Supplemental Tables

Tables are designed to supplement text in Jones, C., and Lenart, M. (2014). Forestry Professionals and Extension Educators vs. Climate Change: Implications for Cooperative Extension Programming. *Journal of Extension* [On-line]. Accepted.

Analysis of Variance tests were used to determine which means are significantly different from all others ($\alpha = 0.05$), with Tukey HSD applied to address multiple comparisons. Green shading indicates greater confidence or willingness, red shading indicates lack of confidence or willingness, and yellow indicates a slight confidence or willingness to learn more. The Roman numerals represent statistical subsets; if a category does not include the same numeral as a different category, that means the populations measured responses that were statistically significantly different from each other (alpha = 0.05). See table legend below for an explanation of the color coding. Questions are shown as they were described in the survey, including the bold formatting.

Table Legend.

Row/ Overall Mean	Question	Professional Category	Professional Category	Professional Category	Professional Category	Professional Category
1 2.00 *(.01-3.00)* *n = 576*	**Group Mean** *(Mean interval: lower-upper bound)* *n = # of respondents* *I, II, etc: Statistical subset*	.99 Red: *(.01-.99)* *n= 124* *I*	1.49 Yellow: *(1.00-1.49)* *n=74* *I,II*	1.99 Chartreuse: *(1.50-1.99)* *n=78* *II, III*	2.99 Light Green: *(2.00-2.49)* *n=38* *III, IV*	3.99 Dark Green: *(2.50-3.99)* n= 87 *IV*

Supplemental Table 1. Perceptions.

Listed below are responses indicating perceptions of climate change based on the level of confidence to each question asked. The mean for each group is given below regarding each question. Means were derived by averaging the responses, which ranged from:

- 0 = “not at all confident”
- 1 = “slightly confident”
- 2 = “confident”
- 3 = “very confident”
- 4 = “extremely confident”

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
1 2.50 *(2.39-2.61)* *n = 576*	How confident are you that **climate change is really occurring**?	1.62 *(1.40-1.84)* *n = 124* *I*	2.43 *(2.13-2.74)* *n = 74* *II, III*	2.17 *(1.88-2.45)* *n =78* *I, II*	2.34 *(2.02-2.66)* *n* = 38 *II, III*	2.89 *(2.62-3.15)* *n = 87* *III, IV*	3.13 *(2.96-3.30)* *n = 175* *IV*
2 1.82 *(1.70-1.95)* *n = 569*	How confident are you that climate change is occurring **because of human activities** that release greenhouse gases to the atmosphere?	0.93 *(0.71-1.16)* *n = 123* *I*	1.62 *(1.28-1.95)* *n = 73* *II*	1.38 *(1.07-1.70)* *n = 78* *I, II*	1.63 *(1.22-2.05)* *n = 38* *II, III*	2.28 *(1.97-2.58)* *n = 87* *III, IV*	2.57 *(2.35-2.79)* *n = 170* *IV*
3 2.28 *(2.18-2.39)* *n = 572*	How confident are you that **you have enough information** to form a valid opinion whether climate change is occurring?	1.94 (1.72-2.16) *n = 123* *I, II*	2.12 *(1.82-2.42)* *n = 74* *I, II*	2.01 *(1.72-2.31)* *n =77* *I, II*	1.71 *(1.30-2.12)* *N = 38* *I*	2.42 *(2.13-2.70)* *n = 86* *II, III*	2.77 *(2.58-2.96)* *n = 174* *III*
4 1.59 *(1.46-1.71)* *n = 544*	How confident are you that you have **observed** climate change or its impacts firsthand?	*.83* *(.62-1.05)* *n = 121* *I*	1.76 *(1.43-2.10)* *n = 68* *III*	1.52 *(1.19-0.85)* *n =73* *II, III*	1.00 *(0.58-1.42)* *n = 34* *I, II*	1.98 *(1.67-2.28)* *n = 83* *III*	2.02 *(1.79-2.25)* *n = 165* *III*
5 1.66 *(1.57-1.75)* *n=565*	How confident are you that **you know the right questions to ask** about climate change?	1.69 *(1.50-1.88)* *n=123* *II, III*	*1.43* *(1.22-1.65)* *n =*74 *I, II*	1.45 *(1.23-1.67)* *n=76* *I, II*	1.11 *(0.77-1.45)* *n =*37 *I*	1.67 *(1.43-1.90)* *n =*87 *II, III*	1.96 *(1.80-2.12)* *n =*168 *III*
6 1.61 *(1.51-1.71)* *n=570*	How confident are you that **you know where to find the necessary resources** to answer questions you have on climate change?	1.66 *(1.45-1.87)* *n=123* *II, III*	1.32 *(1.09-1.56)* *n=74* *I, II*	1.36 *(1.12-1.59)* *n=76* *I, II*	0.95 *(0.61-1.28)* *n=38* *I*	1.63 *(1.37-1.88)* *n=88* *II, III*	1.95 *(1.76-2.13)* *n=171* *III*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
7 1.18 *(1.09-1.28)* *n=542*	How confident are you that you know what **mitigation actions** to take regarding climate change?	1.32 *(1.11-1.53)* n=107 *I*	0.86 *(0.64-1.09)* *n=72* *I*	1.10 *(.88-1.32)* *n=71* *I*	0.84 *(0.53-1.15)* *n=38* *I*	1.24 *(1.00-1.49)* *n=86* *I*	1.32 *(1.15-1.50)* *n* =168 *I*
8 1.17 *(1.08-1.26)* *n=539*	How confident are you that you know what **adaption actions** to take regarding climate change?	1.29 *(1.08-1.49)* n=108 *I*	0.87 *(0.66-1.09)* *n=71* *I*	1.14 *(.89-1.39)* *n* =72 *I*	0.82 *(0.52-1.11)* *n* =38 *I*	1.26 *(1.01-1.50)* *n* =86 *I*	1.29 *(1.12-1.46)* *n* =164 *I*

