

Climate Change Perceptions of Southern Foresters: Preliminary Survey Results

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SUMMARY

Southern foresters were surveyed to gain a better understanding of their experiences, perceptions, beliefs, attitudes and interests in continuing education topics and formats regarding climate science and climate change. The survey provides insight into several inferential questions regarding a forester's world-view and their associated receptivity to making forest management changes to increase resiliency. Information from this survey will be used to develop educational programs and tools that meet foresters' interests and needs while accommodating different perceptions. This survey was conducted in collaboration with the Pine Integrated Network: Education, Mitigation and Adaptation Project (PINEMAP). PINEMAP is a USDA project that combines forestry research, education and extension teams to create and disseminate the knowledge to increase pine plantation resiliency in the Southern United States.

BACKGROUND

Forests in the southern United States provide numerous economic benefits and ecosystem services to the region (including clean air, water, and wildlife habitat). About 60% of these forests are privately owned and many are managed with assistance from professional foresters. The foresters provide oversight in the development of management plans, recommend and oversee implementation of preferred silvicultural practices, and initiate several other practices on behalf of the landowner. Climate change (CC) is a present and future threat to the health and viability of these forests. Foresters are well-positioned to implement changes to forest management practices that will increase forest resiliency. The topic of CC is highly politicized in the United States with widely varying perceptions (Maibach et. al 2009). Currently, there is little to no information regarding the receptivity of foresters to CC concepts and their willingness to implement 'climate-smart' forest management strategies.

RESEARCH QUESTIONS

To better understand this audience including beliefs, perceptions, interests and concerns about CC, climate variability and forest resiliency, the Southern Regional Extension Forestry office, in conjunction with the PINEMAP project conducted a survey with the following research questions:

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

"...where is this (climate change) 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."

-comment from forester survey

METHODS

We developed an online survey composed of 24 questions that were generally related to personal observations, perceptions of CC, and continuing education needs related to changing climatic conditions, weather, and resilient forest management strategies. Eight demographic questions were also included (age, education, states where forestry is practiced, etc.). Most of the questions used Likert scaling with open-ended options to provide additional information. A comprehensive database of southern foresters was developed through Internet searches and direct contacts and consisted of nearly 6,500 people in the 13 southern states of the USDA Forest Service's Southern Region. The protocol for the survey was developed using the Dillman Tailored Design Method to ensure the best response rates (Dillman 2009). Questions were compared to other climate change perception surveys to ensure consistency of questions and format (25 x'25 Alliance, Wojcik, et al. 2013, and Maibach et al 2009).

PRELIMINARY RESULTS

The survey was conducted from January through March, 2013 and more than 1,700 foresters completed it yielding a 27% response rate. Overall, 31% of southern foresters believe that there is not sufficient evidence to say that climate is changing, 46% agree that it is occurring but attribute it to unknown or mostly natural causes, and 16% agree climate is changing and caused by humans. (Figure 1). While about 60% of foresters do think that climate is changing in some capacity, about 46% agreed that they noticed some change in the climate personally (Figure 2). Foresters were also asked their observations and concerns about 16 specific climatic conditions, such as greater frequency and/or severity of flooding, warmer winters, hotter summers, etc., in order to better understand their personal observations and greatest concerns.

Sixty percent of the responding foresters stated they were ‘somewhat’ to ‘very knowledgeable’ about climate and CC and 65% are ‘somewhat’ to ‘very interested’ in learning more. About half of the foresters think that changes in forest management strategies are necessary to respond to climate uncertainty. However, many foresters did not feel very knowledgeable about forest resiliency strategies, options, and concepts (Figure 3), and about 75% of respondents are interested in learning more. Interestingly, about 60% of foresters are interested in climate and weather topics for continuing education, and 55% of foresters would like to learn more about communicating the importance of climate, weather, and forest resilience to their clients.

POTENTIAL APPLICATION OF FINDINGS

Results from this survey will be used to work with forestry stakeholders on a variety of levels including continuing education and material development. It is evident from the results that many foresters are interested in educational programs that would help them increase forest resiliency on their client’s properties. Results from this survey will help frame the PINEMAP extension team’s approach to generating and implementing better educational programs on forest resiliency and CC.

