



Southern Foresters' Perspectives of Climate Change

Preliminary Results of a Survey

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Science Presentation

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United States
Department of
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National Institute
of Food and
Agriculture



PINEMAP Stakeholders

- PINEMAP stakeholders include all of these groups- many of these groups include professionally trained foresters



- We develop Extension programs to target these different audiences however, we also have to consider another way to segment the audience



Questions

1. What climate and weather anomalies have Southern foresters witnessed?
2. How knowledgeable do they feel and how confident are they about climate change concepts?
3. To what degree are they concerned about climate change?
4. How open are they to new information, tools and technologies with regard to forest resiliency?
5. What types of educational programs are they interested in?



Survey Details

- Questions developed based on Six Americas Survey, 25 x'25 Alliance Survey, Extension "Six Americas" Survey, Grotta et al 2013, and others
- Online survey sent to 6,700 foresters across the South (13 states including PINEMAP region)
- Dillman Tailored Design Method
- Conducted with 3 reminders in January-March 2013
- 1,782 responses (27% Response Rate)



Survey Design – Likert Scaling/Open Ended Response Survey

24 questions related to:

- Personal observations (i.e. different frequency of weather conditions)
- Perceptions/beliefs around climate change
- Continuing education needs related to changing climatic conditions, weather and resilient forest management strategies

8 demographic questions:

- Where they work
- Years practicing forestry
- Political affiliation
- Education level
- Location
- Gender



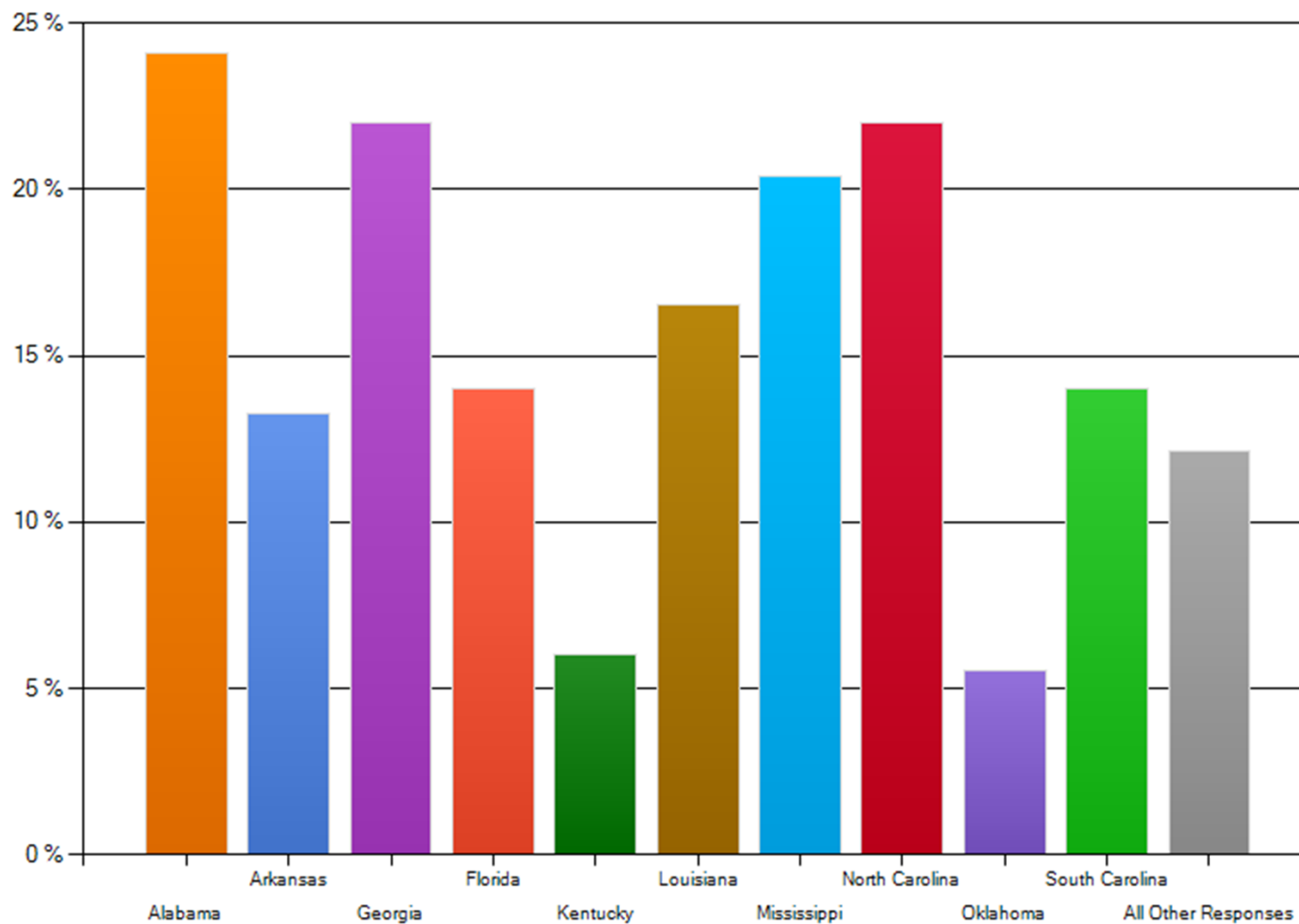
Demographics

- 1. Job Classification:** 85% were foresters, 10% were landowners, and the others classified themselves as industry (non-foresters), and other.
- 2. Education:** 60% received a BS or equivalent, 25% received a MS and 10% had PhDs.
- 3. Gender:** 92% men, 8% women



Where do you “Practice” Forestry?

In which states do you perform forest management services? Please check all that apply.





Forester Perceptions

“Climate change is a frequent issue in the media, so people are thinking about it and asking about it from the standpoint of: where is this going to lead us, down the road, in terms of being able to depend on the forest as a resource for future harvests and income, etc. Folks are concerned whether they believe climate change is happening due to fossil fuels, nature, or some combination of human activities and nature.”