Supplemental Table 2. Climate Information Needs (Temperature and Precipitation Records).

Listed below are responses to questions how important is it to you to have more information on the following for your management area on climate change adaptation measures. Responses range from:

- 0 = "not at all important"
- 1 = "slightly important"
- 2 = "important"
- 3 = "very important"
- 4= "extremely important"

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
9 2.43 *(2.33-2.54)* *n=410*	How important is it to have more information on how **water resources** are likely to be affected in your management area?	2.00 *(1.76-2.24)* *n=84* *I*	2.16 *(1.89-2.44)* *n=55* *I, II*	2.65 *(2.42-2.88)* *n=65* *II*	2.43 *(2.07-2.79)* *n=28* *I, II*	2.65 *(2.36-2.93)* *n=68* *II*	2.65 *(2.46-2.83)* *n=110* *II*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
10 2.31 *(2.21-2.41)* *n=416*	How important is it to have more information on the **climatic tolerance** of **specific plant species** of interest to you?	1.89 *(1.65-2.12)* *n=87* *I*	2.22 *(1.98-2.45)* *n=55* *I, II*	2.23 *(1.96-2.50)* *n=64* *I, II*	2.32 *(2.00-2.64)* *n=28* *I, II*	2.57 *(2.31-2.81)* *n=68* *II*	2.54 *(2.36-2.73)* *n=114* *II*
11 2.14 *(2.05-2.24)* *n=405*	Records of changes in **average precipitation** from weather stations.	1.80 *(1.58-2.02)* *n=85* *I*	2.00 *(1.74-2.26)* *n=50* *I, II*	2.09 *(1.85-2.33)* *n=65* *I, II*	2.08 *(1.78-2.38)* *n=26* *I, II*	2.25 *(2.01-2.49)* *n=68* *I, II*	2.45 *(2.28-2.62)* *n=111* *II*
12 2.07 *(1.96-2.17)* *n=404*	**Records** of changes in **precipitation extremes** from **weather stations.**	1.61 *(1.39-1.84)* *n=85* *I*	1.80 *(1.53-2.06)* *n=49* *I*	2.06 *(1.81-2.31)* *n=64* *I, II*	2.00 *(1.68-2.32)* *n=26* *I, II*	2.13 *(1.87-2.39)* *n=69* *I, II*	2.51 *(2.32-2.71)* *n=111* *II*
13 2.03 *(1.93-2.14)* *n=414*	How important is it to have more information on how **rising carbon dioxide** levels affect specific plant species of interest to you?	1.66 *(1.43-1.88)* *n=87* *I*	2.13 *(1.88-2.38)* *n=54* *I, II*	1.83 *(1.56-2.10)* *n=65* *I, II*	2.04 *(1.73-2.34)* *n=28* *I, II*	2.28 *(2.02-2.55)* *n=67* *II*	2.25 *(2.05-2.45)* *n=113* *II*
14 2.03 *(1.92-2.3)* *n=399*	**Records** of changes in **types of precipitation** from **weather stations.**	1.61 *(1.37-1.85)* *n=85* *I*	1.67 *(1.42-1.93)* *n=49* *I*	2.05 *(1.81-2.28)* *n=64* *I, II, III*	1.85 *(1.46-2.24)* *n=26* *I, II*	2.22 *(1.97-2.47)* *n=68* *II, III*	2.42 *(2.24-2.60)* *n=107* *III*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
15 2.00 *(1.89-2.10)* *n=402*	How important is it to have more information on the **climatic tolerance of specific animal species** of interest to you?	1.54 *(1.31-1.77)* *n=84* *I*	2.00 *(1.72-2.28)* *n=55* *I, II*	1.95 *(1.70-2.20)* *n=63* *I, II*	2.00 *(1.67-2.33)* *n=28* *I, II*	2.22 *(1.94-2.50)* *n=68* *II*	2.24 *(2.03-2.45)* *n=104* *II*
16 1.99 *(1.89-2.10)* *n=404*	How important is it to have more information on how elevation and other **topographic influences** affect the microclimate of your management area?	1.57 *(1.33-1.82)* *n=84* *I*	1.70 *(1.43-1.98)* *n=54* *I, II*	2.22 *(1.96-2.48)* *n=63* *II*	2.04 *(1.71-2.36)* *n=28* *I, II*	2.15 *(1.90-2.39)* *n=68* *II*	2.22 *(2.03-2.42)* *n=107* *II*
17 1.97 *(1.87-2.08)* *n=408*	**Records** of **temperature extremes** from **weather stations.**	1.47 *(1.23-1.70)* *n=86* *I*	1.58 *(1.29-1.87)* *n=50* *I*	1.97 *(1.73-2.21)* *n=66* *I, II, III*	1.88 *(1.58-2.19)* *n=26* *I, II*	2.13 *(1.88-2.38)* *n=68* *II, III*	2.46 (2.28-2.65) *n=112* *III*
