



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

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The Purpose



- PINEMAP
 - developing materials
 - supporting Extension programs on forest management and climate variability
- Extension professionals will be asked to participate in program development and delivery
- Their perceptions about climate change should affect how PINEMAP proceeds, as well as other regional or national projects.

The Questions

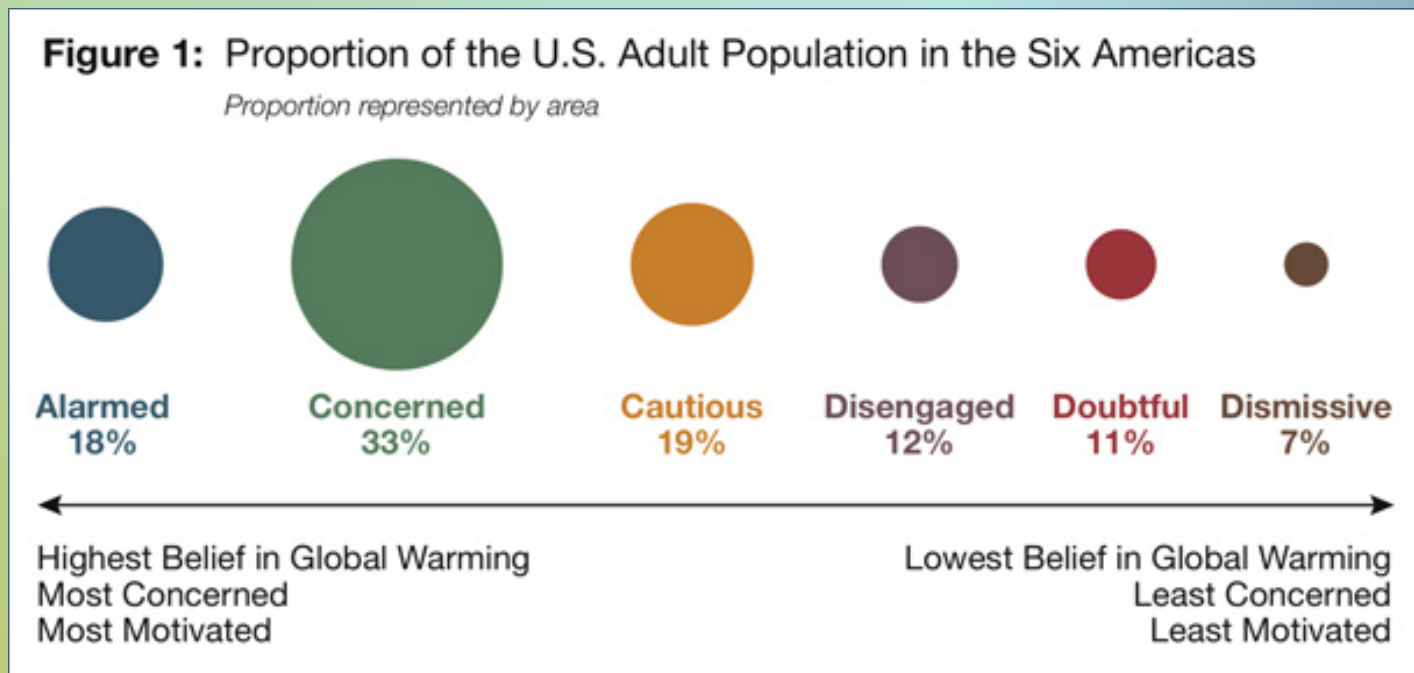


- How do Extension professionals in the SE perceive the issue of climate change?
 - Does their perception vary with program area? State? Position?
- What are the perceptions of limitations to delivering programs on climate change?

Public Perceptions



- Yale and George Mason Universities conducted several national studies on public perceptions of climate change, grouping the respondents into Six Americas:



Using Their Questions



- Able to compare results
- Cannot change wording
 - Some questions may not sit well
 - They used the term “global warming” for recent temperature increase
- Added questions after pilot (n=32) to balance perceived bias. Added comment boxes.
- We explained the benefits of using their questions
- We included their definition of global warming and climate change

Global Warming vs Climate Change



- Our questions used “climate change, climate variability, and global warming” to understand if any programming occurred
- The Six Americas questions were about global warming which may cause climate change to distinguish it from the natural oscillations in climate

Invited and Involved



- Contacted colleagues in all SE States to assess interest and asked them to contact their Extension Administrators
- Involvement required
 - Sending us the list of extension faculty
 - Allowing us to say they approved
 - Allowing us to use their name on email
 - Sending intro emails to their faculty
- We handled launch, 4 reminders, data analysis
- We can make results or raw data available to states

State Cooperators



- Fall 2011:
 - Alabama (Auburn, Alabama A&M, Tuskegee)
 - Florida (UF and FAMU)
 - Georgia (UGA)
 - Mississippi (MSU and Alcorn)
 - North Carolina (NCSU and NCAT)
 - Texas (TAMU and Prairie View)
 - Virginia (VA Tech and VSU)
- Spring 2012:
 - Louisiana (LSU and Southern University)

Response Rates



Study Area	Total Response	Total Population	Response Rate
AL	234	375	62.4%
FL	489	764	64.0%
GA	296	372	79.6%
LA	340	574	59.2%
MS	331	428	77.3%
NC	444	637	69.7%
TX	354	570	62.1%
VA	270	413	65.4%
All 7 States	2,758	4,133	66.7%

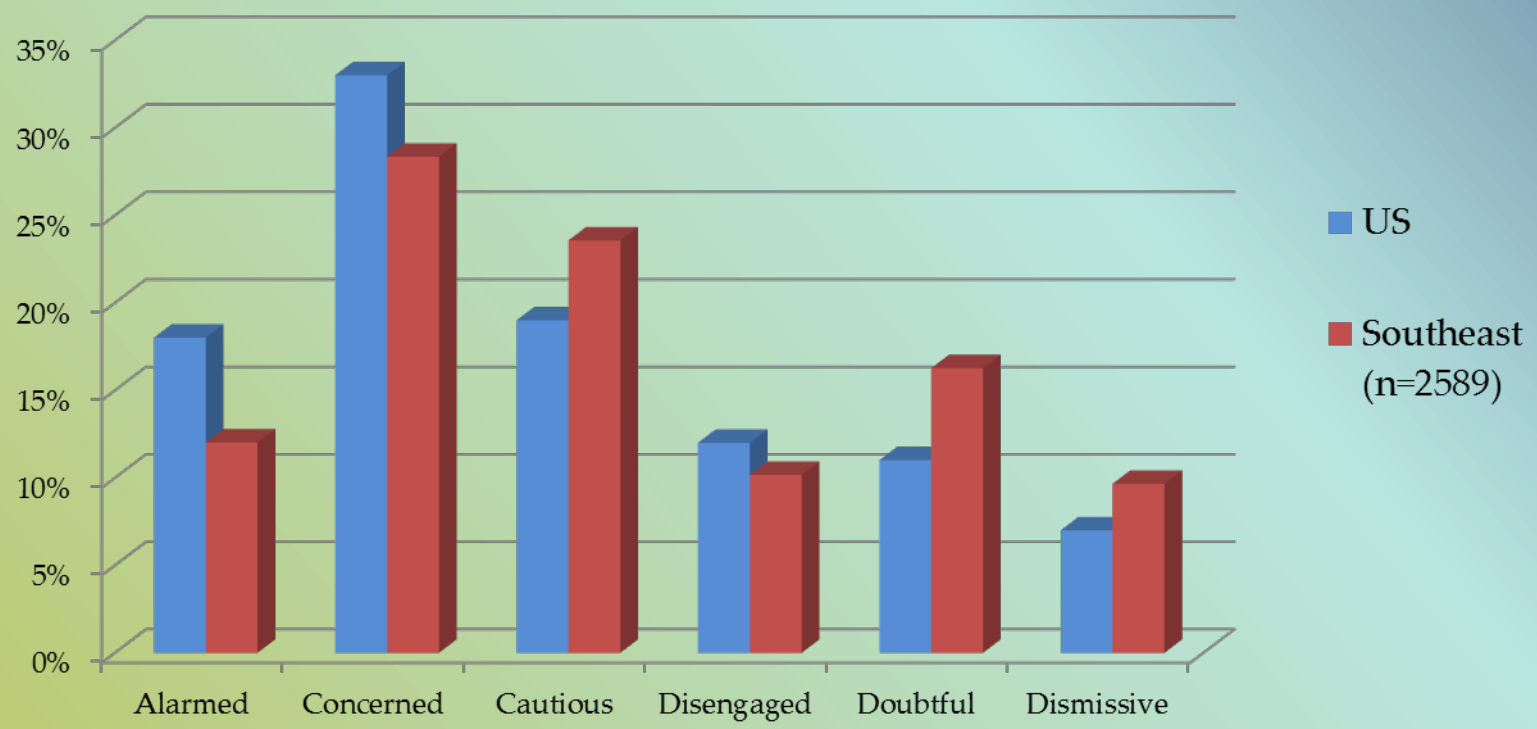
No Response Bias Detected

- Email and phone contact with randomly selected non-respondents suggests there would not be a bias.
- Emailed comments to the survey request fell on both sides of the climate spectrum