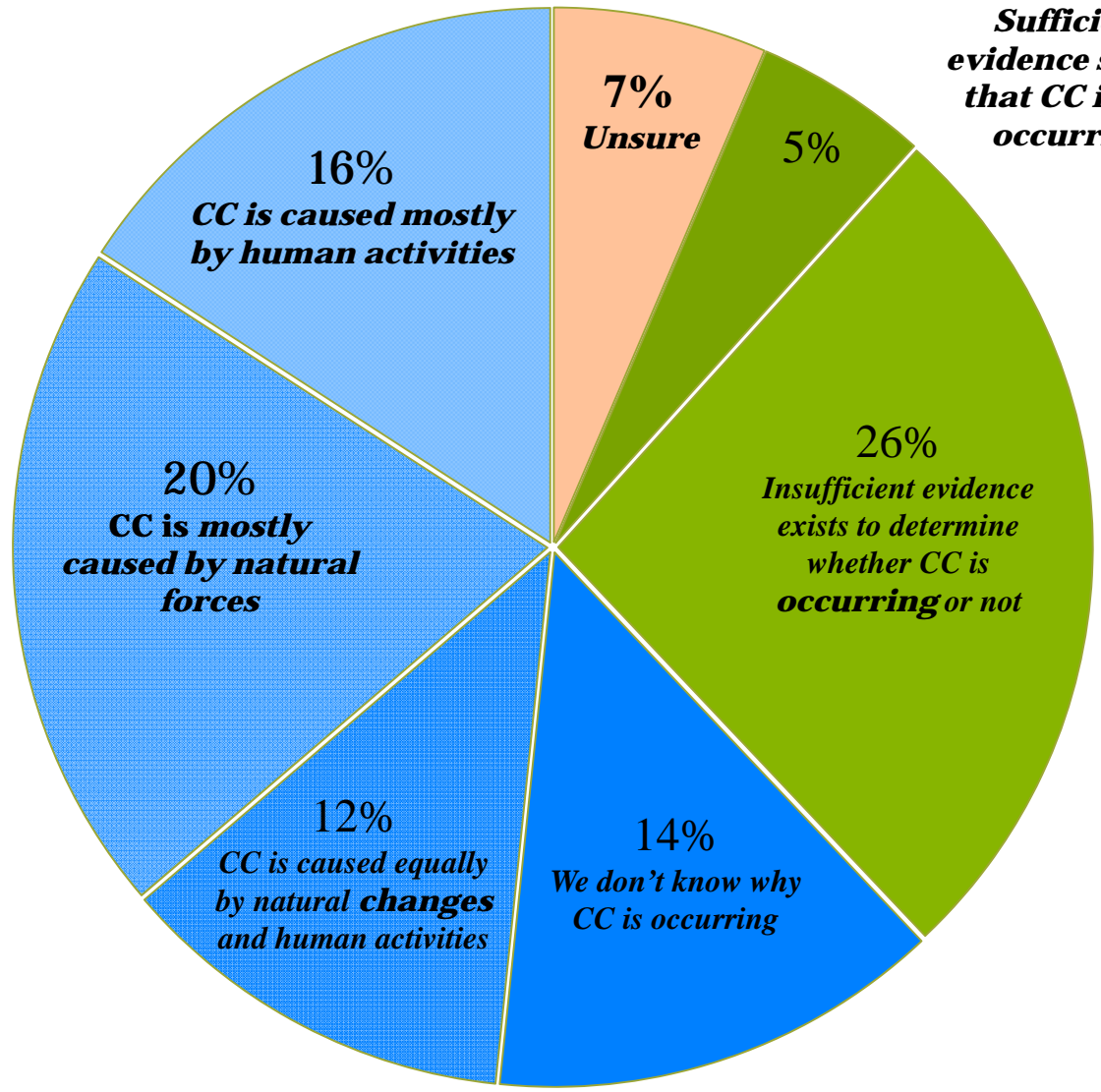




Foresters' Perceptions

62% of foresters agree that climate change is occurring but differ in how they think it is caused
48% think it's occurring and that human activities at least contribute to it.

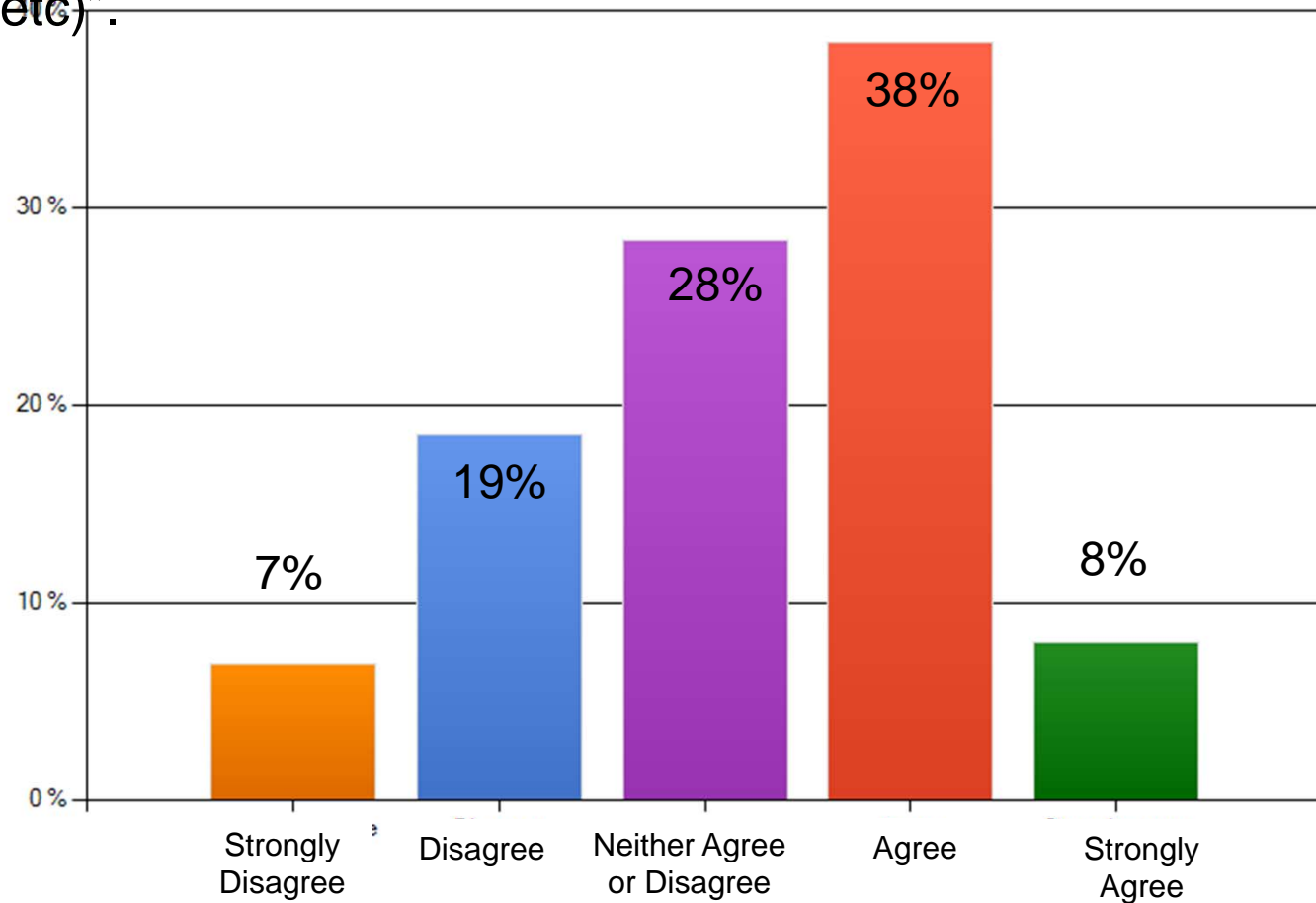
31% of foresters do not agree that climate change is occurring





Anomalies Witnessed

“In my lifetime, I have noticed a change in the climate (longer, hotter summers; warmer, drier winters; cooler, moister summers; earlier, drier springs, etc)”.