18 1.93 *(1.83-2.03)* *n=407*	**Records** of **monthly average temperature** from **weather stations.**	1.41 *(1.17-1.64)* *n=86* *I*	1.67 *(1.40-1.93)* *n=51* *I, II*	1.94 *(1.69-2.19)* *n=66* *I, II, III*	1.70 *(1.40-2.01)* *n=27* *I, II*	2.18 *(1.96-2.41)* *n=65* *II, III*	2.35 *(2.16-2.54)* *n=112* *III*
19 1.74 *(1.63-1.84)* *n=405*	**Projections** of changes in **average precipitation** (monthly mean, seasonal changes) based on models.	1.21 *(1.00-1.42)* *n=86* *I*	1.65 *(1.36-1.94)* *n=51* *I, II*	1.69 *(1.43-1.96)* *n=65* *I, II*	1.73 *(1.38-2.08)* *n=26* *I, II*	1.90 *(1.64-2.16)* *n=68* *II*	2.14 *(1.93-2.34)* *n=109* *II*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
20 1.70 *(1.59-1.81)* *n=397*	**Longer proxy records** of changes in **precipitation extremes** based on tree rings, geomorphological evidence and other natural archives.	1.11 *(.90-1.32)* *n=83* *I*	1.55 *(1.24-1.86)* *n=49* *I, II*	1.78 *(1.52-2.04)* *n=63* *II, III*	1.42 *(1.12-1.73)* *n=26* *I, II*	1.87 *(1.62-2.11)* *n=67* *II, III*	2.15 *(1.92-2.37)* *n=109* *III*
21 1.69 *(1.58-1.80)* *n=396*	**Longer proxy records** of changes in **average precipitation** from tree rings, sediment cores and other natural archives.	1.12 *(.90-1.34)* *n=83* *I*	1.52 *(1.20-1.84)* *n=48* *I, II, III*	1.70 *(1.43-1.96)* *n=63* *II, III*	1.44 *(1.08-1.80)* *n=25* *I, II*	1.97 *(1.72-2.22)* *n=67* *II, III*	2.08 *(1.88-2.28)* *n=110* *III*
22 1.68 *(1.57-1.79)* *n=406*	**Projections** of changes in **precipitation extremes** (intensity and duration of extreme events such as drought or flood) based on models.	1.08 (.87-1.30) *n=86* *I*	1.52 (1.25-1.79) *n=52* *I, II*	1.72 (1.45-1.99) *n=64* *II*	1.69 (1.35-2.03) *n=26* *II*	1.84 (1.59-2.09) *n=68* *II*	2.10 (1.87-2.33) *n=110* *II*
23 1.66 *(1.55-1.77)* *n=408*	**Projections of temperature extremes** (highs, lows, heat waves, frost/thaws) based on models.	1.06 *(.84-1.27)* *n=86* *I*	1.31 *(1.06-1.57)* *n=51* *I, II*	1.59 *(1.31-1.87)* *n=66* *I, II*	1.62 *(1.25-1.98)* *n=26* *I, II, III*	1.88 *(1.61-2.15)* *n=67* *II, III*	2.19 *(1.97-2.40)* *n=112* *III*
24 1.65 *(1.54-1.77)* *n=401*	**Longer Proxy records of temperature extremes** based on tree rings and sediment cores and other natural archives.	1.06 *(.83-1.29)* *n=84* *I*	1.52 *(1.19-1.85)* *n=50* *I, II, III*	1.71 *(1.45-1.98)* *n=63* *II, III*	1.23 *(.90-1.56)* *n=26* *I, II*	1.87 *(1.62-2.11)* *n=68* *III*	2.10 *(1.87-2.33)* *n=110* *III*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
25 1.65 *(1.53-1.76)* *n=399*	**Projections** of changes in **types of precipitation** (rain vs. snow, likelihood of hail) based on models.	1.12 *(.89-1.34)* *n=86* *I*	1.32 *(1.07-1.57)* *n=50* *I, II*	1.81 *(1.53-2.09)* *n=63* *II, III*	1.50 *(1.12-1.88)* *n=26* *I, II, III*	1.78 *(1.50-2.05)* *n=67* *II, III*	2.08 *(1.85-2.32)* *n=107* *III*
26 1.62 *(1.51-1.72)* *n=398*	**Longer proxy records of monthly average temperature** based on tree rings, sediment cores and natural archives.	1.08 *(.86-1.31)* *n=85* *I*	1.35 *(1.06-1.65)* *n=48* *I, II*	1.56 *(1.31-1.82)* *n=64* *I, II, III*	1.15 *(.82-1.49)* *n=26* *I*	1.92 *(1.67-2.18)* *n=65* *II, III*	2.10 *(1.90-2.30)* *n=110* *III*
27 1.54 *(1.44-1.64)* *n=406*	**Projections of monthly average temperature** (mean, maximum, minimum) based on models.	1.07 *(.86-1.28)* *n=87* *I*	1.37 *(1.14-1.59)* *n=52* *I, II*	1.51 *(1.25-1.76)* *n=65* *I, II*	1.46 *(1.13-1.79)* *n=26* *I, II*	1.77 *(1.53-2.01)* *n=65* *II*	1.89 *(1.69-2.10)* *n=111* *II*

