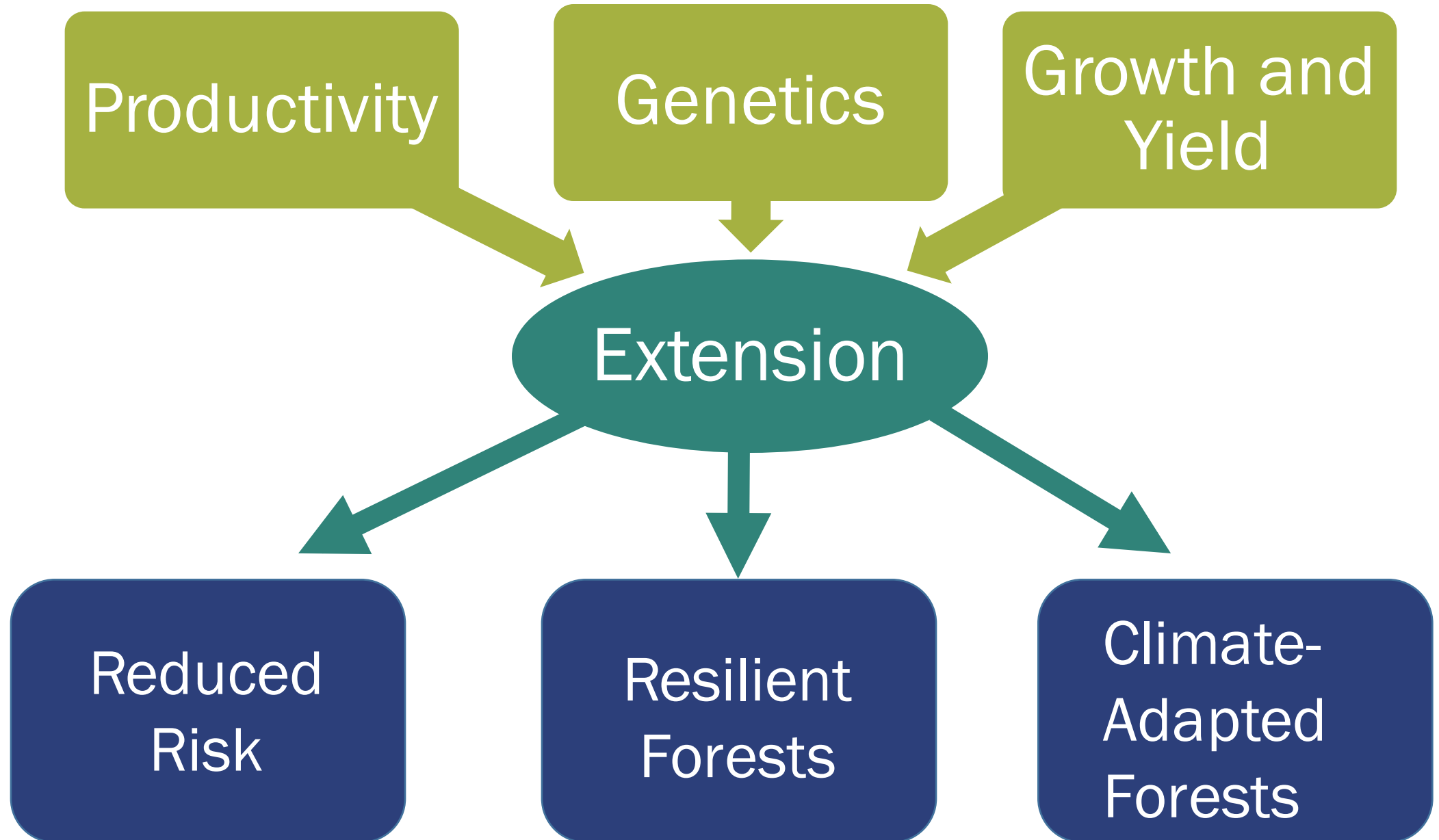


PINEMAP Approach





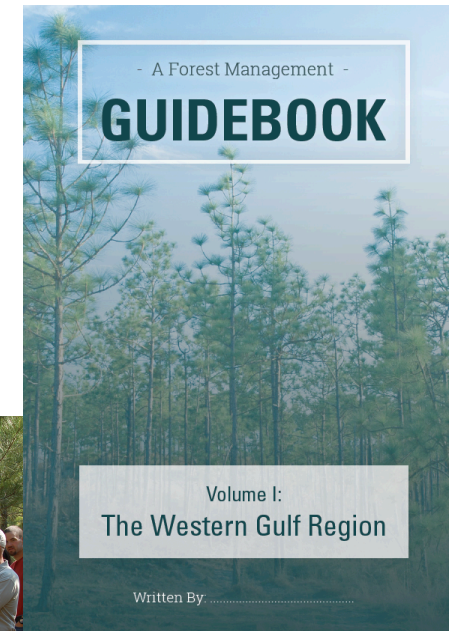
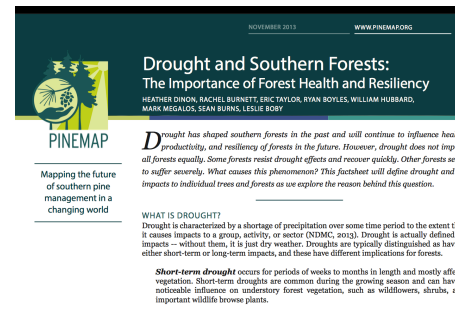
PINEMAP Approach