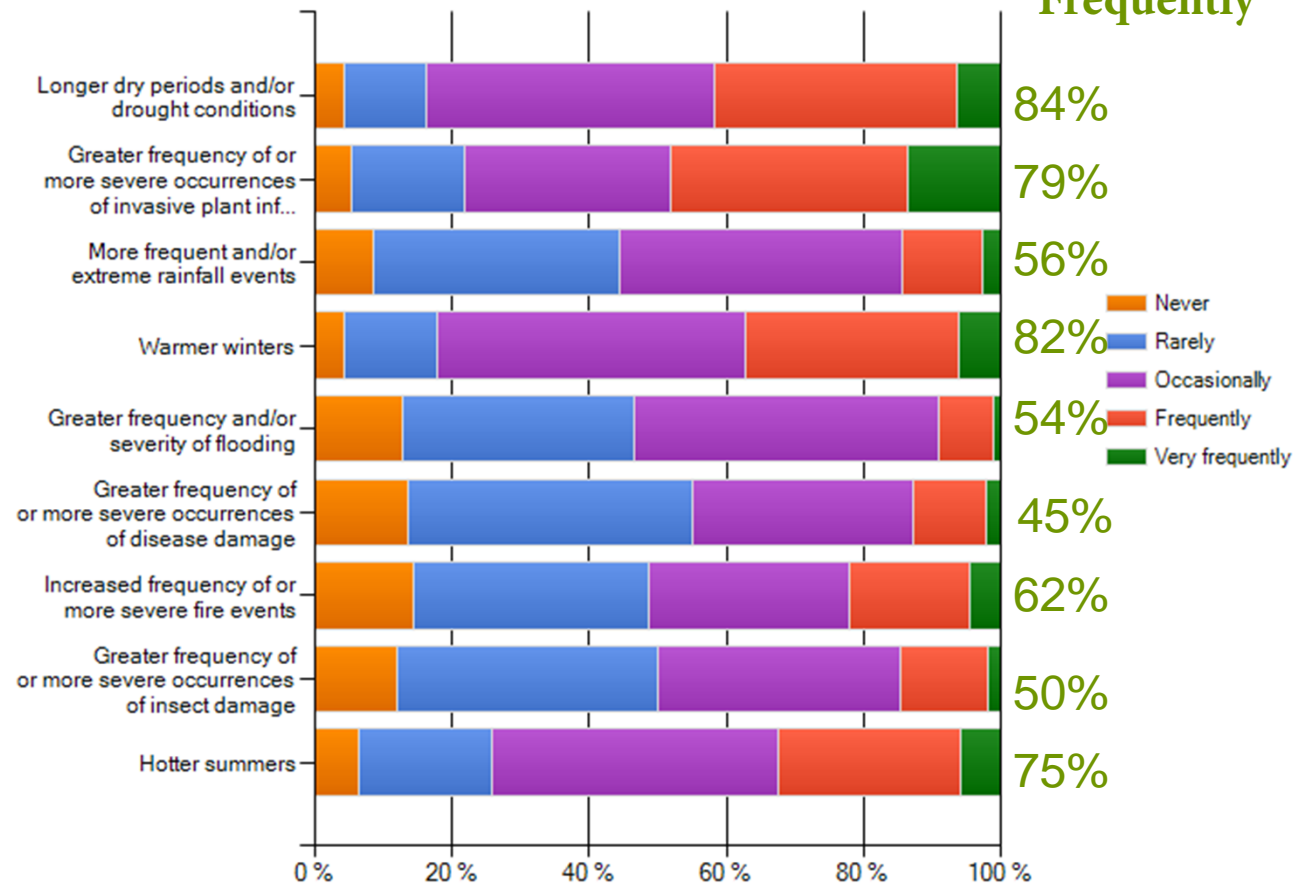




Anomalies Witnessed

The following are some conditions that U.S. farmers and forest owners/managers have experienced over the past few years. To what extent have you or your clients witnessed any of these in the past several years?

**Occasionally,
Frequently, and Very
Frequently**





Concerns about Climate Change

“Is this a bunch of made up political and institutional media bullcrap or what?”

“First, define “climate change.” The climate is always changing- always has and always will as long as earth exists. Is “climate change” a new term for manmade global warming? If so, then there are credible scientists on both sides of the debate. I’ve seen recent evidence that there has been no net increase in temperature for the last 16 years.”

“Climate change is so charged that one is often reluctant to give candid straight forward answers. I believe that a very important opportunity exists, nay is vitally needed, for foresters and forestry schools to stimulate open conversations around the topic of climate change and how to mitigate its impacts on all forests.”

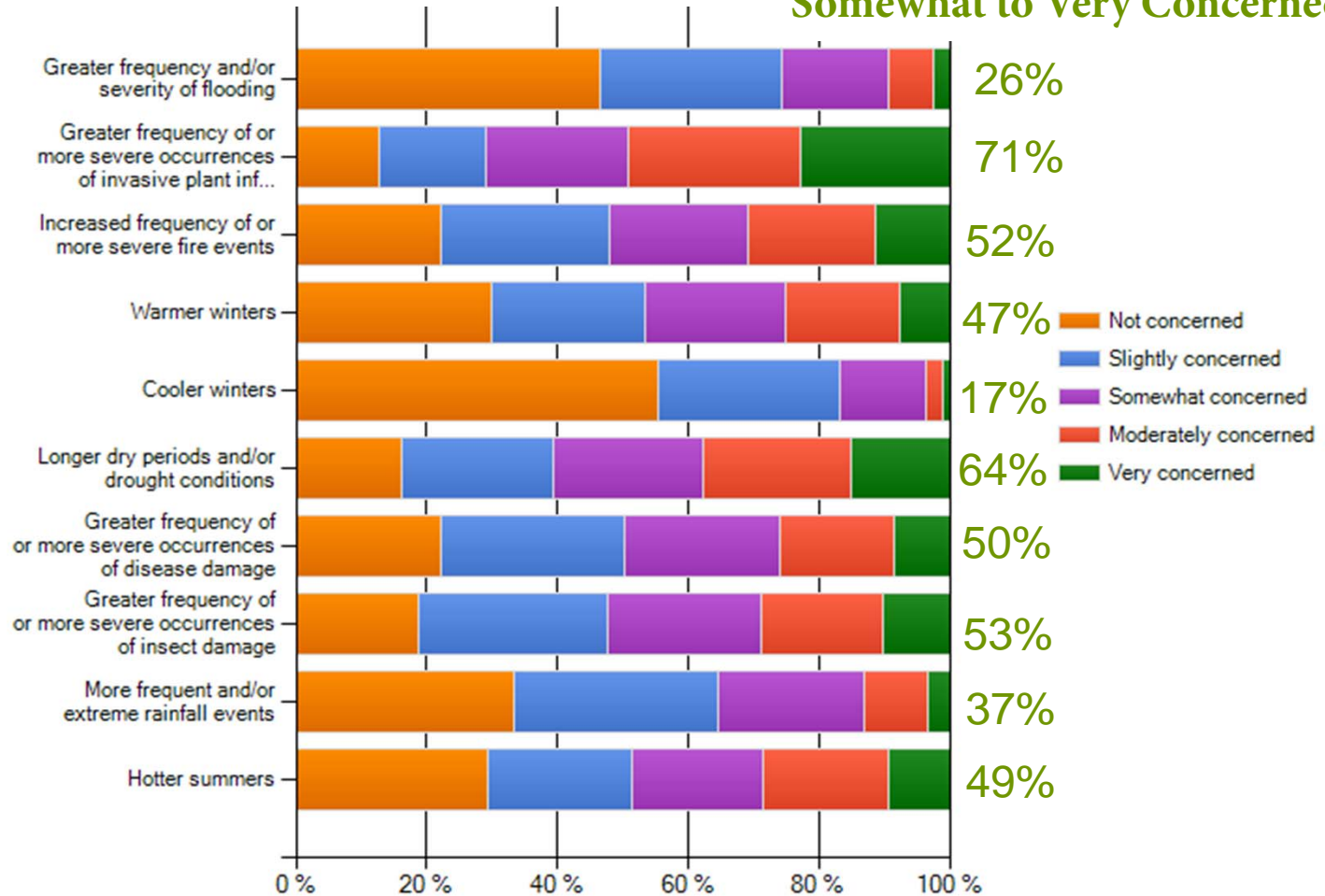




Climate Change Concerns

To what extent do you feel concerned about the long term impacts on our forests from the following factors:

Somewhat to Very Concerned

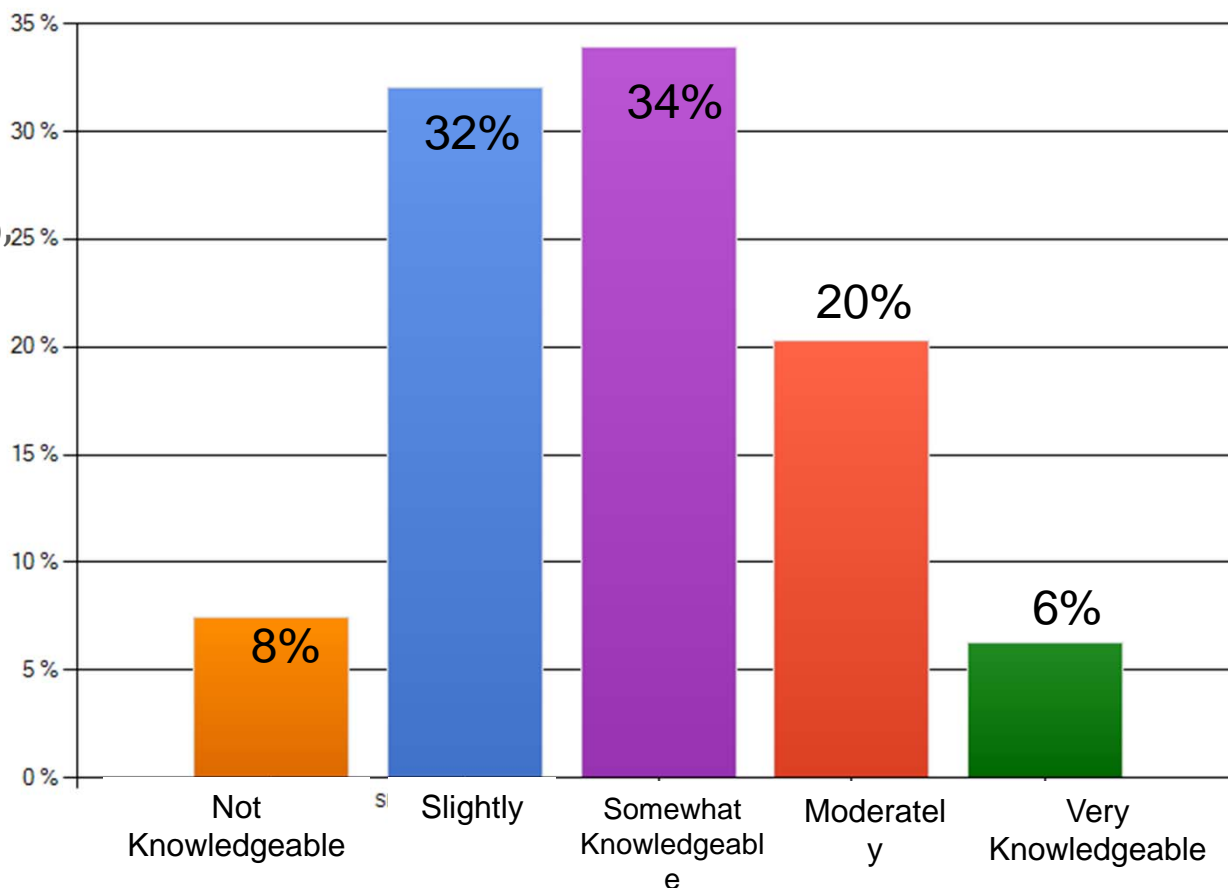




Knowledge & Confidence: Climate/Climate Science

- 25% of foresters have had clients ask them about change in climate or extreme weather. Of those 25%, 25% about 57% feel confident answering their questions, while about 20% are not confident and about 23% are unsure

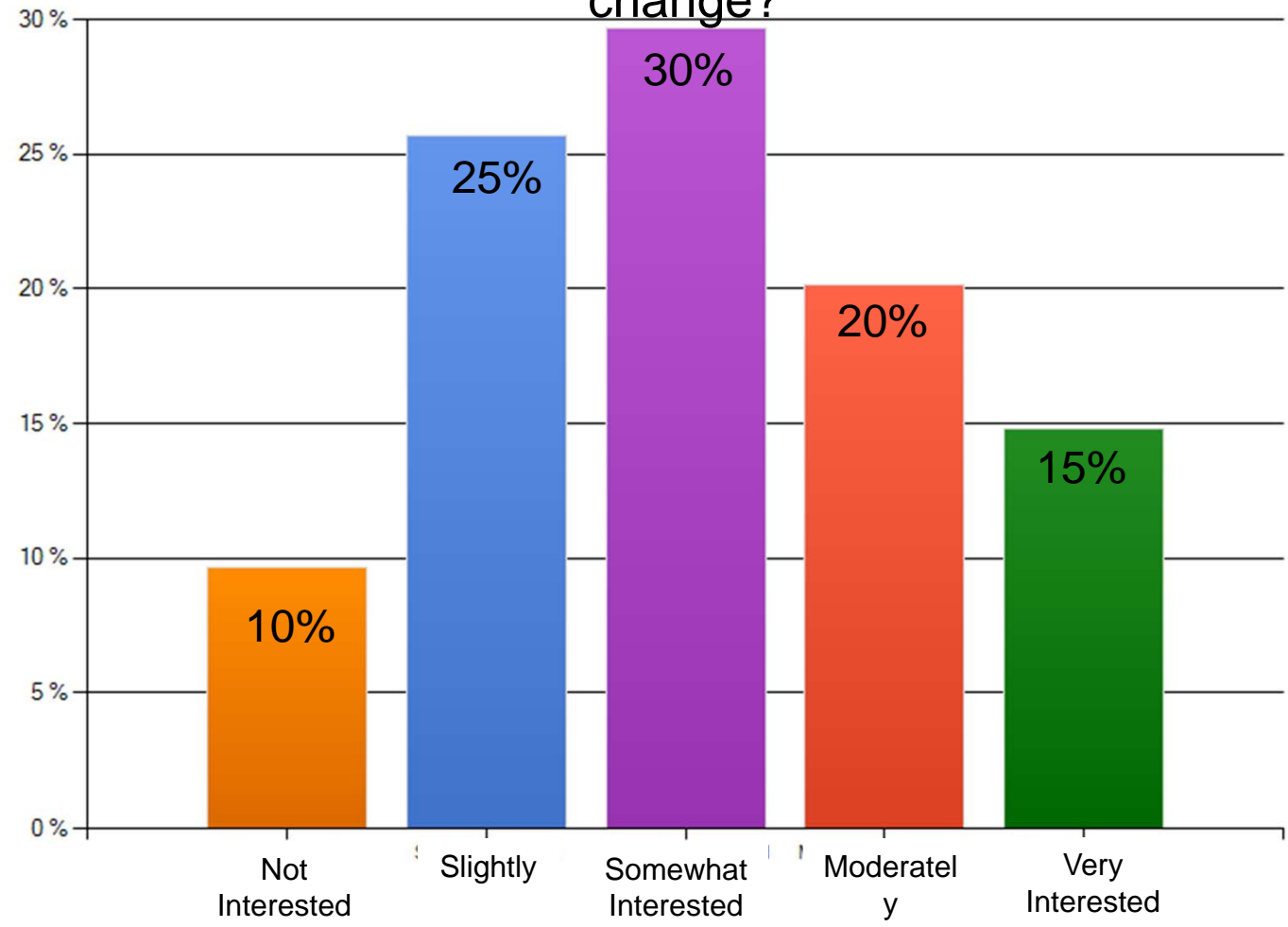
How knowledgeable do you feel about the science behind climate and climate change?