Supplemental Table 3. Confidence in Climate Records.

Listed below are responses to questions regarding the amount of confidence the respondent has in various climate records. Responses range from:

- 0 = “not at all confident”
- 1 = “slightly confident”
- 2 = “confident”
- 3 = “very confident”
- 4 = “extremely confident”

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
28 2.57 *(2.48-2.66)* *n=436*	Instrumental records of **precipitation** for the site of the weather station.	2.44 *(2.23-2.65)* *n=88* *I*	2.58 *(2.33-2.82)* *n=57* *I*	2.52 *(2.30-2.75)* *n=67* *I*	2.70 (2.34-3.06) *n=30* *I*	2.46 *(2.23-2.70)* *n=69* *I*	2.70 *(2.53-2.86)* *n=125* *I*
29 2.54 *(2.44-2.63)* *n=435*	**Instrumental records of temperature** for the site of the weather stations.	2.28 *(2.06-2.51)* *n=88* *I*	2.44 *(2.15-2.72)* *n=57* *I*	2.58 *(2.34-2.82)* *n=67* *I*	2.67 *(2.28-3.05)* *n=30* *I*	2.42 *(2.16-2.68)* *n=69* *I*	2.77 *(2.60-2.93)* *n=124* *I*
30 2.38 *(2.29-2.48)* *n=424*	Tree ring records of **fire cycles.**	2.09 *(1.89-2.30)* *n=88* *I*	2.27 *(2.04-2.51)* *n=51* *I*	2.40 *(2.15-2.65)* *n=65* *I*	2.47 *(2.07-2.87)* *n=30* *I*	2.59 *(2.39-2.79)* *n=66* *I*	2.50 *(2.31-2.69)* *n=124* *I*
31 2.12 *(2.02-2.21)* *n=407*	Sediment records using **charcoal to identify large wildfires** from the distant past.	1.80 (1.59-2.00) *n=84* *I*	2.15 *(1.90-2.41)* *n=52* *I*	2.09 *(1.86-2.32)* *n=66* *I*	2.28 *(1.84-2.72)* *n=25* *I*	2.12 *(1.85-2.38)* *n=60* *I*	2.31 *(2.12-2.49)* *n=120* *I*
32 2.11 *(2.02-2.21)* *n=420*	**Pollen records** of past species distribution.	1.76 (1.54-1.97) *n=86* *I*	1.94 *(1.67-2.21)* *n=52* *I, II*	2.11 *(1.89-2.32)* *n=66* *I, II, III*	2.28 *(1.94-2.61)* *n=29* *II, III*	2.00 *(1.77-2.23)* *n=65* *I, II, III*	2.46 *(2.29-2.63)* *n=122* *III*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
33 2.04 *(1.93-2.15)* *n=388*	**Ice core** records of **carbon dioxide levels** (from air bubbles in the cores).	1.55 *(1.29-1.81)* *n=78* *I*	2.12 *(1.81-2.42)* *n=52* *I, II*	1.85 *(1.57-2.13)* *n=60* *I, II*	2.17 *(1.78-2.55)* *n=24* *II*	2.07 *(1.77-2.37)* *n=60* *I, II*	2.40 *(2.22-2.59)* *n=114* *II*
34 2.02 *(1.93-2.12)* *n=425*	Tree ring records of **precipitation.**	1.64 *(1.43-1.85)* *n=88* *I*	2.09 *(1.84-2.34)* *n=53* *I, II*	2.06 *(1.82-2.30)* *n=66* *I, II*	2.17 *(1.85-2.49)* *n=29* *II*	2.17 *(1.94-2.41)* *n=64* *II*	2.14 *(1.97-2.31)* *n=125* *I, II*
35 1.83 *(1.72-1.94)* *n=370*	**Ice core** records of **local temperature.**	1.43 *(1.18-1.69)* *n=76* *I*	1.93 *(1.61-2.25)* *n=44* *I, II*	1.68 *(1.42-1.94)* *n=59* *I, II*	1.91 *(1.50-2.32)* *n=23* *I, II*	1.76 *(1.48-2.05)* *n=59* *I, II*	2.17 *(1.98-2.37)* *n=109* *II*
36 1.80 *(1.68-1.92)* *n=346*	Sediment records using **oxygen isotopes** to identify long-term **temperature** changes on the planet.	1.36 *(1.11-1.61)* *n=72* *I*	2.09 *(1.77-2.41)* *n=45* *II*	1.62 *(1.30-1.94)* *n=50* *I, II*	1.90 *(1.41-2.40)* *n=21* *I, II*	1.79 *(1.46-2.12)* *n=52* *I, II*	2.06 *(1.85-2.26)* *n=106* *II*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
37 1.57 *(1.46-1.68)* *n=401*	Tree ring records of **temperature.**	1.20 *(.97-1.44)* *n=84* *I*	1.41 *(1.08-.173)* *n=49* *I, II*	1.52 *(1.30-1.77)* *n=65* *I, II*	1.63 *(1.16-2.09)* *n=24* *I, II*	1.67 *(1.42-1.92)* *n=61* *I, II*	1.85 *(1.64-2.05)* *n=118* *II*
38 1.53 *(1.43-1.62)* *n=434*	Instrumental records of **temperature** when weather station data are extrapolated to provide continuous values across the landscape.	1.30 *(1.07-1.52)* *n=88* *I*	1.32 *(1.05-1.59)* *n=57* *I*	1.42 *(1.20-1.65)* *n=66* *I, II*	1.34 *(1.04-1.65)* *n=29* *I, II*	1.59 *(1.36-1.82)* *n=69* *I, II*	1.85 *(1.68-2.02)* *n=125* *II*
39 1.51 *(1.42-1.60)* *n=433*	Instrumental records of **precipitation** when weather station data are extrapolated to provide continuous values across the landscape.	1.28 *(1.06-1.49)* *n=87* *I*	1.35 *(1.09-1.61)* *n=57* *I*	1.44 *(1.21-1.67)* *n=66* *I*	1.31 *(1.00-1.62)* *n=29* *I*	1.66 *(1.45-1.87)* *n=68* *I*	1.75 *(1.56-1.93)* *n=126* *I*
40 1.21 *(1.10-1.33)* *n=353*	Tree ring records of **streamflow.**	.84 *(.61-1.06)* *n=74* *I*	1.10 *(.75-1.45)* *n=41* *I*	1.07 *(.79-1.36)* *n=56* *I*	1.24 *(.81-1.67)* *n=21* *I*	1.43 *(1.14-1.71)* *n=54* *I*	1.48 *(1.25-1.70)* *n=107* *I*