REFERENCES

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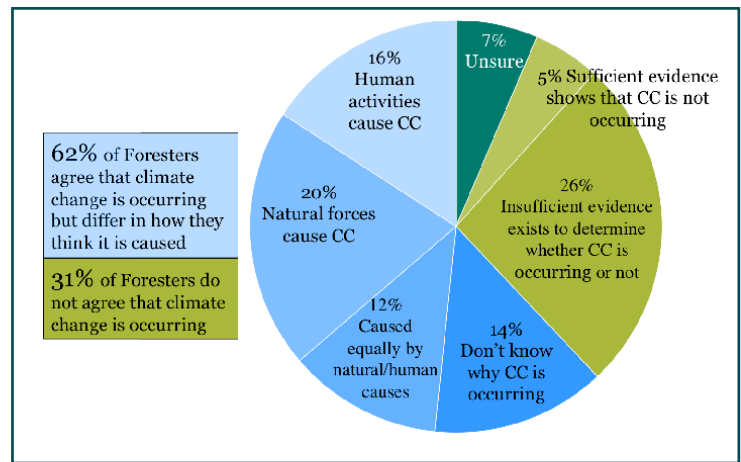


Figure 1. Foresters’ perceptions of CC and its causes.

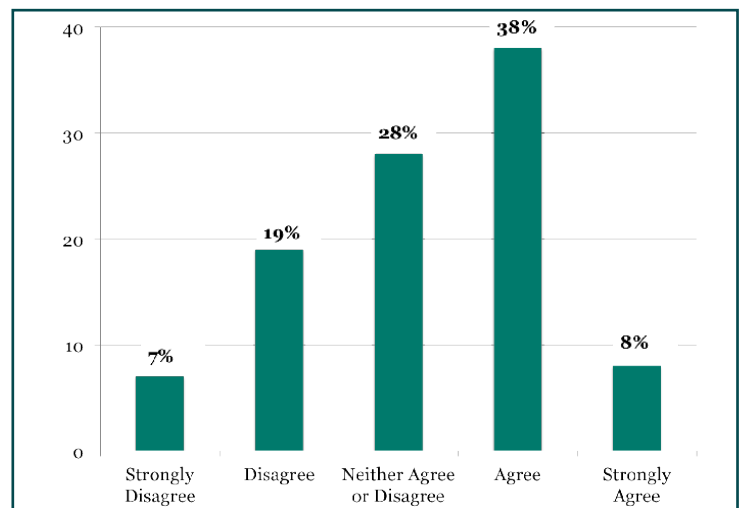


Figure 2. Foresters indicated if they agreed with the statement: “In my lifetime, I have noticed a change in the climate (longer, hotter summers; warmer, drier winters; cooler, moister summers, drier springs, etc.).”

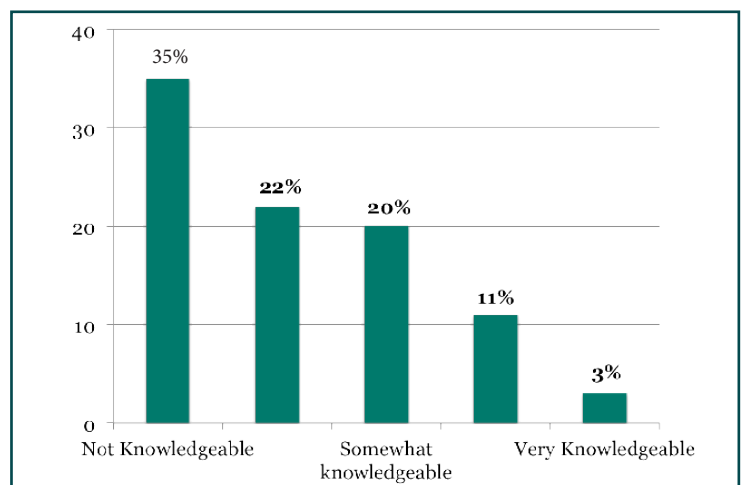


Figure 3. Foresters responded to this question: “How knowledgeable are you about forest resiliency strategies, options, and concepts (including risk assessment, “climate-smart” best management practices, etc.)?”