Extension and Education Accomplishments

- Surveyed/Confirmed needs,
- Refined Messages
- Tested training approaches for effectiveness



SAVE THE DATE - WORKSHOP
GROWING PINES IN CHANGING TIMES

WORKSHOP OBJECTIVES

- Highlight new science and technology developments for pine plantation growers and managers
- Equip growers and managers with knowledge regarding how to reduce risk and increase profits under uncertain future climate scenarios

SESSIONS INCLUDE

- Understanding climate variability and implications for Forestry
- Site productivity and seedling selection
- Density management/insect and disease management
- Decision support tools
- CONTINUING EDUCATION CREDITS

APRIL 21, 2015 9 AM -5PM \$50
 Tifton, GA UGA Conference Center



Southern Region Extension Climate Academy

2013 Soils Short Course
PINEMAP Professional Development Series

Are you a forester or resource manager interested in learning more about forest soils and the crucial role they play in our woodlands? This three part webinar series is the start to a year long monthly program on the latest information in forest management.

An Introduction to Soils: Getting Grounded

Daniel Markewitz, Professor
 Warnell School of Forestry and Natural Resources,
 University of Georgia

October 17, 4:00 PM EST
 This first session offers a brief refresher on soil basics, including how to identify specific soil types, as well as what you need to know to understand how they impact your trees.

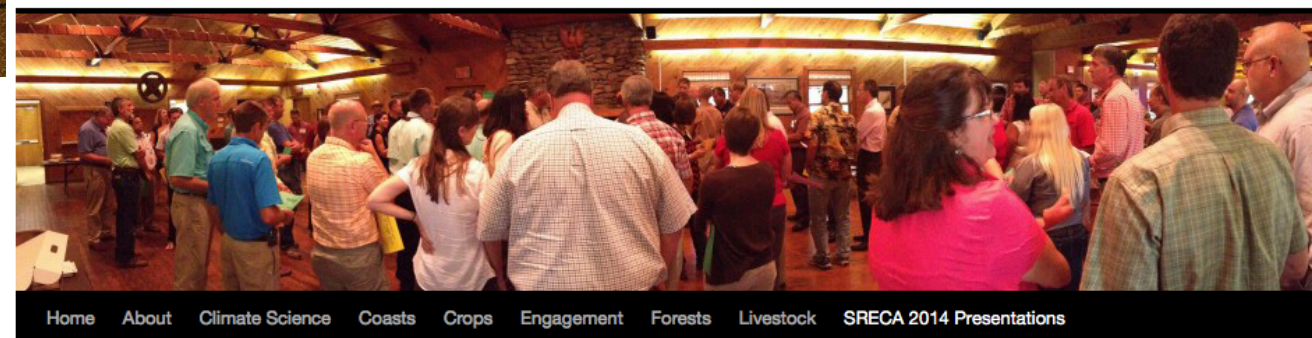
Soil Mapping: An Overview

October 18, 4:00 PM EST
 A look at the intricacies of soil mapping, and how to read and interpret maps.

Forest Landowners Discuss Changes they've Witnessed

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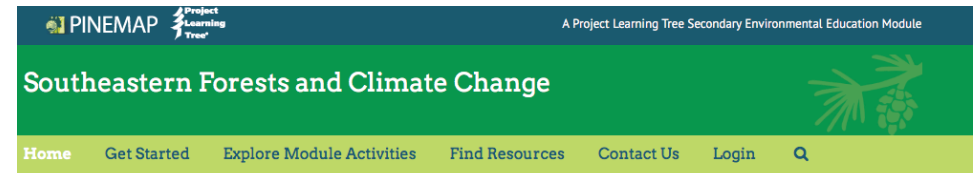
Forest Landowners Discuss Changes they've Witnessed





Education Team Accomplishments

- Legacy of work and new generation of multi-disciplinary scholars/researchers
- 2 PINEMAP- minted Extension Specialists
- Undergraduate Mentoring Summer interns
- Graduate student online training in Extension
- Project Learning Tree Modules to educate K-12 Students on forestry
- Climatologists secondary education in forestry



Project Learning Tree and the University of Florida have developed a new **secondary module** to help educators in the **Southeast** teach about climate change impacts on forest ecosystems, the role of forests in sequestering carbon, and strategies for reducing greenhouse gas emissions and adapting to changing climatic conditions. The module explores these concepts in **14 experiential activities** by using research related to the goals of **PINEMAP**—a regional research, education, and extension program focused on southern pine management and climate change. On this website, you will find the new secondary module, along with **tools and resources** to help you use these activities with your students.



Systems Thinking

These materials provide opportunities to explore systems thinking tools and concepts.