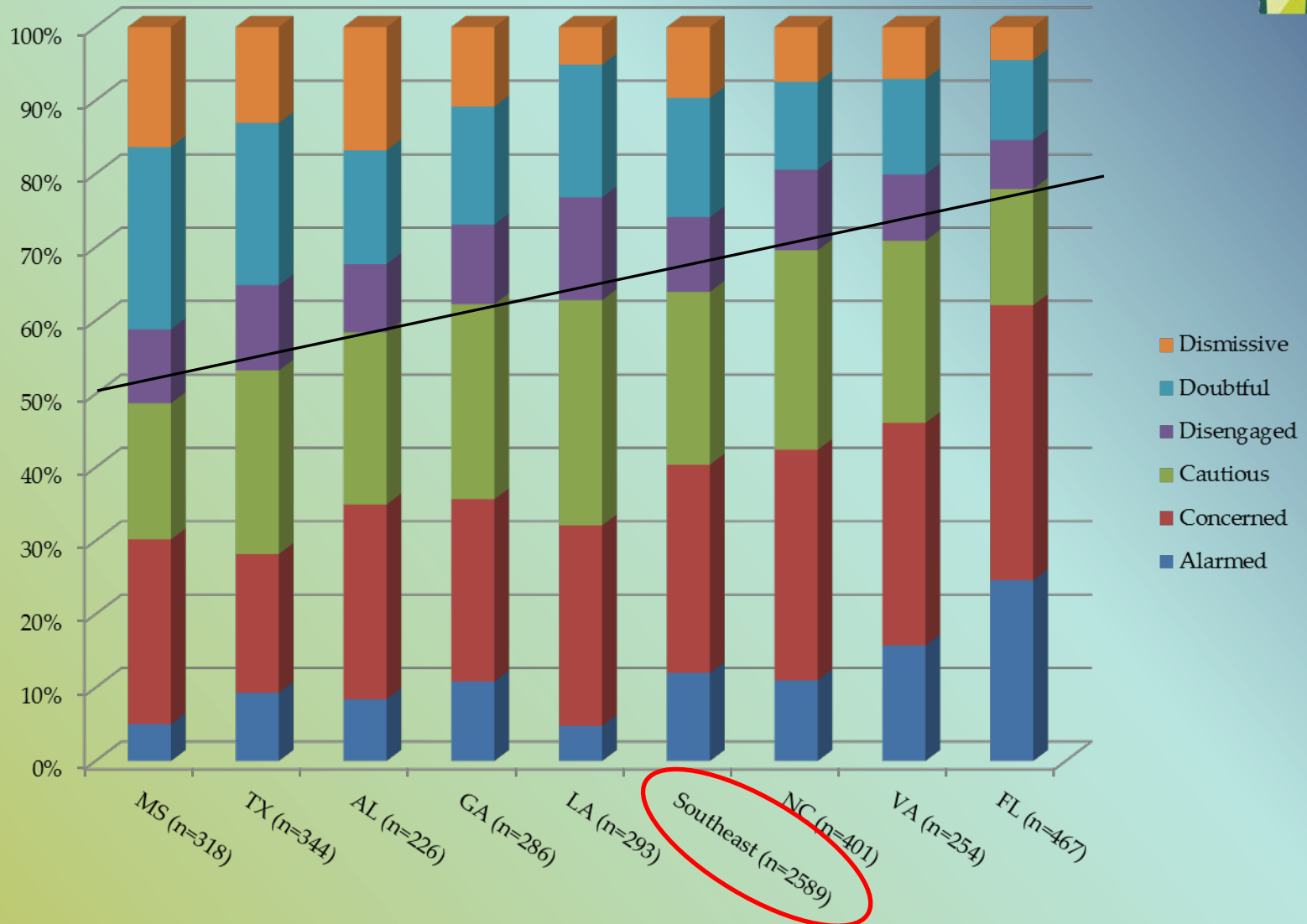
We Are Six Americas, Too

- As a whole, Extension professionals mirror the general public in perceptions of climate change, with a skew to the right



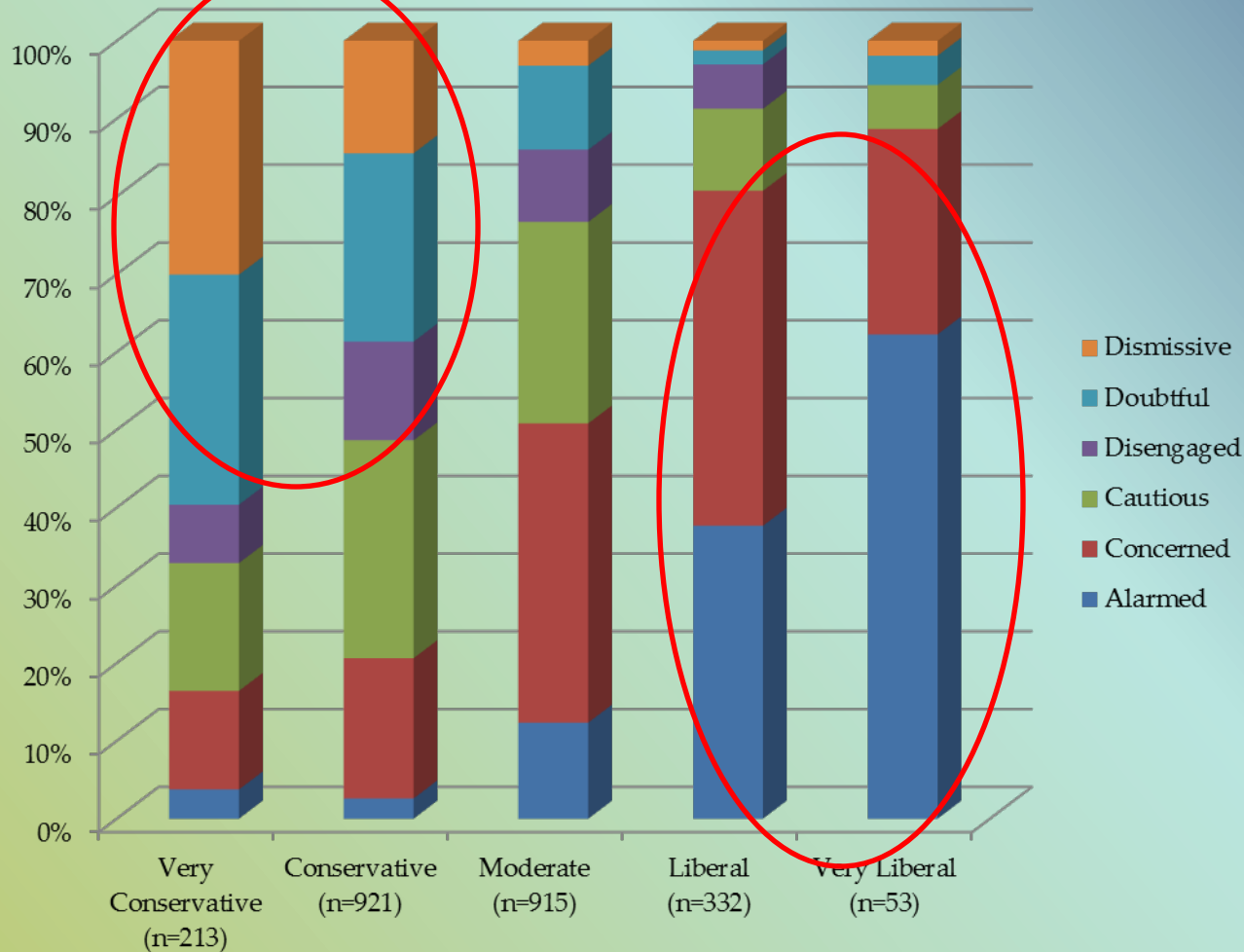
Note: US data from Leiserowitz et al. (2010); Southeast data from Monroe et al. (unpublished).