Supplemental Table 4. Adaptation.

Listed below are responses to questions on climate change adaptation measures. Responses range from:

- 0 = "not at all willing"
- 1 = "willing to learn more about it"
- 2 = "willing"
- 3 = "very willing"
- 4 = "extremely willing"

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
41 3.25 *(3.16-3.33)* *n=505*	**Thin trees out of overly dense forests** to reduce the risk of large-scale stand mortality from drought and/or wildfire	3.29 *(3.12-3.46)* *n=111* *I*	3.13 *(2.91-3.35)* *n=70* *I*	3.56 *(3.40-3.72)* *n=75* *I*	3.19 *(2.83-3.55)* *n=36* *I*	3.20 *(2.99-3.41)* *n=74* *I*	3.14 *(2.95-3.32)* *n=139* *I*
42 2.90 (2.80-3.00) n=495	**Conduct prescribed burns** in forests in an effort to restore or retain natural fire cycles	2.58 *(2.34-2.83)* *n=110* *I,II*	2.40 *(2.11-2.70)* *n=62* *I*	3.47 *(3.28-3.65)* *n=75* *III*	2.73 *(2.41-3.05)* *n=37* *I, II*	3.00 *(2.76-3.24)* *n=70* *II, III*	3.07 *(2.91-3.24)* *n=141* *II, III*
43 2.41 *(2.31-2.51)* *n=504*	Conduct **rapid removal programs** on newly detected species considered invasive	2.25 *(2.03-2.48)* *n=110* *I*	2.23 *(1.99-2.46)* *n=71* *I*	2.44 *(2.20-2.67)* *n=73* *I*	2.54 *(2.18-2.91)* *n=35* *I*	*2.59* *(2.30-2.87)* *n=75* *I*	2.47 *(2.28-2.66)* *n=140* *I*
44 2.40 *(2.30-2.51)* *n=513*	**Foster connected landscapes**, such as by retaining or gaining protection of riparian zones, to promote the natural migration of species	2.06 (1.83-2.29) n=113 *I*	2.08 *(1.79-2.38)* *n=71* *I*	2.28 *(2.00-2.56)* *n=72* *I, II*	2.54 *(2.16-2.92)* *n=37* *I, II*	2.54 *(2.28-2.80)* *n=81* *I, II*	2.79 *(2.60-2.98)* *n=139* *II*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
45 2.38 *(2.28-2.48)* *n=509*	Create early-detection programs to **detect new invasions** of undesired exotic species	2.12 *(1.91-2.34)* *n=113* *I*	2.25 *(2.00-2.51)* *n=71* *I*	2.33 *(2.05-2.62)* *n=72* *I*	2.37 (2.00-2.74) n=35 *I*	2.65 *(2.39-2.92)* *n=75* *I*	2.52 *(2.33-2.72)* *n=134* *I*
46 2.34 *(2.23-2.45)* *n=465*	**Construct fire breaks** in key areas	2.14 *(1.87-2.41)* *n=99* *I*	2.22 (1.95-2.50) *n=63* *I*	2.58 (2.33-2.82) *n=69* *I*	2.09 (1.73-2.45) *n=33* *I*	2.43 (2.14-2.72) *n=67* *I*	2.43 (2.22-2.63) *n=134* *I*
47 2.25 *(2.14-2.36)* *n=512*	Enlarge management areas or otherwise **lower fragmentation of the landscape** to promote the preservation of species	1.86 *(1.63-2.10)* *n=111* *I*	2.01 *(1.70-2.33)* *n=70* *I, II*	2.19 *(1.90-2.48)* *n=74* *I, II*	2.32 *(1.91-2.74)* *n=37* *I, II*	2.43 *(2.17-2.70)* *n=81* *I, II*	2.58 *(2.39-2.78)* *n=139* *II*
48 1.77 *(1.66-1.87)* *n=495*	**Create local refugia** for endangered species	1.43 *(1.20-1.65)* *n=110* *I*	1.65 *(1.35-1.94)* *n=68* *I, II*	1.85 *(1.57-2.13)* *n=72* *I, II*	1.55 *(1.26-1.83)* *n=33* *I, II*	1.86 *(1.59-2.12)* *n=76* *I, II*	2.06 *(1.87-2.25)* *n=136* *II*
49 1.68 *(1.59-1.77)* *n=508*	Consider adopting management practices even if they have a high level of uncertainty in some situations so that they could **serve as experimental efforts**	1.23 *(1.06-1.39)* *n=110* *I*	1.31 *(1.05-1.58)* *n=70* *I, II*	1.73 *(1.48-1.99)* *n=71* *II*	1.53 *(1.24-1.81)* *n=36* *I, II*	1.63 *(1.41-1.84)* *n=80* *I, II*	2.26 *(2.10-2.43)* *n=141* *III*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