Interest in Education: Climate Science and Climate Change

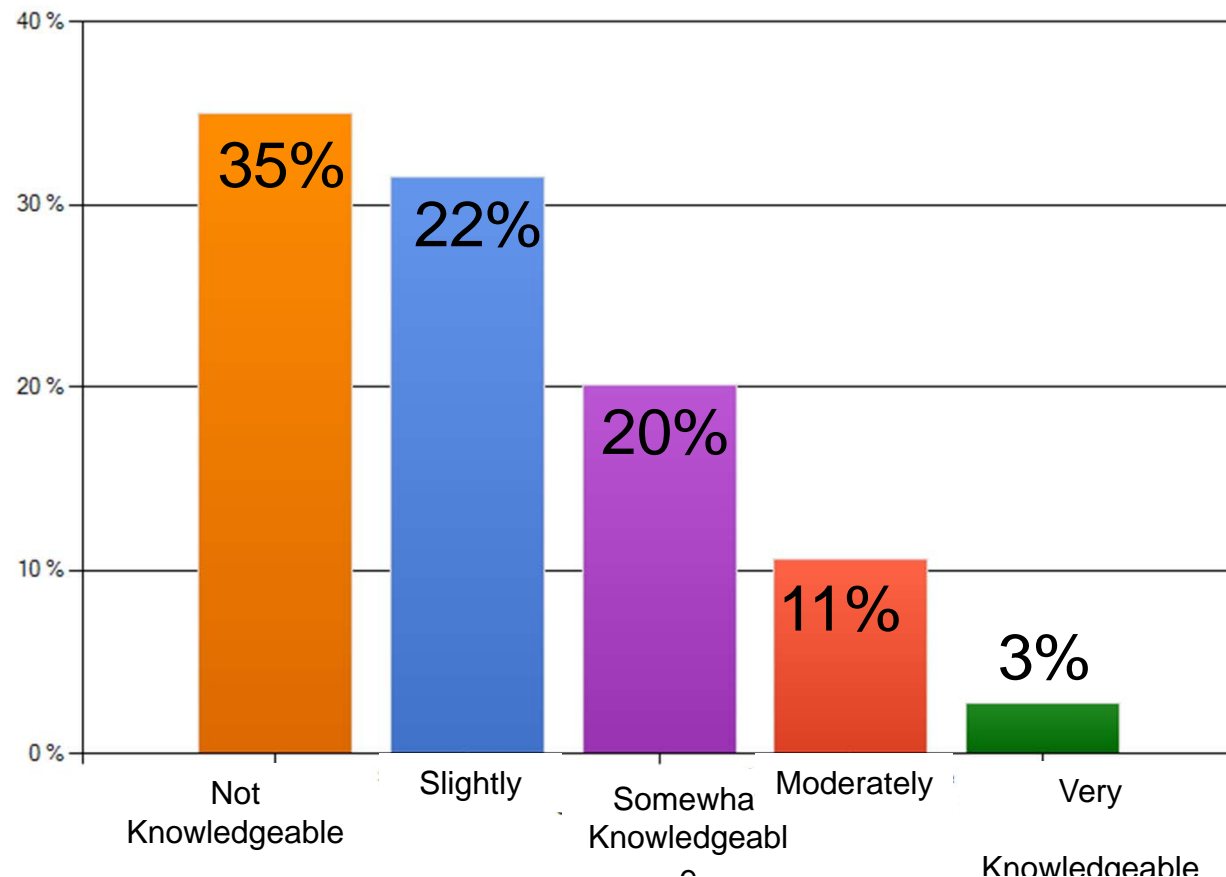
How interested are you in learning more about climate science and change?





Knowledge and Confidence: Forest Resiliency

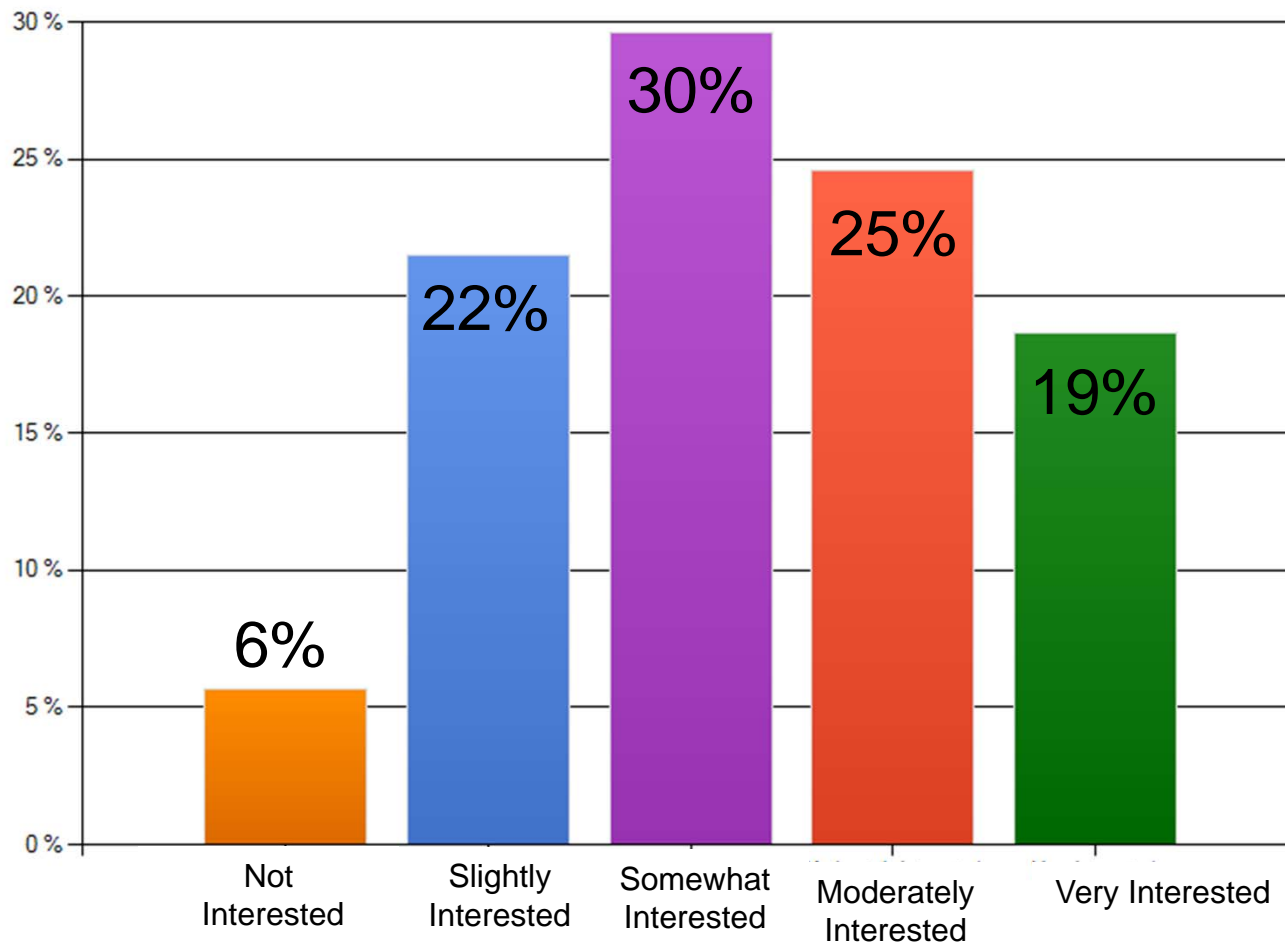
How knowledgeable are you about forest resiliency strategies, options and concepts (including risk assessment, “climate-smart” best management practices, etc.?)