Six Americas by State



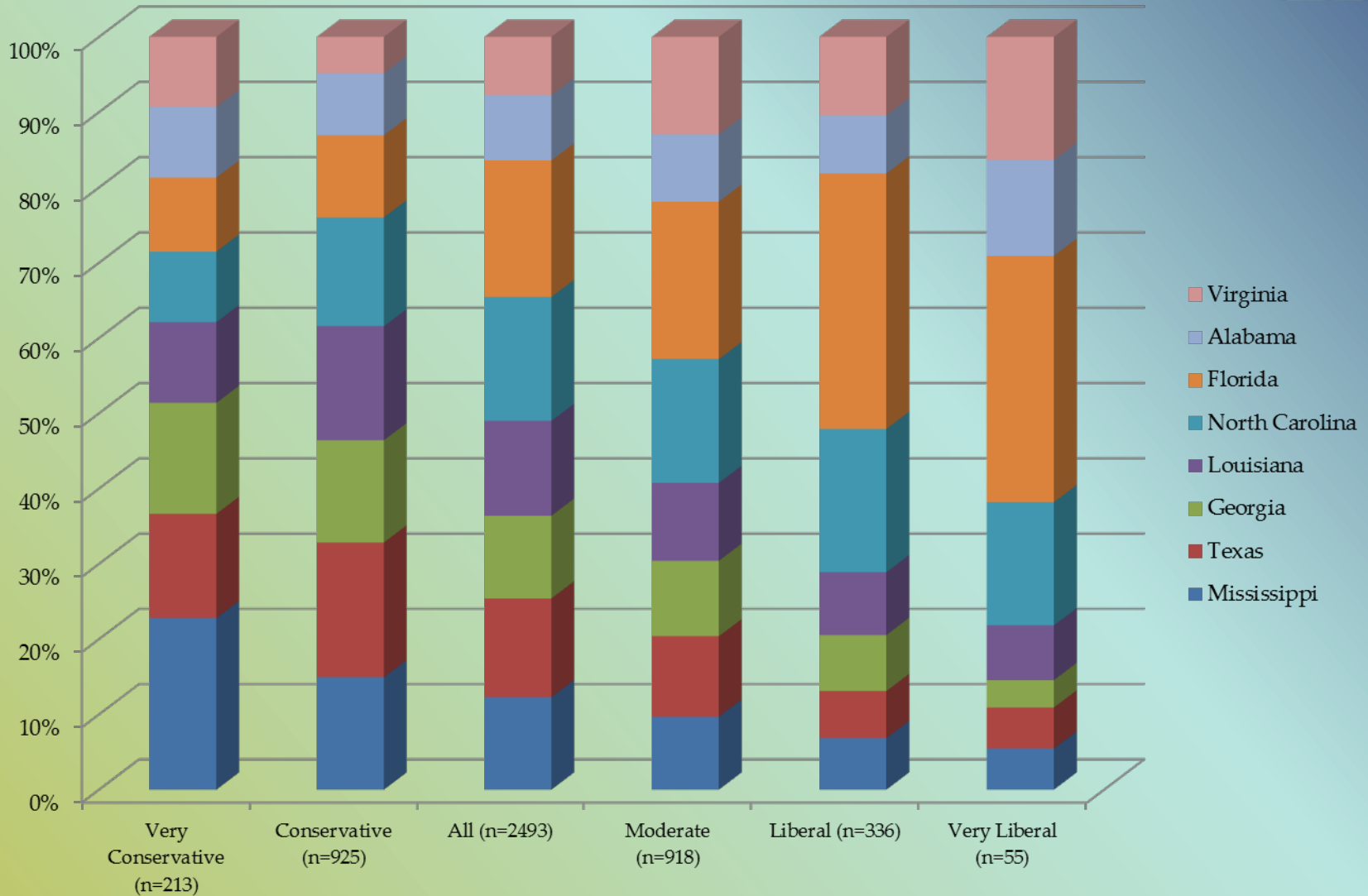
Note: chi-square $p < 0.01$

Six Americas by Political Leaning

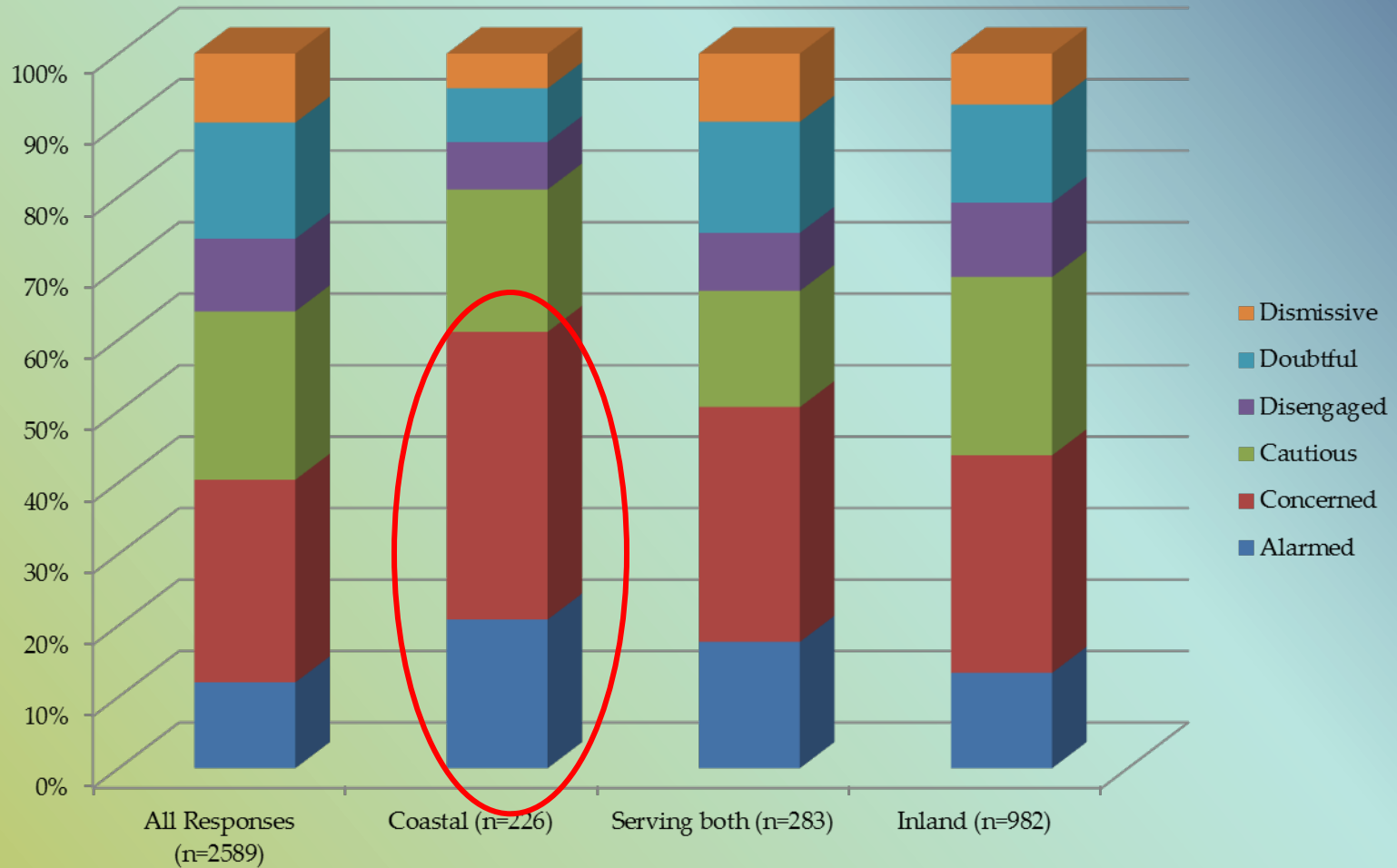


Note: chi-square $p < 0.01$

Political Leaning by State



Six Americas by Coastal/Inland County



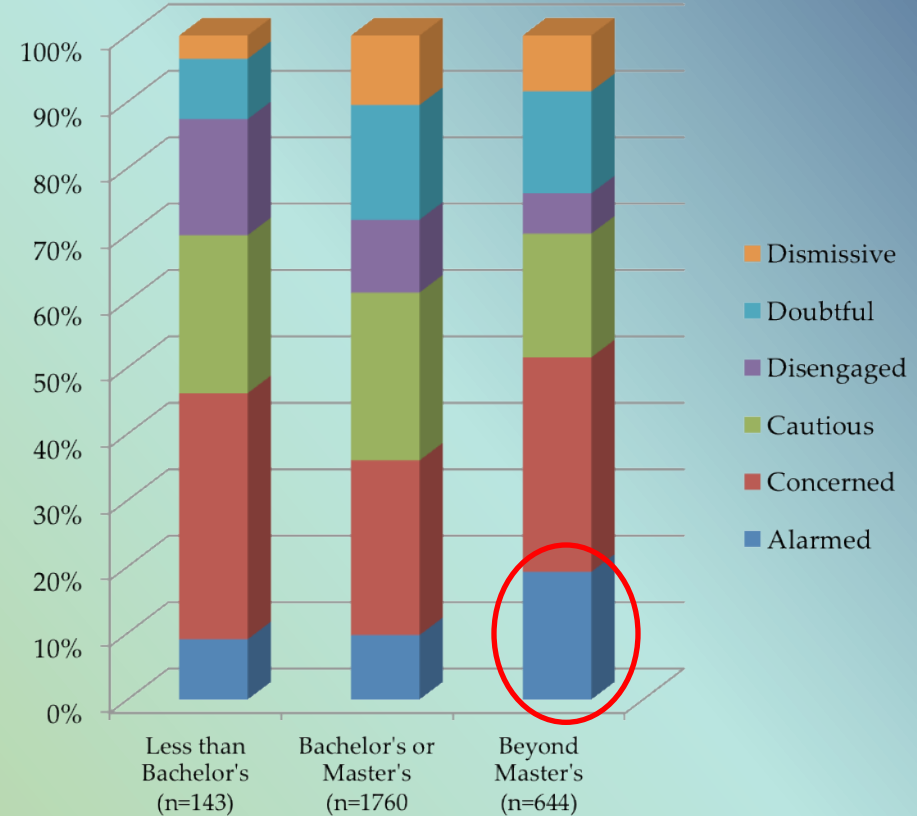
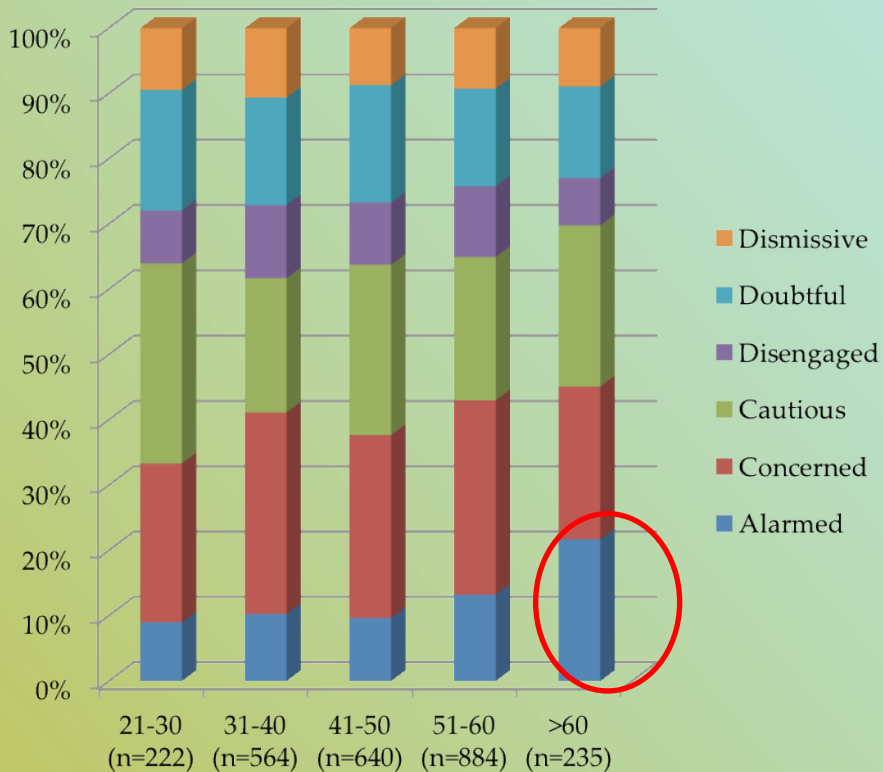
Note: chi-square $p < 0.01$