50 1.65 *(1.55-1.75)* *n=485*	**Augment endangered species populations** via introduction of captive-bred animals into the local area where they already exist.	1.28 *(1.07-1.48)* *n=111* *I*	1.62 *(1.35-1.89)* *n=71* *I, II*	1.67 *(1.41-1.93)* *n=67* *I, II*	1.45 *(1.13-1.78)* *n=31* *I, II*	1.73 *(1.47-2.00)* *n=71* *I, II*	1.98 *(1.78-2.18)* *n=134* *II*
51 1.55 *(1.46-1.64)* *n=491*	**Allow the invasion of "neo-native" species** – in effect, those that seem likely to be suited to changing climate conditions	1.35 (1.17-1.53) *n=106* *I*	1.44 *(1.19-1.69)* *n=68* *I*	1.50 *(1.25-1.75)* *n=70* *I*	*1.39* *(1.14-1.64)* *n=36* *I*	1.64 *(1.40-1.88)* *n=75* *I*	1.77 *(1.60-1.95)* *n=136* *I*
52 1.52 *(1.43-1.60)* *n=493*	**Relax genetic management guidelines** to include the option of augmenting genetic diversity by collecting from adjacent seed zones or populations for restoration projects	1.34 *(1.17-1.51)* *n=112* *I*	1.58 *(1.31-1.85)* *n=67* *I,II*	1.44 *(1.20-1.69)* *n=72* *I, II*	1.15 *(.97-1.33)* *n=33* *I*	1.40 *(1.22-1.58)* *n=75* *I, II*	1.83 *(1.65-2.00)* *n=134* *II*
53 1.51 *(1.43-1.60)* *n=507*	Stock soils with seeds from plants outside of the standard range (i.e., those from environments suitable to future climate) – **using different genotypes of the same species that exist locally**	1.27 *(1.11-1.44)* *n=113* *I*	1.54 *(1.30-1.77)* *n=69* *I, II*	1.40 *(1.15-1.65)* *n=73* *I, II*	1.33 *(1.08-1.59)* *n=36* *I*	1.53 *(1.33-1.74)* *n=79* *I, II*	1.80 *(1.62-1.98)* *n=137* *II*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
54 1.47 *(1.39-1.56)* *n=505*	Make an effort to **use redundancy** (such as also planting on sites that are historically non-optimal for a specific species or community) when restoring a site following disturbance	1.16 *(1.01-1.31)* *n=112* *I*	1.42 *(1.19-1.65)* *n=71* *I, II*	1.54 *(1.31-1.77)* *n=74* *I, II*	1.30 *(1.02-1.59)* *n=33* *I*	1.42 *(1.22-1.61)* *n=77* *I, II*	1.79 *(1.63-1.95)* *n=138* *II*
55 1.39 *(1.31-1.47)* *n=505*	Promote the expansion – **following major disturbance** – of plants or animals into different locations that may be climatically suitable for them	1.18 *(1.02-1.35)* *n=109* *I*	1.36 *(1.14-1.58)* *n=72* *I*	1.39 *(1.19-1.59)* *n=74* *I*	1.31 *(1.07-1.56)* *n=35* *I*	1.41 *(1.23-1.59)* *n=78* *I*	1.58 *(1.41-1.75)* *n=137* *I*
56 1.39 *(1.31-1.47)* *n=502*	Consider "**re-aligning**" the system with different species if it has been pushed too far out of historic conditions – whether by manipulation or disturbance – when considering restoration	1.32 *(1.15-1.49)* *n=110* *I*	1.25 *(1.05-1.45)* *n=72* *I*	1.31 *(1.09-1.52)* *n=72* *I*	1.37 *(1.13-1.61)* *n=35* *I*	1.37 *(1.20-1.55)* *n=78* *I*	1.59 *(1.42-1.76)* *n=135* *I*
57 1.29 *(1.21-1.38)* *n=495*	Promote the **expansion of endangered species populations** by introducing animals into a new area deemed suitable for them because of changed climate	.98 *(.80-1.16)* *n=108* *I*	1.25 *(1.03-1.47)* *n=72* *I, II*	1.24 *(1.03-1.46)* *n=70* *I, II*	1.22 *(.93-1.50)* *n=32* *I, II*	1.34 *(1.14-1.54)* *n=76* *I, II*	1.58 *(1.41-1.76)* *n=137* *II*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
58 1.12 *(1.04-1.20)* *n=503*	Stock soils with seeds from plants outside of the standard range (i.e., from environments more suitable to future climate) **– using species that do not currently occur** in the local area	.96 *(.81-1.12)* *n=112* *I*	1.15 *(.94-1.37)* *n=71* *I*	1.05 *(.84-1.27)* *n=73* *I*	1.00 *(.78-1.22)* *n=35* *I*	1.14 *(.94-1.34)* *n=76* *I*	1.28 *(1.10-1.45)* *n=136* *I*