Interest in Education: Forest Resiliency

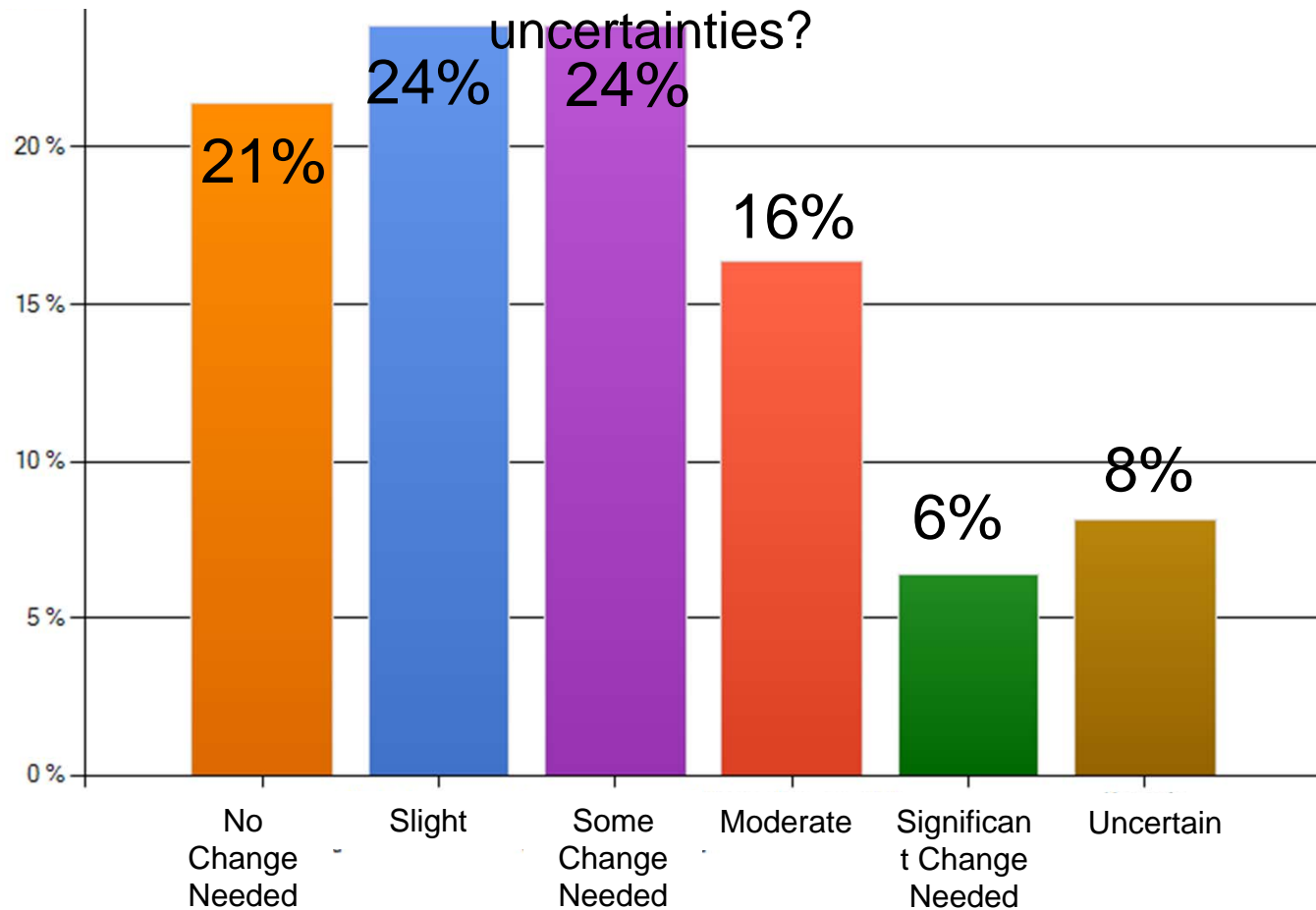
How interested are you in learning more about forest management strategies that promote forest health and resiliency?





Need for Forest Management Change?

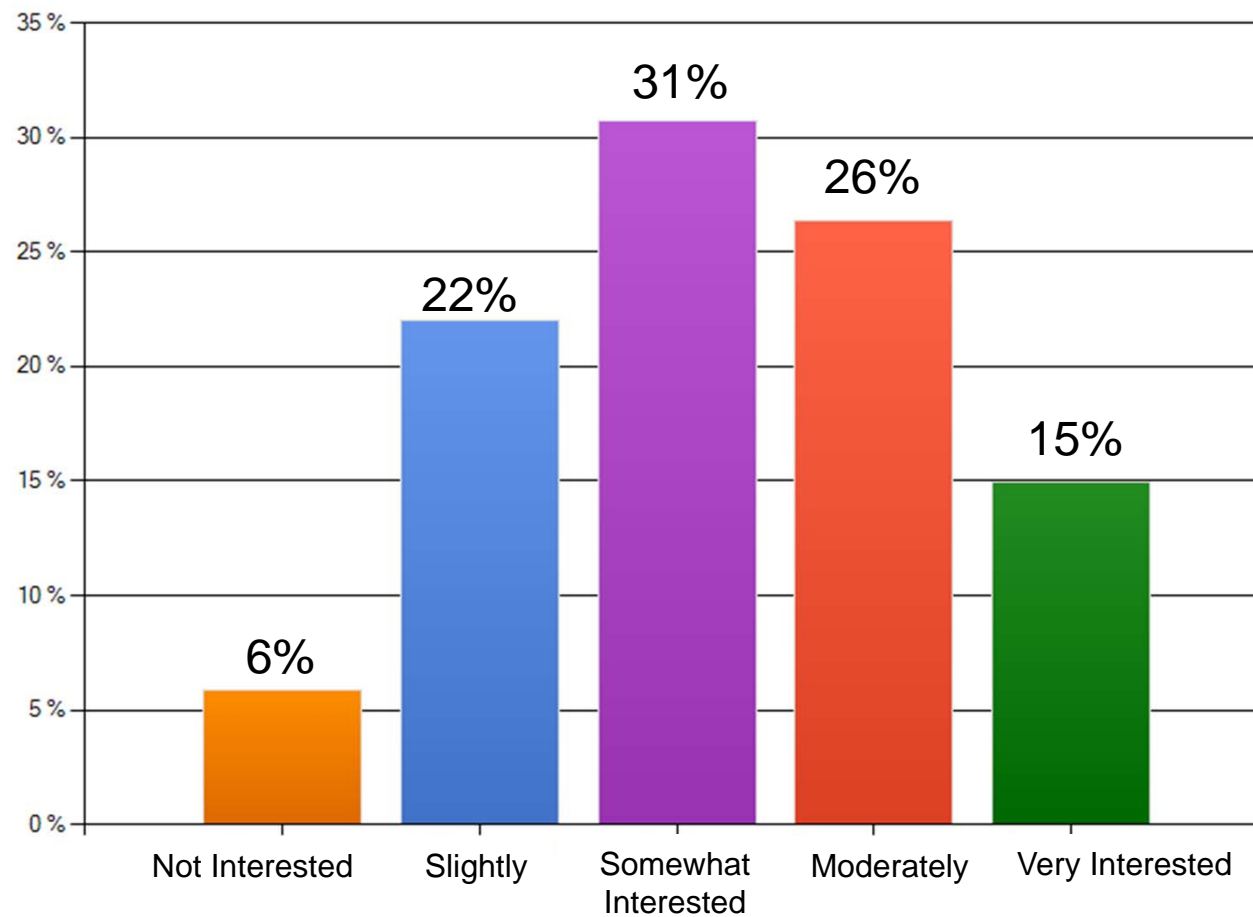
To what extent do you think that forest management strategies will need to change to better respond to future weather and climate