Six Americas by Age and Education



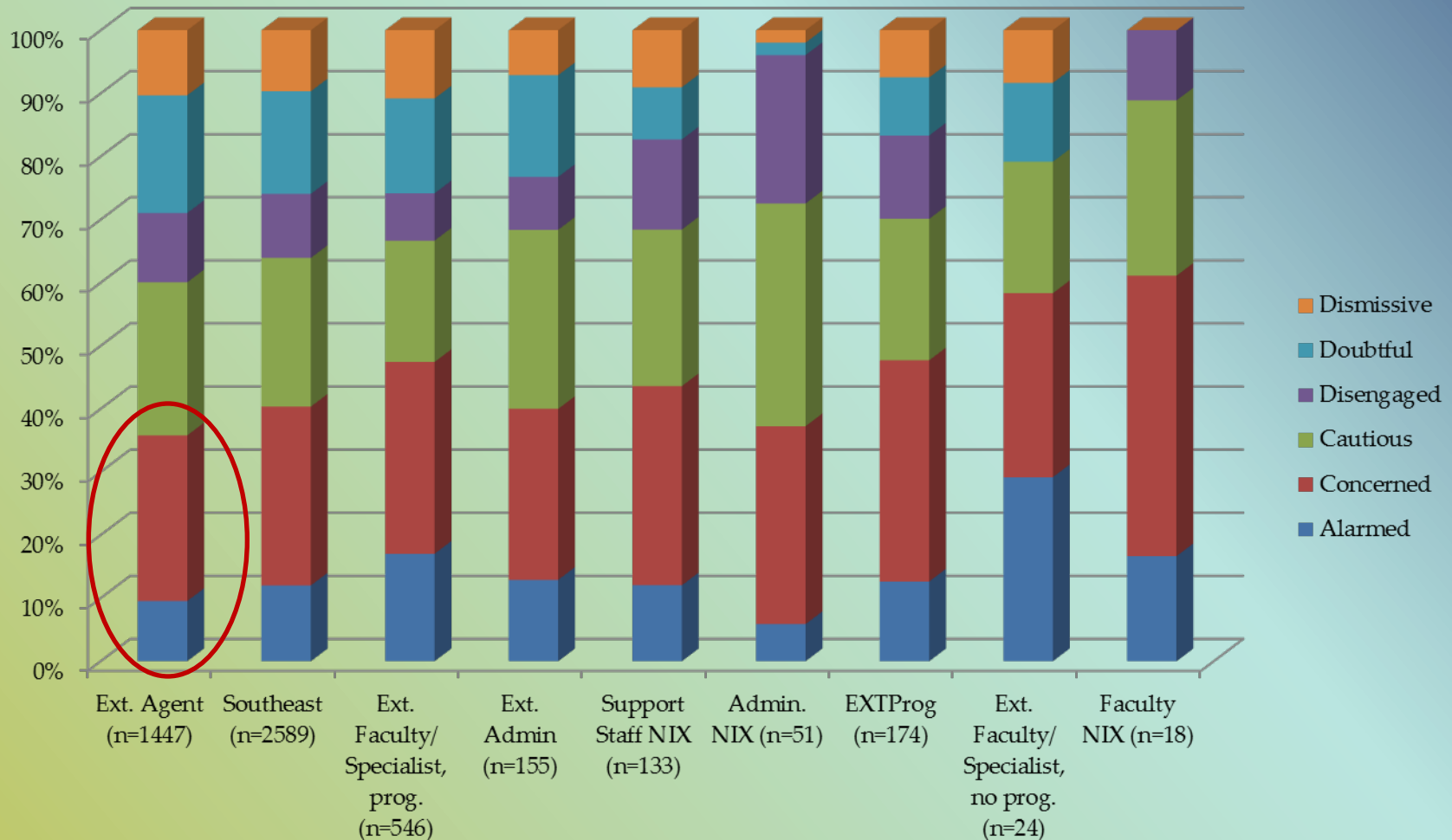
Age

Education



Note: chi-square $p < 0.05$ for Age, $p < 0.01$ for Education

Six Americas by Extension Role



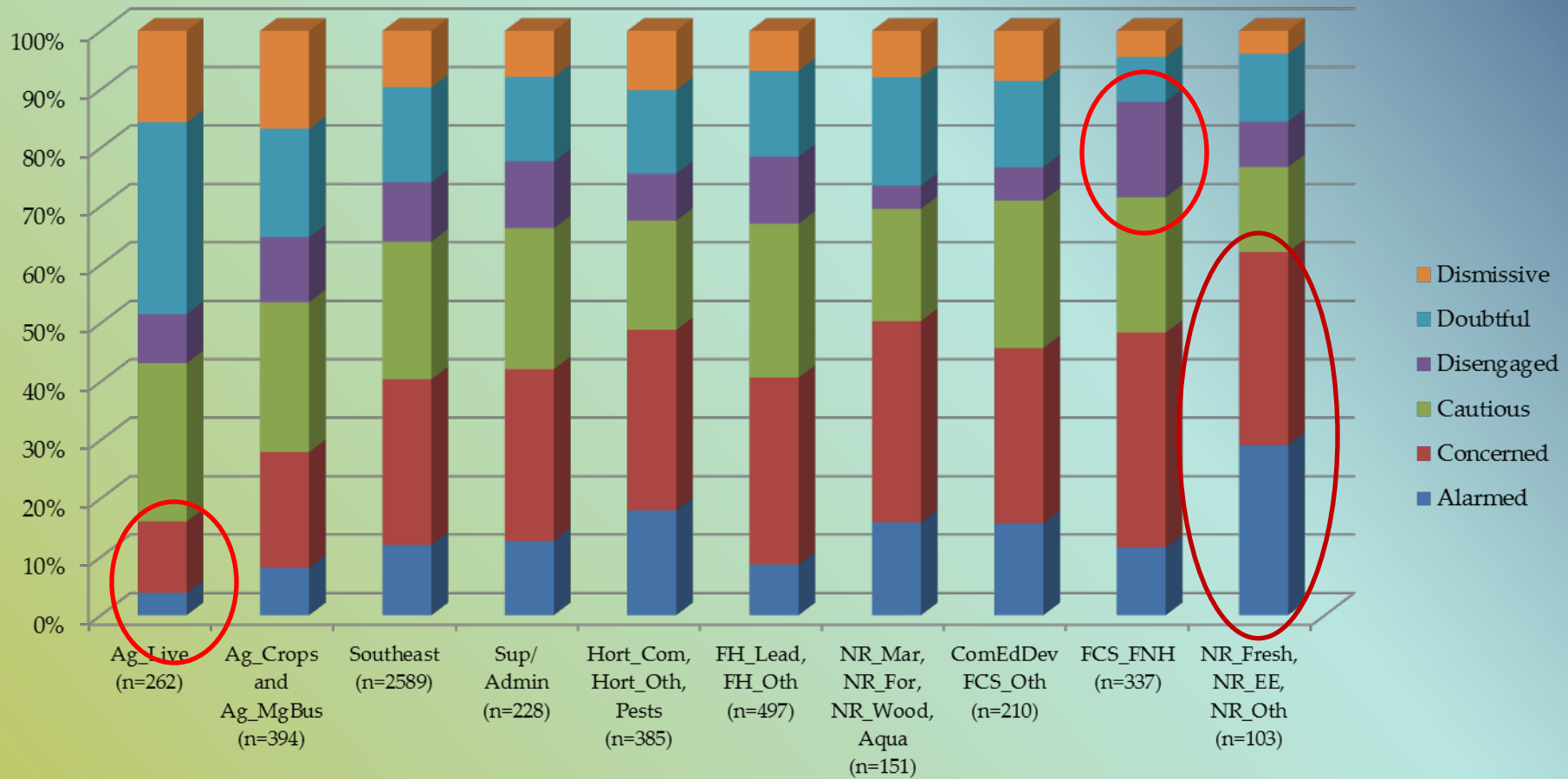
Note: chi-square $p < 0.05$

Program Areas



- People identified their top 3 priority program areas
 - Livestock, Wildlife, Horticulture, Forestry, 4-H, Nutrition, Marine, etc.
- We assessed Priority 1 program areas with Six Americas categories
- Similar program areas with similar categories were combined. Significant differences were kept separate