Supplemental Table 5. Mitigation.

Listed below are responses to questions on climate change adaptation measures. Responses range from:

- 0 = "not at all willing"
- 1 = "willing to learn more about it"
- 2 = "willing"
- 3 = "very willing"
- 4 = "extremely willing"

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
59 3.30 *(3.22-3.38)* *n=512*	**Thinning overly dense stands** to reduce the risk of severe fire or stand-destroying disturbance	3.45 *(3.32-3.58)* *n=115* *I, II*	3.26 *(3.08-3.44)* *n=70* *I, II*	3.56 *(3.42-3.71)* *n=73* *II*	3.14 *(2.78-3.50)* *n=36* *I*	3.22 *(2.99-3.45)* *n=77* *I, II*	3.15 *(2.98-3.32)* *n=141* *I, II*
60 2.81 *(2.72-2.90)* *n=516*	Using forest **biomass to produce energy** when appropriate	2.83 (2.66-3.01) *n=115* *I, II*	2.74 *(2.48-3.00)* *n=69* *I, II*	3.08 *(2.87-3.29)* *n=73* *II*	2.54 *(2.18-2.91)* *n=35* *I*	2.78 *(2.54-3.02)* *n=81* *I, II*	2.76 *(2.58-2.93)* *n=143* *I, II*
61 2.31 *(2.20-2.43)* *n=522*	Change your **personal energy-consumption** habits to reduce your carbon footprint	1.77 *(1.51-2.04)* *n=114* *I*	2.14 *(1.87-2.41)* *n=72* *I, II*	2.18 *(1.87-2.49)* *n=73* *I, II*	2.03 *(1.64-2.42)* *n=36* *I, II*	2.54 *(2.24-2.83)* *n=84* *II, III*	2.84 *(2.65-3.03)* *n=143* *III*
62 2.20 *(2.10-2.31)* *n=510*	Enhance carbon sequestration in **wood** and aboveground biomass	1.89 *(1.65-2.13)* *n=114* *I*	2.33 *(2.07-2.60)* *n=69* *I, II*	2.06 *(1.76-2.35)* *n=72* *I, II*	1.83 *(1.50-2.16)* *n=36* *I*	2.33 *(2.06-2.60)* *n=76* *I, II*	2.49 *(2.31-2.67)* *n=143* *II*
63 2.12 *(2.01-2.23)* *n=502*	Retain carbon stored in natural resources (wood, fiber, soil) by **protecting existing conservation areas**	1.73 *(1.50-1.96)* *n=112* *I*	2.26 *(1.95-2.57)* *n=69* *I, II*	1.73 *(1.44-2.03)* *n=71* *I*	1.83 *(1.41-2.25)* *n=35* *I*	2.31 *(2.05-2.59)* *n=75* *I, II*	2.51 *(2.31-2.70)* *n=140* *II*
64 2.06 *(1.96-2.16)* *n=501*	Enhance carbon sequestration in **soils** and belowground biomass	1.65 *(1.43-1.88)* *n=113* *I*	2.00 *(1.73-2.27)* *n=69* *I, II*	2.07 *(1.80-2.34)* *n=72* *I, II*	1.76 *(1.43-2.10)* *n=34* *I*	2.15 *(1.89-2.41)* *n=75* *I, II*	2.44 *(2.25-2.63)* *n=138* *II*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
65 1.70 *(1.58-1.81)* *n=494*	Retain carbon stored in natural resources (wood, fiber, soil) by **designating additional conservation areas**	1.16 *(.92-1.40)* *n=110* *I*	1.76 *(1.43-2.09)* *n=67* *I, II, III*	1.20 *(.94-1.46)* *n=71* *I*	1.39 *(.97-1.82)* *n=33* *I, II*	2.00 *(1.72-2.28)* *n=74* *II, III*	2.25 *(2.04-2.47)* *n=139* *III*