Openness to New Information, Tools & Technologies: Weather

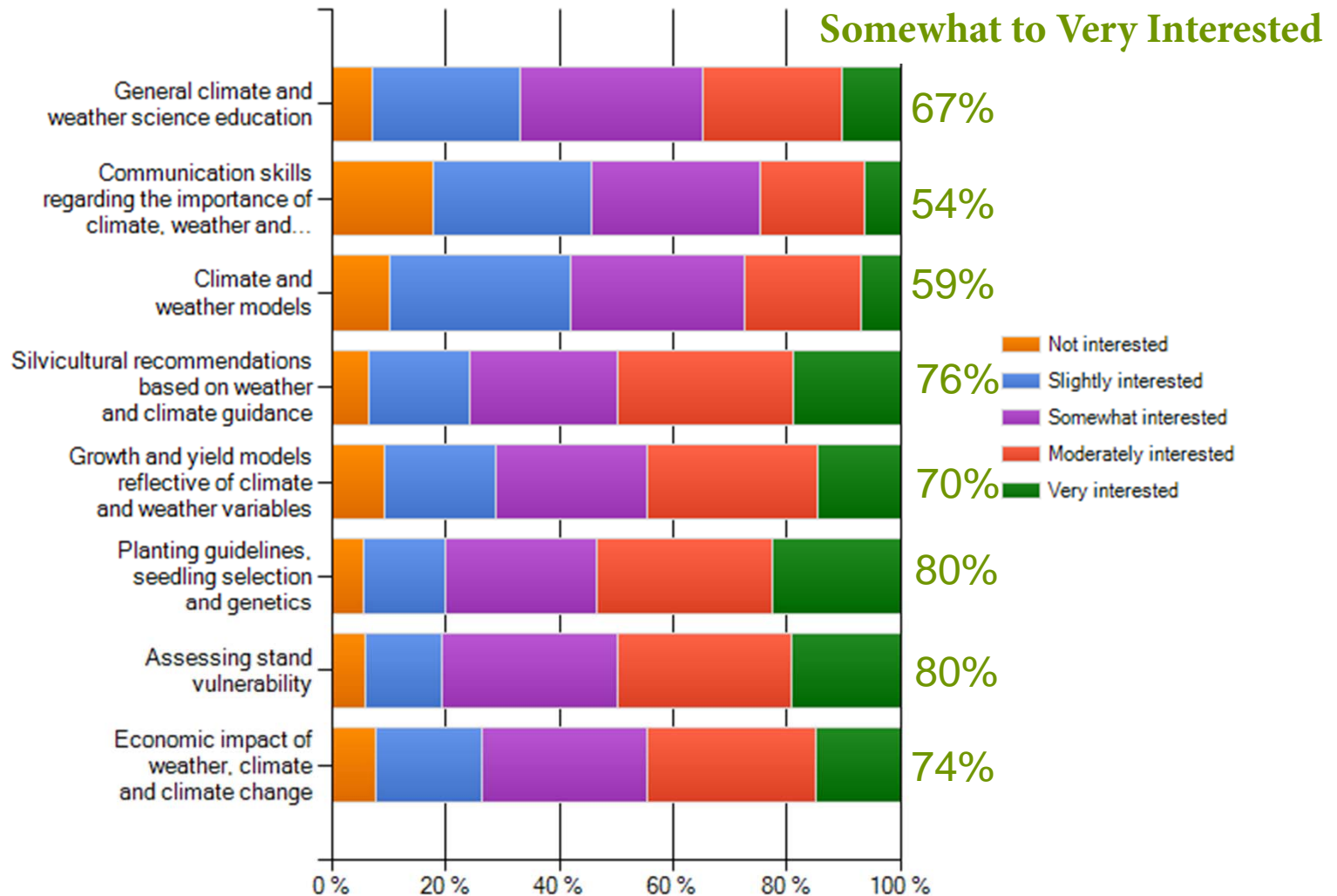
How interested are you in learning more about weather (science, forecasts, tools and technologies)?





Educational Program Area Interests

Please rate your level of interest in the following topics.





Conclusions

- We have a critical mass of foresters who are interested in more discussion & information on climate and weather topics
- We will need to develop our programs carefully to address stakeholder perspective
- We will need to focus on what we know and what we can deliver
- Climate change is important, but shouldn't be our only focus
- Many foresters want better answers and have climate change concerns, but do not think that climate change is human-caused



Next Steps

- Further refine the results and analyze data
 - Prioritize educational interests and review preferred methods of delivery
 - Can analyze the data by:
 - Sub-region or even state
 - Gender
 - Age
 - Years of experience
 - Education levels