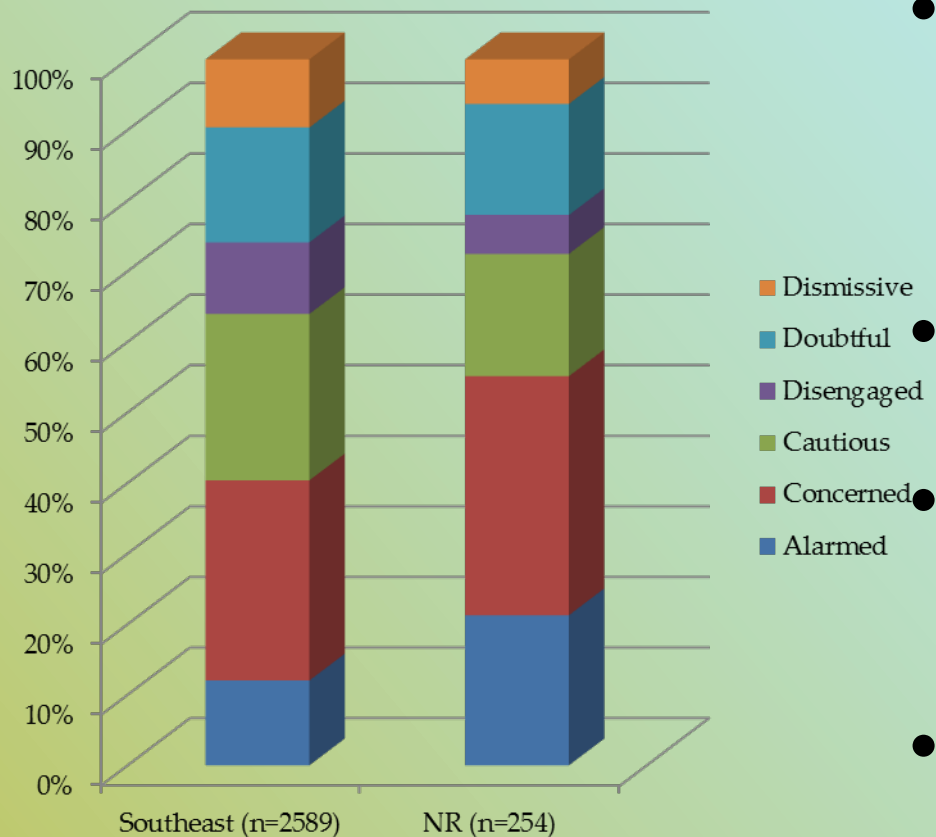
Six Americas by Primary Program Topic Area



Note: chi-square $p < 0.05$



Natural Resource Groups

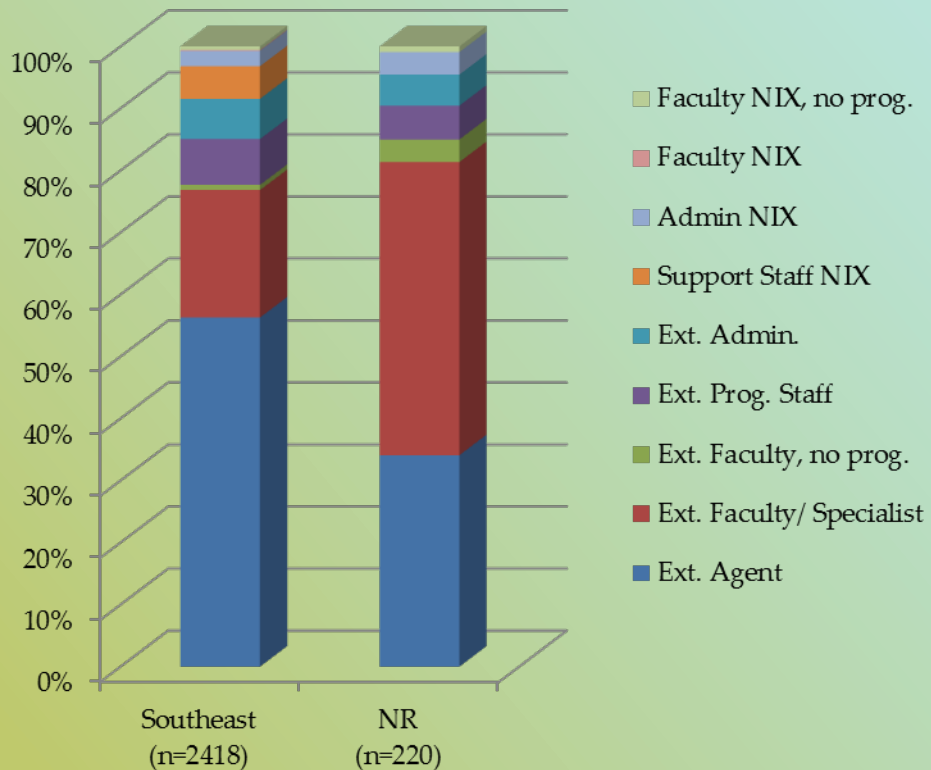


- Natural Resource groups are significantly different from all other program categories
- More likely to be Alarmed and Concerned
- Less likely to be Cautious, Disengaged, or Dismissive
- Two groups: Forestry/Wildlife/Marine and EE/Water/Other

