Perceptions about climate change influence support for forest adaptation measures

Melanie Lenart, Ph.D.
and Christopher Jones (2014)
Journal of Forestry 112(6): 553-563

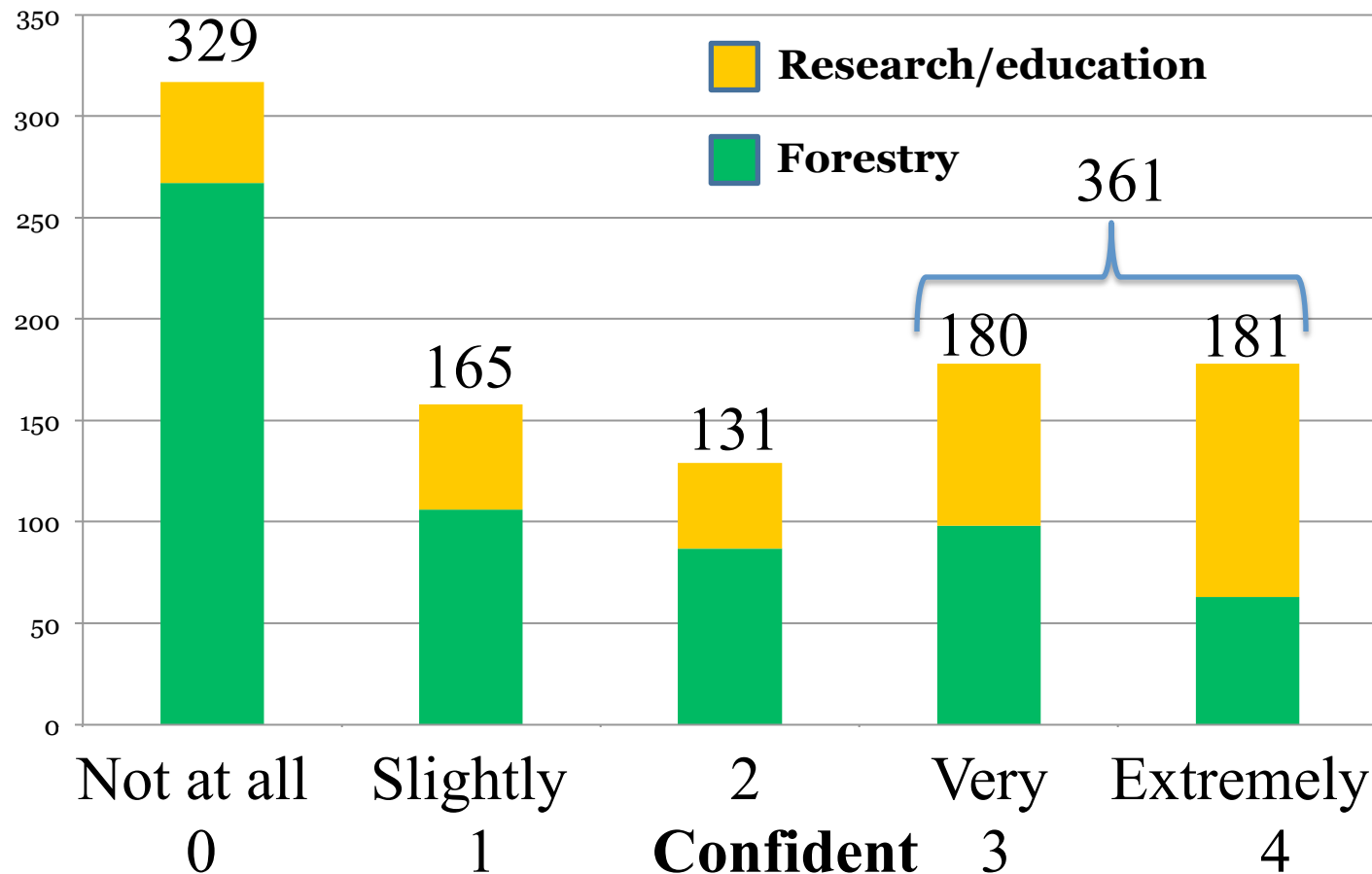Social Science Methods/Apps Forum
October 26, 2015

Climate and Forests Research Survey

- Respondents (n = 1,029) included participants in National Workshop on Climate and Forests, May 2011 (10%) and those responding to electronic surveys (90%) to the Society of American Foresters, and the Association of Natural Resource Extension Professionals.

- Survey respondents were not randomly selected, but statistics allow for testing for association among respondents (Petty and Cacioppo 1996).

- Total of 986 respondents in either forestry ($n = 608$) or research/education/other ($n = 378$) responded to question about whether they consider **climate change anthropogenic**.

Petty and Cacioppo 1996: *Journal of Marketing Research* 33: 1-8

Answers to questions on management practices for adaptation and mitigation considered in context of this question: "How confident are you that climate change is **occurring because of human activities** that release greenhouse gases to the atmosphere?"

An example from Mitigation

Color	Range
(salmon)	0-0.99
(yellow)	1-1.49
(yellow-green)	1.5-1.99
(light green)	2-2.49
(green)	2.5-2.99
(dark green)	3-3.49

0 = Not at all willing

1 = Willing to learn more about it

2 = Willing to try it
3 = Very willing to try it

4 = Extremely willing to try it

Correlation for relationship between ordinal (ranked) variables

Mean for all groups CC=anthro	Question on Mitigation Practice in context of: "How confident are you that climate change is **occurring because of human activities** that release greenhouse gases to the atmosphere?" (CC=anthro)	Mean for **not at all confident** CC=anthro	Mean for **slightly confident** CC=anthro	Mean for **confident** CC=anthro	Mean for **very confident** CC=anthro	Mean for **extremely confident** CC=anthro	**Kendall's tau-b value (Extent of association)**
1.86 (1.79-1.94)	Retain carbon stored in natural resources (wood, fiber, soil) by **designating additional conservation areas**	0.82* (0.69-0.95)	1.42* (1.24-1.60)	1.97 (1.77-2.18)	2.19 (2.01-2.36)	2.92* (2.74-3.10)	0.488

In this example, $p = 0.000$ that the support uncorrelated to perceptions.

Only a few practices were **not** linked with perceptions on CC

Kendall's *tau-b*

Adaptation: p

👍 Thin trees from dense stands   0.086

👍 Conduct prescribed burns   0.048
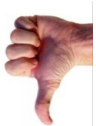
Mitigation:

👍 Thin trees from dense stands   0.093

👍 Use forest biomass for energy   0.212

👎 Overlook biodiversity for C   0.738

👎 Allow woody invasion/grasslands   0.383