Research Questions

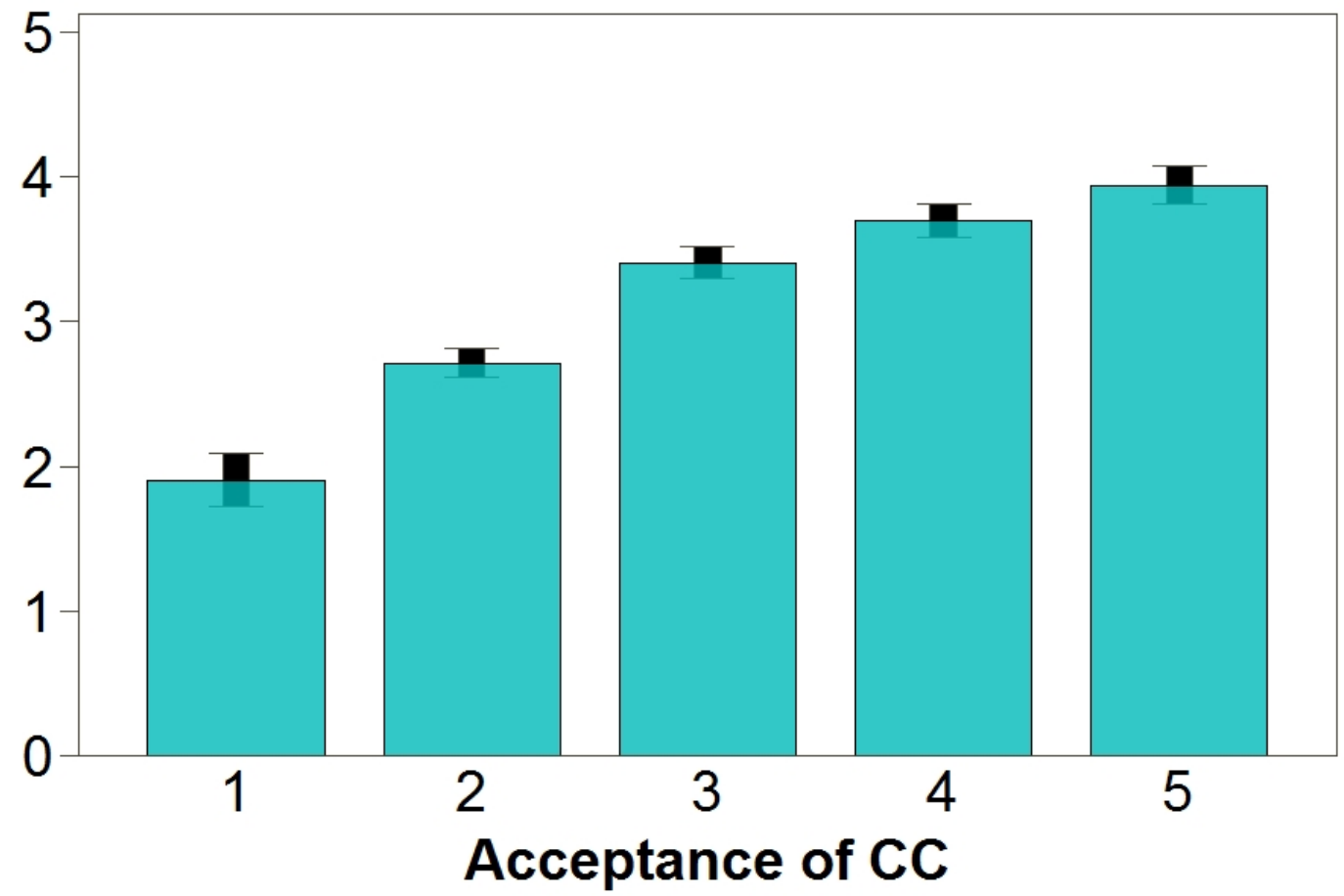
- How do different demographic variables influence the attitudes of foresters and natural resource professionals in the Southern United States toward climate change?
- How does level of climate change acceptance affect forestry professionals' willingness or ability to:
 - 1) observe weather or climate changes,
 - 2) feel concerned about the impacts of those changes on forestry, and;
 - 3) feel that climate change is occurring?



Climate Change Observed & Acceptance

Observance of changing climate
1= Do not Agree
and 5= strongly agree

Agreement respondent has observed CC in lifetime

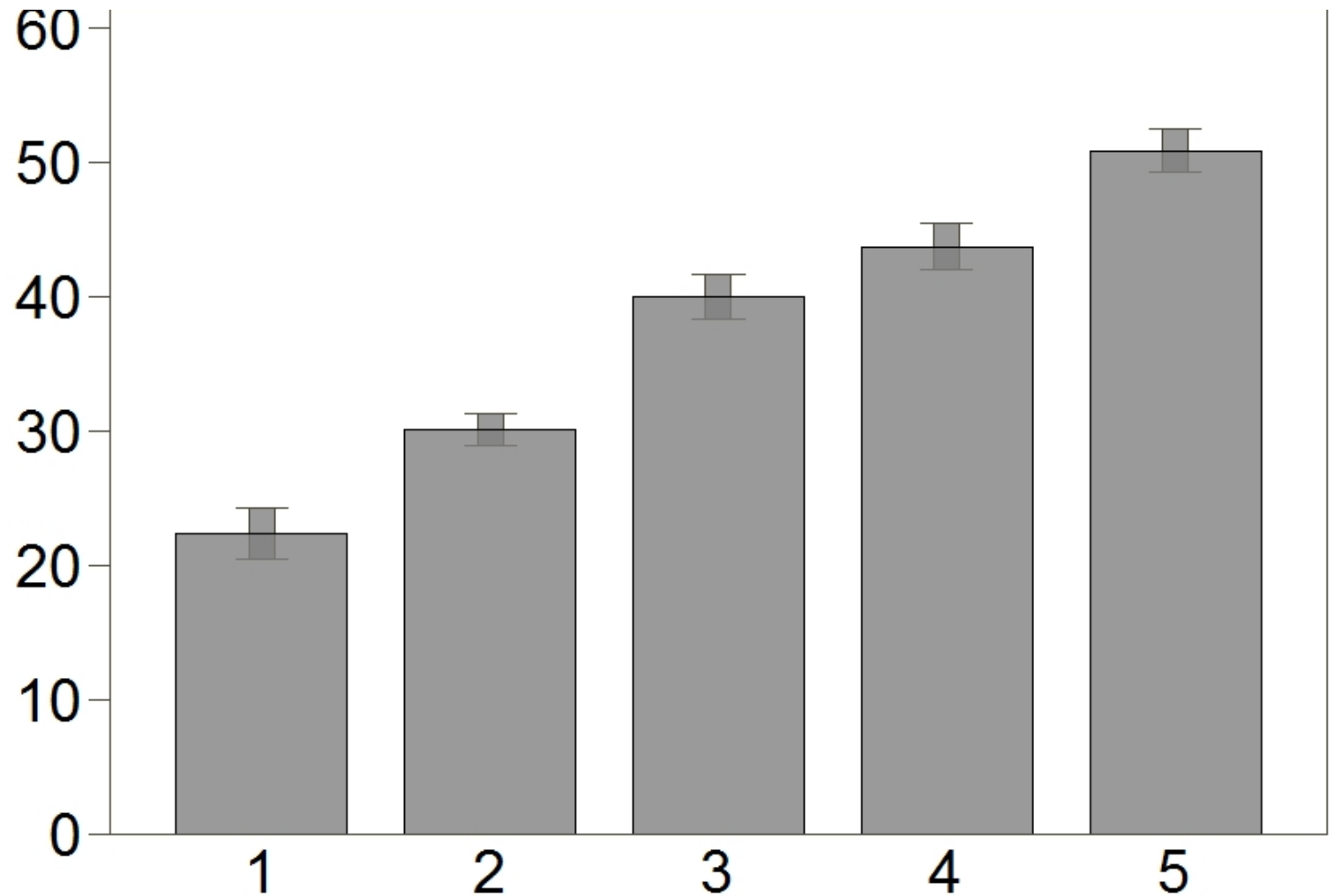


1= do not think CC is real and 5= human-induced climate change



Concern about Climate Change & Acceptance

Concern about impacts to forestry from Climate Change from low (0) to high concern (60)



1= do not think CC is real and 5= human-induced climate change



Anomalies Observed & Acceptance of Climate Change

Frequency of observed CC