Other Differences for Natural Resources Faculty

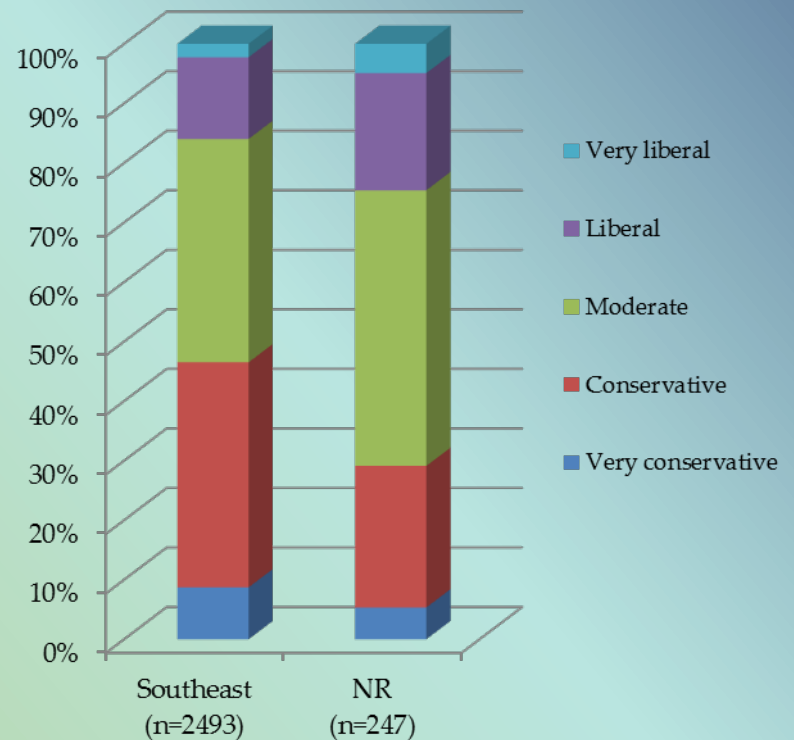


**Fewer Agents
More State Specialists**



Extension Role

**Fewer Conservatives
More Liberals & Moderates**

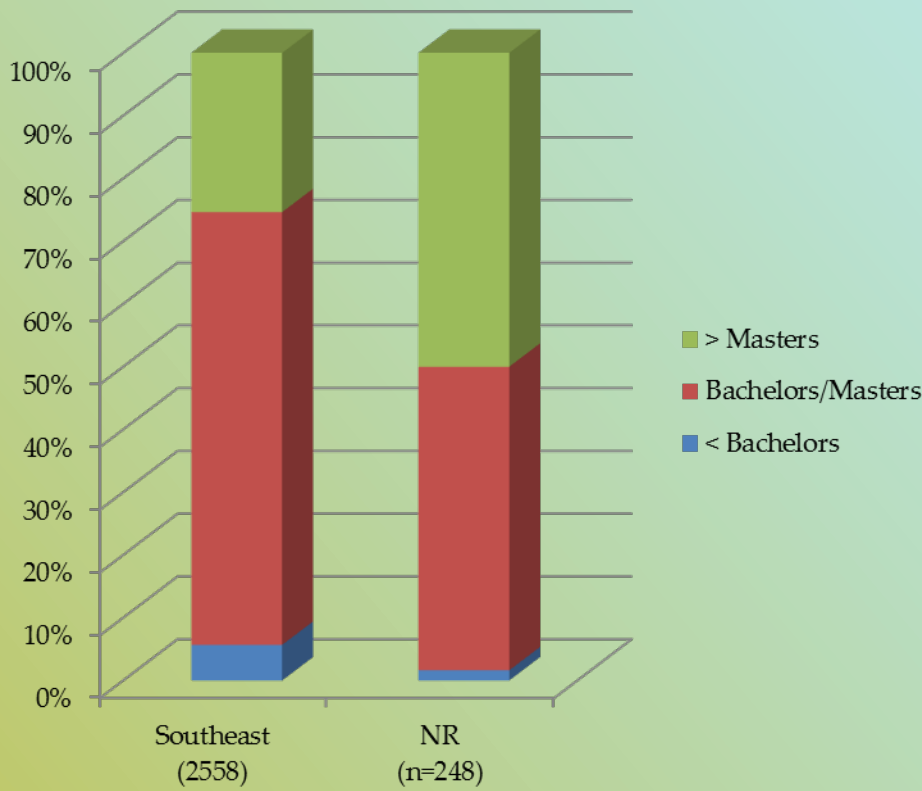


Political Leaning

Other Differences for Natural Resources

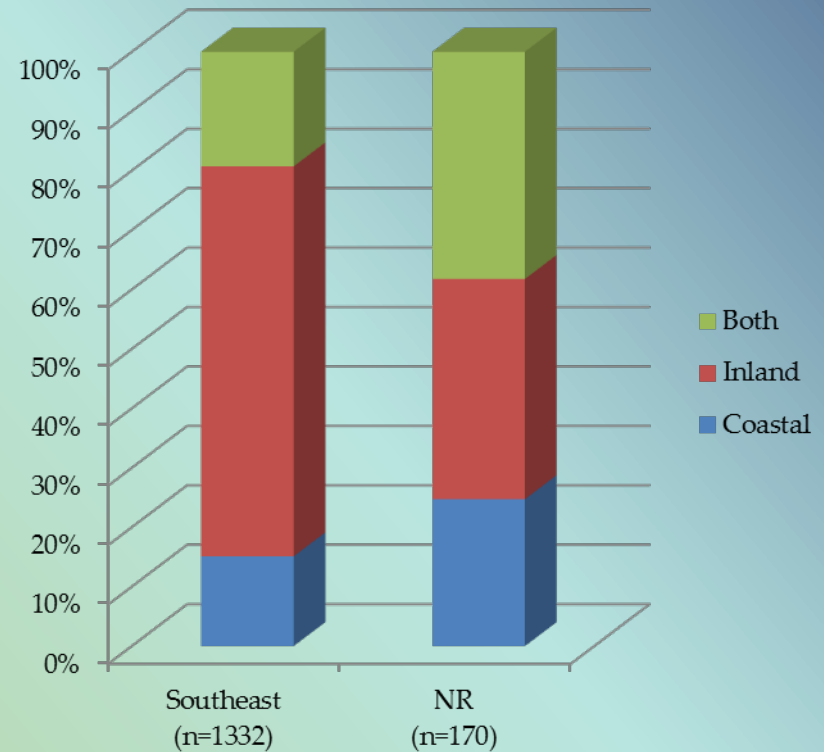


More Respondents beyond Masters Degrees



