

Strategies for Communicating Climate Change to Extension Audiences¹

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This fact sheet is the second in a series on climate change communication. The first, “Challenges in Communicating Climate Change to Extension Audiences,” outlines four areas of communication challenges. This fact sheet provides strategies in response to each of the four challenges presented in FOR324.

Challenge #1: Climate change is complex, uncertain, and variable.

Climate change is complicated, hard to simplify, and uncertain, yet likely to manifest in all facets of community life (Moser and Dilling 2004). Planning and zoning, agriculture, transportation, and public health are all likely to be impacted by climatic change. Yet active campaigns by groups with a financial interest in fossil fuels (McCright and Dunlap 2003) have led to widespread misperceptions in the American public about the scientific community’s agreement that climate change is happening now and that humans are contributing to it.

Strategy: Provide simple, clear messages about the scientific consensus on human-caused climate change.

Clearly and simply communicate that the vast majority (between 90 and 100%) of climate scientists are convinced

that human-influenced climate change is happening. Methods used to arrive at the strength of this consensus include surveys of climate scientists and reviews of peer-reviewed literature. (See Anderegg et al. 2010; Cook 2014; Cook et al. 2013; Doran and Zimmerman 2009; Oreskes 2004.) Most Americans are not aware that the vast majority of climate scientists agree about climate change and its causes. In 2013, only 42% of American adults agreed that “most scientists agree that global warming is happening,” and 33% believed that “there is widespread disagreement among scientists about whether or not global warming is happening” (Maibach, Myers, and Leiserowitz 2014). Correcting this misperception can have significant impact: those who recognize that there is indeed consensus among scientists are much more likely to agree that climate change is happening, that it will impact their lives, and that there is still time to take action (Maibach et al. 2014; Kotcher et al. 2014). Consider using analogies and framing climate change agreement in terms of risk management: “If nine out of ten physicians agreed on a diagnosis, would you seek another opinion?” Or, “If nine out of ten engineers agreed that a bridge was structurally unsound, would you support a plan to rebuild it?” (van der Linden et al. 2014).

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Climate communication experts agree that, in addition to communicating the scientific consensus, these other four simple messages, repeated often by a variety of trusted messengers, make a difference (Maibach et al. 2014):

1. Climate change is real.
2. People are causing it.
3. Climate change is harmful to people.
4. People can limit it.

Oversimplifying climate science can lead to misunderstandings and confusion. Yet it is not difficult to reduce the scientific consensus down to a few key sentences, and then point people to reliable sources (some of which are detailed here in this fact sheet).

Challenge #2: People learn and remember selectively.

Every day we are deluged with information and problems competing for our attention. We cannot pay attention to all of it, so we have to find ways to filter and decide which issues deserve our attention. Without realizing it, most of us tend to demonstrate “confirmation bias”: we hear the information that confirms what we already believe and we tune out information we disagree with or information about problems we think don’t affect us personally (Jones and Sugden 2001).

Strategy: Harness participant observations and reflections about local climate change impacts. Lectures and presentations on climate change should include ample time for discussion, so participants can learn both from those who are like them and from those who have varying opinions and experiences.

Extension agents frequently are viewed as trusted messengers because we reflect the values of the stakeholders we serve. Therefore, we are able to convene discussions and facilitate conversations around a variety of contentious topics, including climate change. Consider hosting climate change education sessions that link what the audience already knows to new information about climate science. One option is to use a timeline, where participants collectively remember major weather events in their community from the last 30 years. While it is important to differentiate weather from climate, this exercise can begin a conversation about that distinction. If you cite sources of information or ask guest speakers to your program, try to use those your audience will find credible.

Often, climate change education sessions can turn into debating the finer points of the science. Many times these

arguments about scientific uncertainties are actually substitutions for disagreements about underlying values. During well-facilitated discussions, however, values can be openly aired, rather than couched in debates about the science. Consider using small-group discussion and ground rules that encourage open exchange and encourage deliberation. In addition, stories and scenarios are good strategies for introducing new information in a way that leads to consideration and discussion, rather than defensive posturing.

Challenge #3: People pay attention to those who are like them.

People generalize from their own experience, and, when that isn’t available, from the stories of those whom they trust. They tend to seek out information and sources that confirm their own beliefs and values.

Strategy: Engage learners around group norms and values.

Because climate change affects so many aspects of our daily lives, it is possible to frame the problems and solutions in ways that speak to a broad spectrum of stakeholders. It is helpful to think about the importance of values when framing climate change (Nesbit 2009). Values are core belief sets about the world that guide actions and decisions. They include beliefs such as fairness, compassion, and justice; are relatively stable throughout each person’s life; and are ordered by relative importance (Schwartz and Bilsky 1987). Values reflect what a person wants in the ideal world.