EXPLORE

Additional Resources

Find connections to Next Generation Science Standards and additional resources

CONNECT

Teach Climate Change

Learn more about incorporating the topic of climate change into your curriculum.

LEARN MORE

Harnessing homophily to improve climate change education

Martha C. Monroe ✉ Richard R. Plate, Damian C. Adams & Deborah J. Wojcik





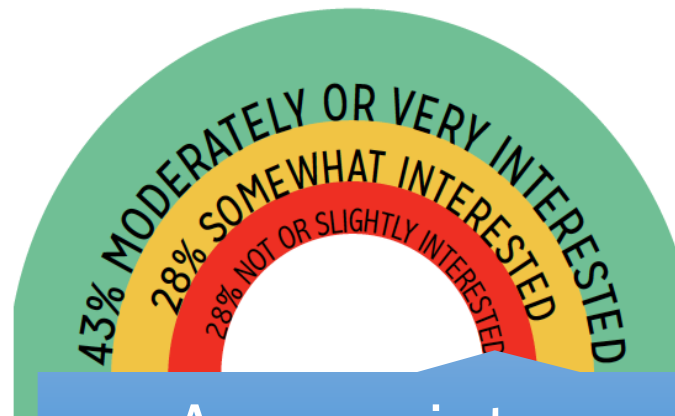
Stakeholder Deliverables



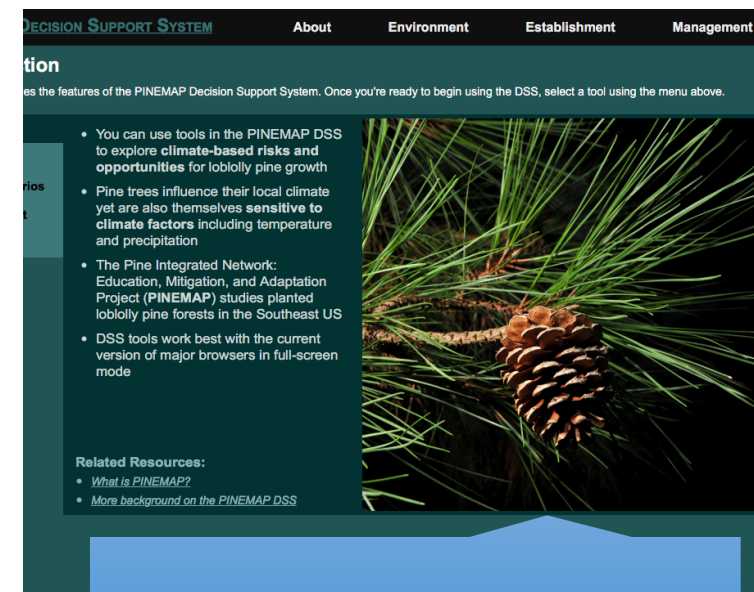
Private forest owners control most of the southern forest resource and are critical to maintaining forest health in the South. Record droughts, rising temperatures, increased frequency and intensity of wildfires, insect and plant invasions, and more intense storm events all pose significant risks to forest health and productivity. Southern Regional Decision Forestry

Customize Literature

HOW INTERESTED ARE YOU IN LEARNING MORE ABOUT FOREST MANAGEMENT STRATEGIES THAT PROMOTE FOREST HEALTH AND RESILIENCY?



Appropriate Messaging



Targeted Training



What WE ACCOMPLISHED:

- **Defined** Audience NEEDS
- **Released** Results Successfully
- **Refined** the Message
 - Started with Concerns
 - Focused on Resilience!
 - Focused on Stressor/ Risk Reduction



Thank you! From the People of PINEMAP Questions?





PUBLICATIONS OF NOTE:

Southern Foresters' Perceptions of Climate Change: Implications for Educational Program Development

Climate Change Attitudes of Southern Forestry Professionals: Outreach Implications

Morris, Hilary L C; Megalos, Mark A [✉](#); Hubbard, William G [✉](#); Boby, Leslie A. *Journal of Forestry*; Bethesda 114.5 (Sep 2016): 532-

Southeastern Foresters' Climate Observations: State Comparisons and Spatial Trends

Rachel E. Burnett, Mark A. Megalos, William Hubbard, Leslie Boby, and Hilary L. C. Morris

2013 Climate Change Attitudes of Southeast Forestry Professionals: Implications for Outreach

Hilary Morris^{1,5} • Mark Megalos^{2,5} • William Hubbard^{3,5} • Leslie Boby^{4,5}



PUBLICATIONS OF NOTE:

North Carolina Cooperative Extension Professionals' Climate Change Perceptions, Willingness, and Perceived Barriers to Programming: An Educational Needs Assessment

Cooperative Extension and Climate Change: Successful Program Delivery

Increasing Response Rates to Web-Based Surveys

Harnessing homophily to improve climate change education

Martha C. Monroe [✉](#), Richard R. Plate, Damian C. Adams & Deborah J. Wojcik

Message in a Bottleneck? Attitudes and Perceptions of Climate Change in the Cooperative Extension Service in the Southeastern United States

The Six Americas of Climate Change: Perceptions of Southeast Extension Professionals