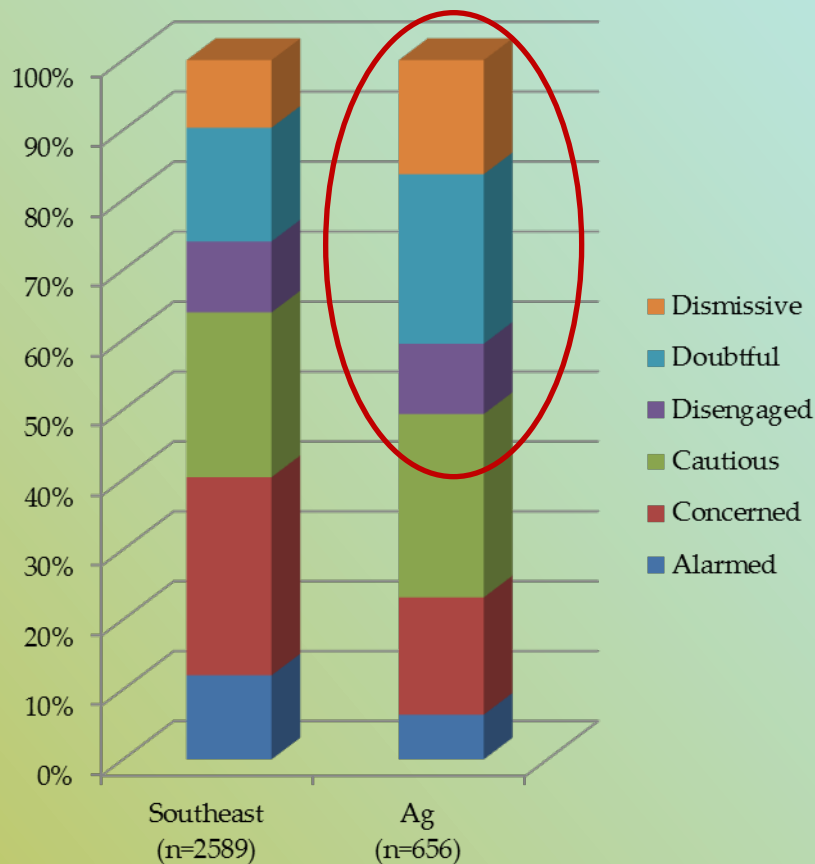
Education Level

More coastal locations



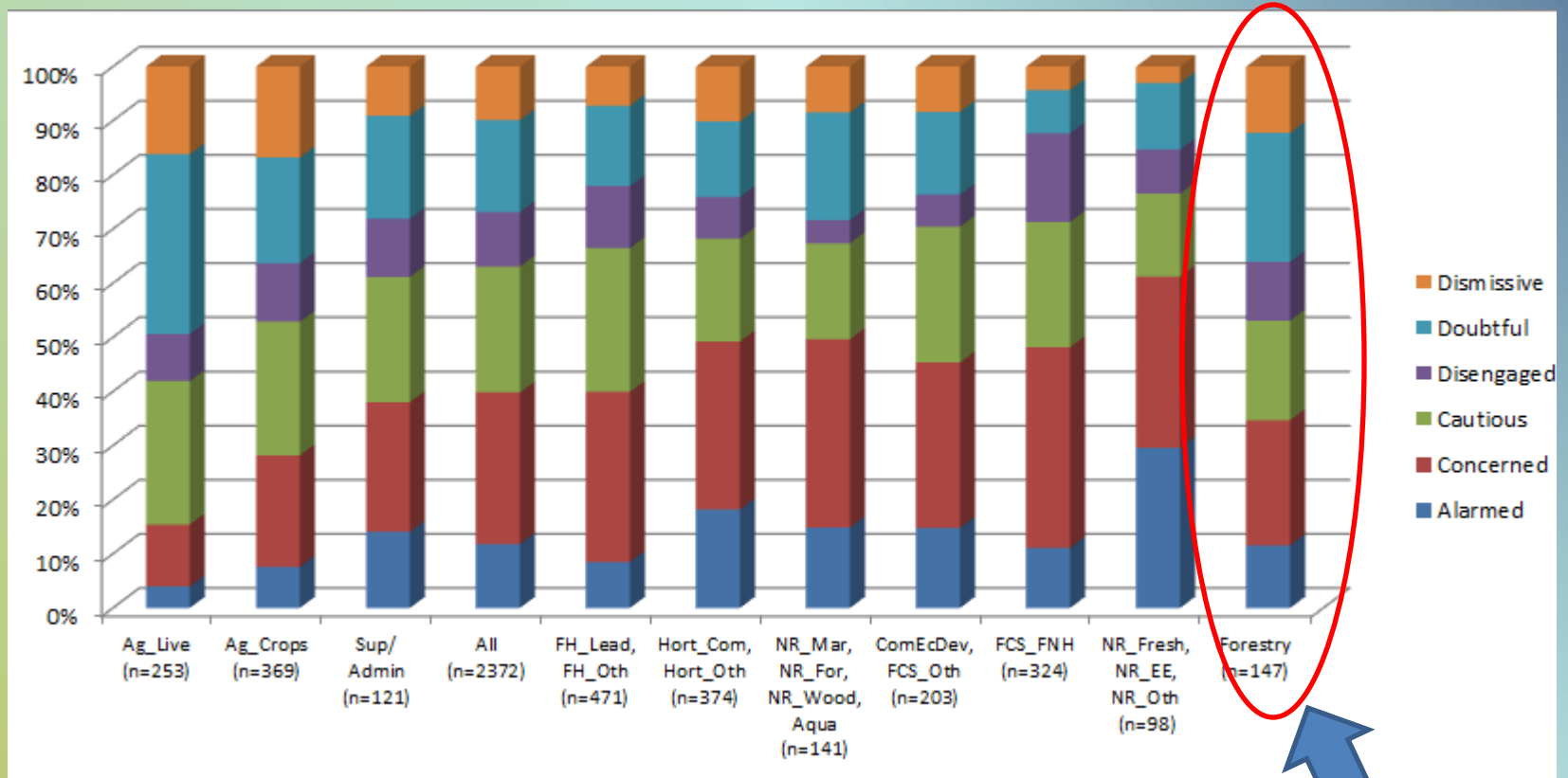
Geographic Location

Six Americas by Priority Area - Agriculture



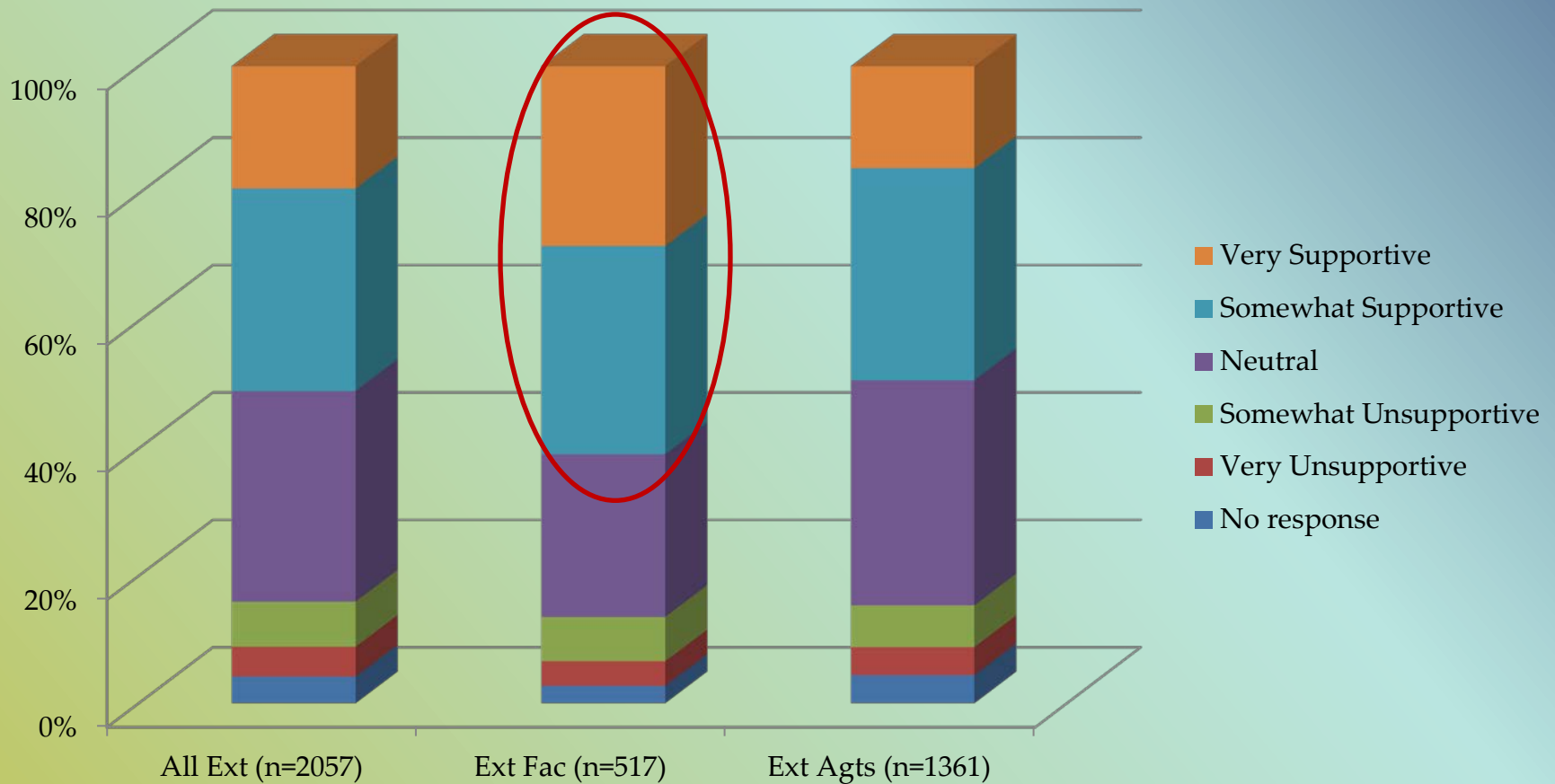
- Both Livestock and Crops or Business/Mgt respondents are significantly different from other groups
- More likely to be Dismissive, Doubtful
- More men, more agents, more conservative, fewer PhDs