Research has shown that values cluster into two main categories: individualistic and egalitarian. Those who value individualism more than egalitarianism tend to favor business solutions rather than government action because they believe that competition leads to better and fairer outcomes (Kahan 2010). Those with egalitarian values tend to favor government action because they believe government puts more people on equal footing. For individualistic audiences, consider framing messages around the benefits associated with more renewable energy, such as American innovation and less dependence on foreign oil. For egalitarian audiences, consider the frames of biodiversity and global interconnectedness.

No matter the audience, framing climate change with fear-based messages has been shown to be ineffective at motivating behavior change. People across all spectrums, even those in the “Alarmed” category, end up feeling hopeless and helpless when they hear messages about how climate change will be the end of us all.

Instead of highlighting the potential for disaster, provide examples of local solutions and the benefits of adapting to and mitigating climate change. Give local case studies that show how businesses, governments, individuals, and communities have reduced their energy consumption or greenhouse gas emissions, or how they are implementing climate adaptation plans. Raising fear without providing solutions only motivates people to ignore the problem (Shome and Marx 2009).

Challenge #4: Audiences vary.

Communication experts remind us to target our message to the audiences. In Extension, however, in any given audience we are likely to encounter people from a variety of backgrounds who have a variety of attitudes about climate change. If that is the case, research has shown that these value-based frames resonate well with most people:

1. Changing to cleaner energy and reducing emissions will result in a better future for our children.
2. We have a responsibility to conserve finite resources.
3. Transitioning to a greener economy will make (our community, our country) more competitive.

In the event that you are able to determine which of the “Six Americas” (Leiserowitz et al. 2012) audience segment your stakeholders reflect, consider framing education around these key messages and resources found in Table 1.

Summary

Climate change is unlike other educational topics Extension professionals encounter. The complexity of climate science, the misperception that climate change impacts will be distant or vague, and the political polarization on the topic cause audiences to tune out, disengage, and succumb to confirmation bias (Moser and Dilling 2004; Shome and Marx 2009). To encourage more people to seek information about climate change and consider changing their behavior to adapt to and mitigate climate change, Extension must simplify the message to scientific consensus, facilitate dialogue and discussion, share locally relevant concerns and solutions, and engage audiences in local mitigation efforts and local adaptive solutions to local impacts.

References

Anderegg, W. R., J. W. Prall, J. Harold, and S. H. Schneider 2010. “Expert Credibility in Climate Change.” *Proc*

Natl Acad Sci USA 107(27):12107–9. doi: 10.1073/pnas.1003187107.

Cook, J., D. Nuccitelli, S. A. Green, M. Richardson, B. Winkler, R. Painting, R. Way, P. Jacobs, and A. Skuce 2013. “Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature.” *Environmental Research Letters*, 8: 024024. Available from iopscience.iop.org.

Cook, J. 2014. “Communicating Scientific Consensus: John Cook responds.” The Cultural Cognition Project at Yale Law School 2013b. Available from <http://www.culturalcognition.net/john-cook-on-communicating-con/>

Doran, P. T., and M. K. Zimmerman 2009. “Examining the Scientific Consensus on Climate Change.” *Eos, Transactions American Geophysical Union* 90(3):22–23. doi: 10.1029/2009EO030002.

Jones, M., and R. Sugden 2001. “Positive Confirmation Bias in the Acquisition of Information.” *Theory and Decision* 50(1): 59–99.

Kahan, D. M. 2010. “Fixing the Communications Failure.” *Nature* 463: pp. 296–297, Available at SSRN: <http://ssrn.com/abstract=1630002>

Kotcher, J., T. Meyers, E. Maibach, and A. Leiserowitz 2014. “Correcting misperceptions about the scientific consensus on climate change: Exploring the role of providing an explanation for the erroneous belief.” Paper accepted for presentation at: Communication and the Good Life. International Communication Association.

Leiserowitz, A., E. Maibach, C. Roser-Renouf, and J. Hmielowski 2012. *Global Warming’s Six Americas, March 2012 & Nov. 2011*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication. Available at: <http://environment.yale.edu/climate/files/Six-Americas-March-2012.pdf>

Maibach, E., T. Myers, and A. Leiserowitz 2014. “Climate Scientists Need to Set the Record Straight: There Is a Scientific Consensus that Human-Caused Climate Change Is Happening.” *Earth’s Future*, 2, doi:10.1002/2013EF000226.