66 1.57 *(1.47-1.66)* *n=515*	**Speed rotation of timber harvesting** in order to promote the transfer of carbon into forest products	1.65 *(1.42-1.87)* *n=116* *I*	1.46 *(1.23-1.69)* *n=70* *I*	1.60 *(1.35-1.85)* *n=73* *I*	1.42 *(1.06-1.77)* *n=36* *I*	1.58 *(1.35-1.82)* *n=79* *I*	1.57 *(1.38-1.76)* *n=141* *I*
67 1.31 *(1.23-1.40)* *n=512*	Consider manipulating local species within a forest stand to **favor species that promote carbon sequestration**	1.10 *(.94-1.27)* *n=115* *I*	1.44 *(1.22-1.65)* *n=71* *I*	1.25 *(1.02-1.49)* *n=71* *I*	1.11 *(.85-1.38)* *n=36* *I*	1.30 *(1.08-1.52)* *n=80* *I*	1.52 *(1.36-1.68)* *n=139* *I*
68 1.15 *(1.08-1.22)* *n=505*	Enhance carbon sequestration by **planting "neo-native" species** expected to thrive because of climate change	1.01 *(.86-1.16)* *n=109* *I*	1.10 *(.95-1.25)* *n=70* *I*	*1.06* *(.87-1.24)* *n=72* *I*	1.11 *(.90-1.32)* *n=36* *I*	1.34 *(1.15-1.53)* *n=79* *I*	1.24 *(1.09-1.38)* *n=139* *I*
69 .99 *(.90-1.07)* *n=487*	Allow or **promote woody invasion of grasslands** to enhance carbon sequestration in local locations where carbon storage increases with woody invasions	1.12 *(.94-1.31)* *n=107* *I*	1.09 *(.86-1.33)* *n=64* *I*	.74 *(.52-.95)* *n=68* *I*	.70 *(.40-1.00)* *n=33* *I*	1.05 *(.84-1.27)* *n=79* *I*	.99 *(.82-1.15)* *n=136* *I*

Row/ Overall Mean	Question	LM – Private company Mean	LM – Small Private Land-owner Mean	LM – Fed. agency Mean	LM - State Agency Mean	Extension Educator Mean	Researcher Mean
70 .88 *(.79-.98)* *n=501*	**Purchase carbon "credits"** to help offset your personal carbon footprint	.54 *(.38-.70)* *n=106* *I*	.76 *(.54-1.04)* *n=67* *I, II, III*	.67 *(.46-.88)* *n=70* *I, II*	.57 *(.38-.76)* *n=35* *I, II*	1.06 *(.78-1.34)* *n=80* *II, III*	1.26 (1.06-1.46) *n=143* *III*
71 .62 *(.55-.68)* *n=512*	Enhance carbon sequestration in forests by **planting exotic species**	.66 *(.52-.80)* *n=115* *I, II*	.69 *(.51-.87)* *n=70* *I, II*	.38 *(.24-.53)* *n=73* *I*	.39 *(.19-.59)* *n=36* *I*	.77 *(.58-.96)* *n=79* *II*	.64 *(.51-.77)* *n=139* *I, II*
72 .44 (.38-.49) *n=507*	**Overlook issues** such as biodiversity and habitat value to promote carbon sequestration	.39 *(.28-.51)* *n=112* *I*	.48 *(.35-.62)* *n=66* *I*	.54 *(.32-.77)* *n=72* *I*	.28 *(.12-.43)* *n=36* *I*	.42 *(.29-.55)* *n=83* *I*	.44 *(.33-.56)* *n=132* *I*