All priority forestry folks look like Priority 1 Ag-Crops



This is PINEMAP's audience

Institutional Support for CC Programming

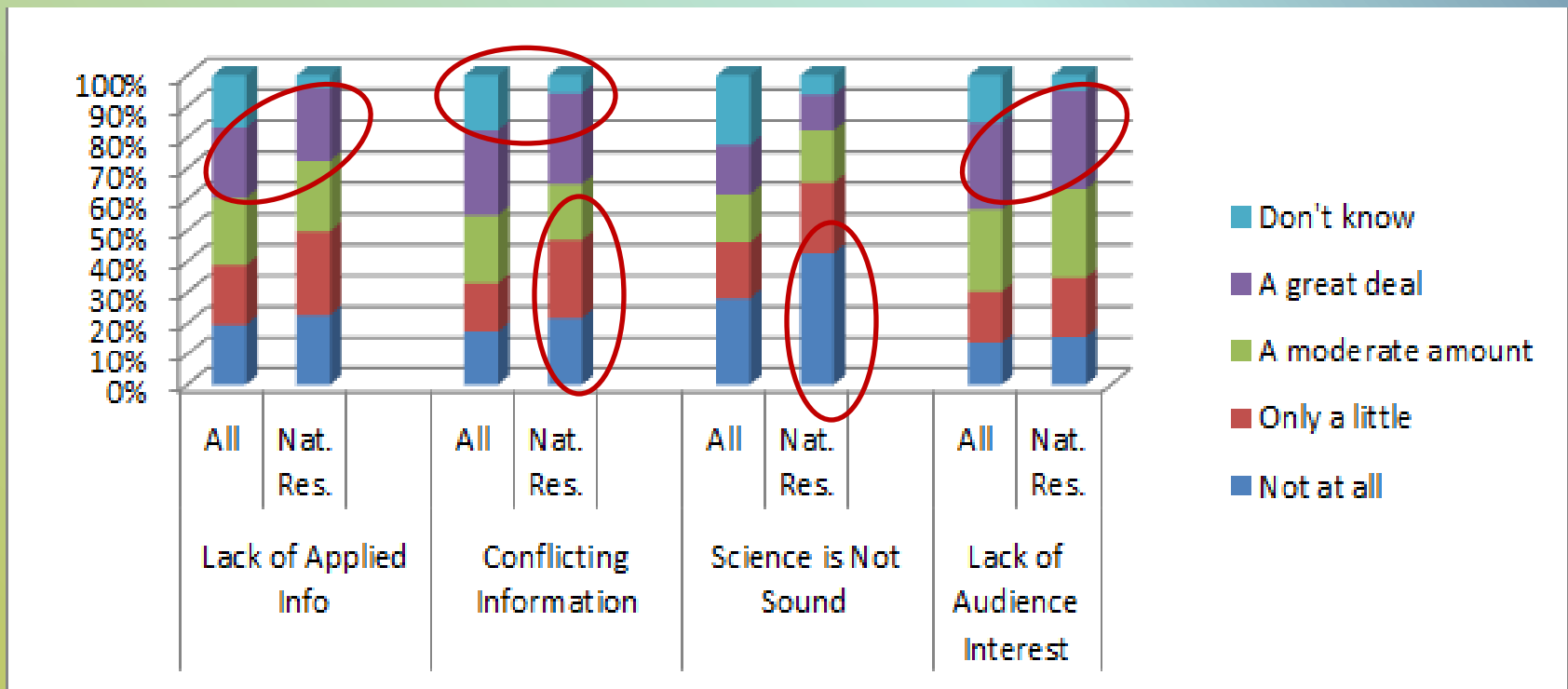


Note: chi-square $p < 0.05$

Perceived Limits to Climate Change Programming



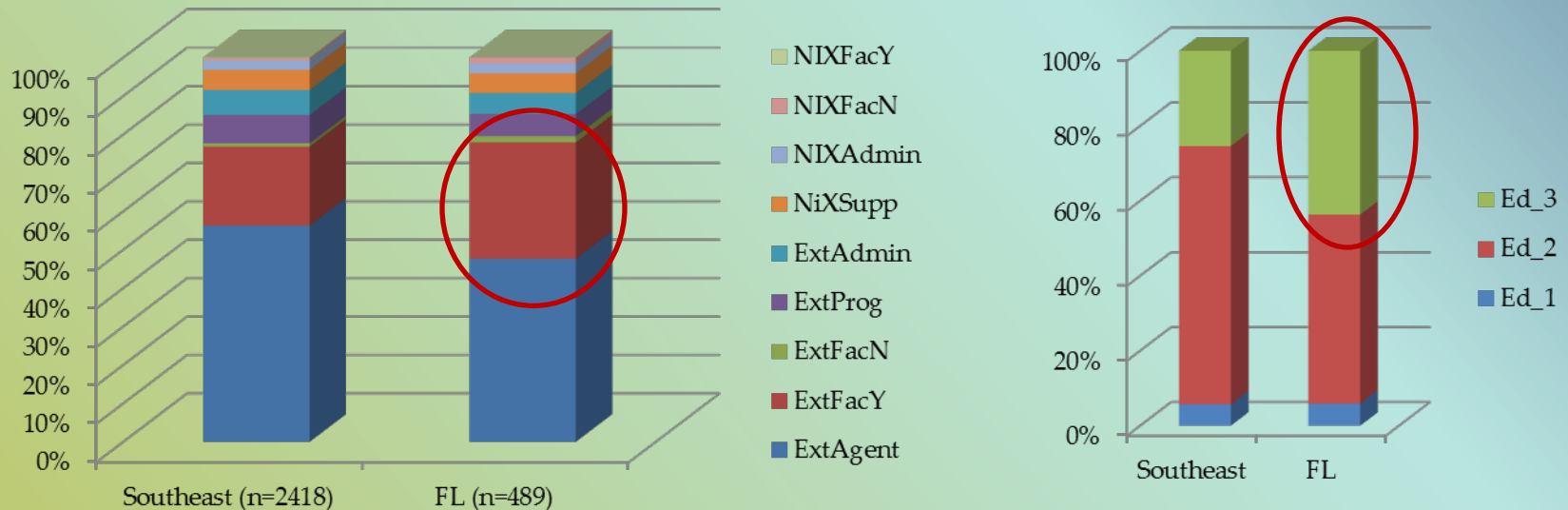
- Everyone believes lack of applied information and lack of audience interest limit ability to conduct programs.
- Non NR faculty more likely to respond Don't Know.
- NR faculty more likely to trust science and tolerate conflicts.



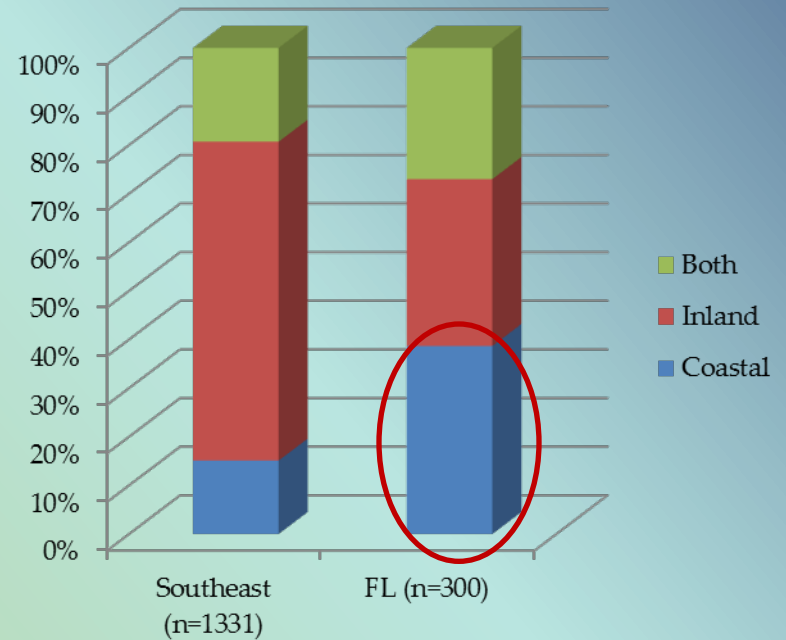
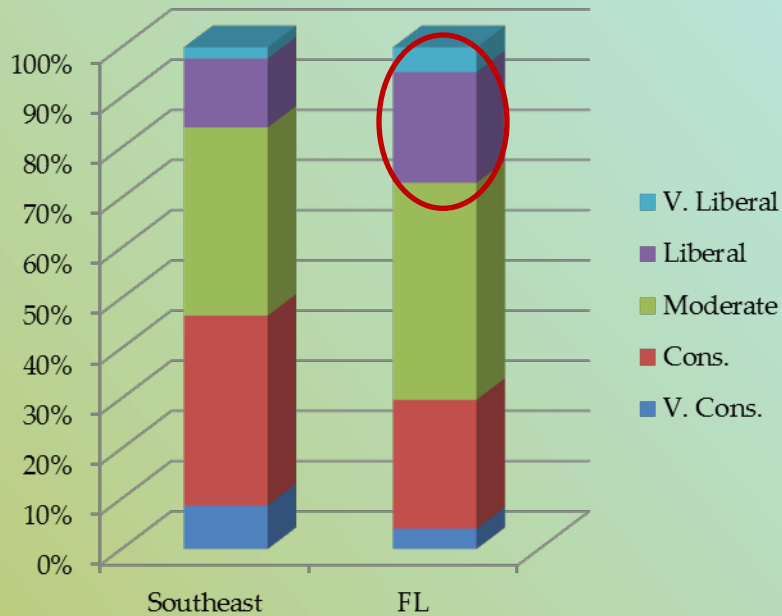
FL Example: Respondents Differ



- More state specialists responded – more PhDs, more liberal, more willing to be involved in program development; and more coastal



FL Example: More liberal, more coastal



FL Example: And yet...



- More than 50% of respondents “seldom” or “never” use the terms global warming, climate change, or climate variability in their programs.
- 67% have never attended an IST on climate.
- But 52% are somewhat willing; 31% are very willing to do so.

Regarding FL Perceptions



- 17% don't know if global warming is happening (82 respondents)
- 39% agree "the scientific community has a political agenda" (152 respondents/388)
- 35% are not worried about global warming (164 respondents/470)
- 82% need more information to make up their minds (381/467)

Comments from all reveal strong feelings



- Climate change is natural
 - Part of God' s plan; trust God
 - The science is wrong
- Fear that changes to address climate will affect agricultural productivity
 - American economy will be disadvantaged by climate policies
 - Why should U.S. lead other nations when this is a global issue?

- Scientists cannot be trusted because they are fabricating an issue to obtain research funding
- Media hype is responsible for creating a non-issue
- It is arrogant to think that people can change the climate
- Climate change is crap
- Climate is always changing

Some Are Practical



- But it is still smart to conserve resources no matter what is going on
- Since my audiences can't think about climate, it is prudent for Extension agents to focus on energy conservation
- I need more science-based information to know how to approach this topic

A Few Are Hopeful



- Extension messages are trusted; we need to offer science-based information to our communities
- Youth are ready to learn about this issue

Overall Findings



- Extension professionals, like the public, fall into all six perception categories
- Differences between Extension folks and the public probably due to demographic factors
- Perception of climate change strongly linked to demographic factors:
 - Political leaning
 - Sex
 - State
 - Coastal county
 - Education

Findings



- Within Extension, perception of climate is also linked to:
 - Role (Agents more Dismissive and Doubtful)
 - Program area (Ag-Livestock most Dismissive, Doubtful, followed by Ag-Crops and Ag-MgBus; NR much less Dismissive/Doubtful)
- Perceptions of limitations to climate change programming include
 - Lack of applied information
 - Perception of audience interest

Implications for PINEMAP



- Extension is “the most successful change agency” (Rogers, 1995) in part because of the similarity between Extension Agents and audiences.
- And we do reflect the public.
- Will it help in the context of climate change?

Implications for PINEMAP



- The most eager to engage in climate change programming – the alarmed – may be the least likely to be heard by the general public. Can they learn how to be heard?
- Perhaps concerned, cautious, and doubtful groups are the best able to learn and convey a message effectively?

Implications for PINEMAP



- Those disengaged and dismissives may become the best able to teach other dismissives, but we may not know how to reach them.
 - And how will they deliver our programs?
 - Given the number of agriculture and forestry agents who are cautious, doubtful, and disengaged, we cannot afford to ignore them, or wait.

Additional Thoughts



- Avoiding mention of climate and skipping directly to impacts may be a good short term strategy.
 - Would it be perceived as disingenuous?
 - What would a longer-term state Extension professional development program look like?
 - How can it empower professionals to figure out how climate change will affect them?
 - What will build capacity?

And ultimately...



- What is the best way to engage Extension professionals in understanding and communicating the risks, impacts, mitigation, and adaptation strategies for climate change?
- How do we build resilient families and communities with the capacity to adapt?
- For other PINEMAP aims, what would your stakeholders (e.g., industry) and collaborators look like on a Six Americas scale?



Thank You

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