McCright, A. M., and R. E. Dunlap 2003. “Defeating Kyoto: The Conservative Movement’s Impact on US Climate Change Policy.” *Social Problems*, 50(3), 348–373.

Moser, S. C., and L. Dilling 2004. "Making Climate HOT." *Environment: Science and Policy for Sustainable Development*, 46(10), 32–46. doi:10.1080/00139150409605820

Nesbit, M. C. 2009. "Communicating climate change: Why frames matter for public engagement." *Environment*. Mar. N.P. Web. 20 Oct. 2013. <www.environmentmagazine.org>.

Oreskes, N. 2004. "The Scientific Consensus on Climate Change." *Science*, 306(5702), 1686. <http://science.sciencemag.org/content/306/5702/1686.full>

Shome, D., and S. Marx 2009. *The psychology of climate change communication: A guide for scientists, journalists, educators, political aides, and the interested public*. Columbia University, New York.

Schwartz, S. H., and W. Bilsky 1987. "Toward a Universal Psychological Structure of Human Values." *Journal of Personal Social Psychology* 53(3); 550–562).

van der Linden, S. A., A. Leiserowitz, G. Feinberg, and E. G. Maibach 2014. "How to communicate the scientific consensus on climate change: plain facts, pie charts or metaphors?" *Climatic Change* 126(1): 255–262.

Table 1.

Six Americas Audience Categories	Description of Audience Segment	Frames and Key Messages	Examples and Resources
Alarmed	Convinced global warming is a serious and urgent threat; highly engaged; most likely to change behavior	<p>“We can solve this problem.”</p> <p>Specific actions they can take to reduce harmful effects of climate change.</p> <p>Encourage them to discuss climate change with friends and family.</p>	<p>Examples of community-wide reduction of carbon footprint, from the EPA state, local, or climate webpage. Extension’s Climate Change Handbook, available at Oregon State University, http://ir.library.oregonstate.edu/xmlui/handle/1957/20080</p> <p>Plan C, from Community Solutions, http://www.communitysolution.org/homepage-test-index/?rq=index. http://www.anrep.org/people/initiatives/nnsle/Climate%20Change%20Handbook%20w%20carbon%20counter.pdf/view?searchterm=climate change handbook</p>
Concerned	Convinced global warming is a serious threat; somewhat engaged; less likely to change behavior.	<p>“Small actions do add up.”</p> <p>Provide information about taking steps to reduce carbon footprint.</p> <p>Provide resources for contacting state and federal legislators</p>	<p>EPA Household Carbon Footprint Calculator: includes sections to explore actions to reduce greenhouse gas emissions and to determine savings: https://www3.epa.gov/carbon-footprint-calculator/</p>
Cautious	Believe global warming is a problem but not a personal or urgent threat; unsure how scientists know that climate change is happening and that it is human-caused.	<p>“Climate change is happening now, here”</p> <p>Ask for examples of how weather patterns have changed in their lifetimes.</p> <p>Provide Q/A or discussion with scientists to develop trust.</p>	<p>Climate Matters contains interactive, regional tools on climate change in the United States as well as citizen science, and phenology. www.usanpn.org/</p> <p>For simple explanations, see https://skepticalscience.com/ or “Frequently Asked Questions about Climate Change,” by MSU Extension.</p>
Disengaged	Give little thought to global warming; change beliefs easily; do not perceive climate change as a problem for them	<p>Appeal to social norms, use narratives and humor. Personalize it.</p>	<p>Emphasize that “acting green” is widespread, growing in popularity, and characteristic of admired individuals: This is popular and it’s socially approved. Emphasize local impacts and local solutions.</p>
Doubtful	Second lowest in egalitarianism, second highest in individualism; want to know how scientists know that climate change is real; not sure if global warming is happening.	<p>“Sometimes life calls on us to act responsibly, even when we are not 100% certain.”</p>	<p>A six-minute video (https://www.youtube.com/watch?v=FxaWVlzgkX4&lr=1) from the National Academy of Sciences, “America’s Climate Choices,” explains how we know that climate change is real.</p>
Dismissive	Lowest in egalitarianism, highest in individualism; unlikely to be persuaded that climate change is happening; may believe scientists receive funding to prove climate change; firmly believe global warming is not occurring; highly engaged in preventing change in policies; very knowledgeable.	<p>Individual responsibility, choice, American ingenuity.</p> <p>Health frame: reducing greenhouse gas emissions would lessen smog and improve air quality.</p>	<p>Any chance to engage with them using the words “climate change” may reinforce dismissive attitudes. Engage around adapting to increased variability and ways others like them are adapting.</p>