

Exploring Relationships Among Farmer Perceptions on Climate Change

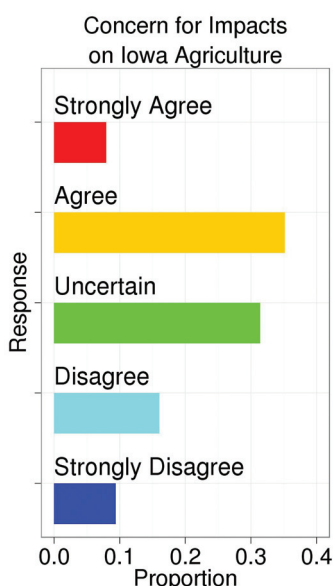
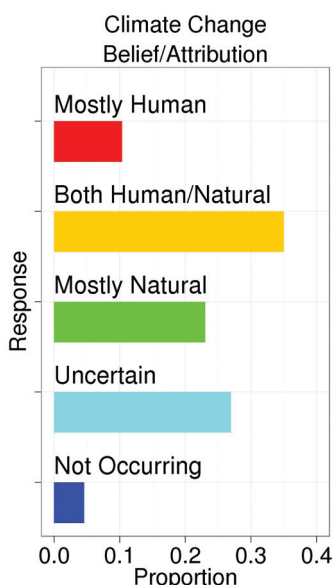
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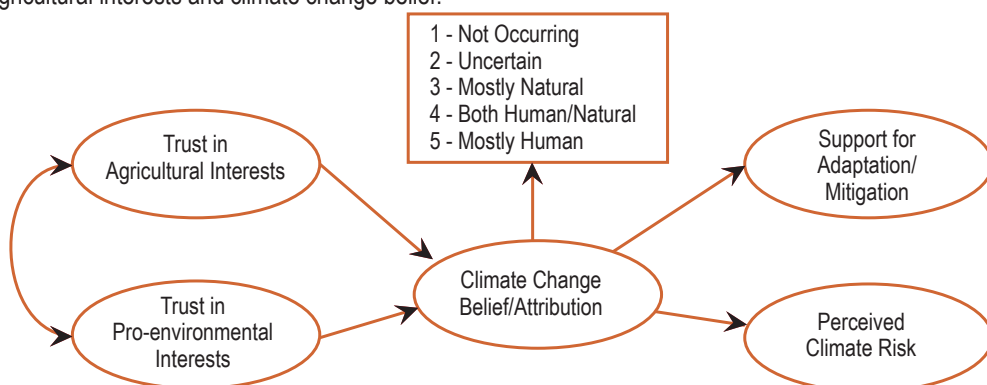
Impacts of climate change on agriculture are numerous and complex, and potential responses include adaptive and mitigative actions. Farmers are important consumers of information on climate change and its potential impacts for agriculture and for the general population. Understanding the trust relations that influence farmers' beliefs and the connections between beliefs and support for action can aid efforts to communicate more effectively. This publication utilizes a 2011 survey of farmers in Iowa to explore the connections among a variety of perceptions on climate change. Social theory is tested using several structural equation models to assess the relationships among trust, beliefs, risk perceptions and support for adaptive and mitigative actions.

Belief about whether climate change is happening, its cause, and how it affects risk perceptions and actions is a central construct of interest. The survey reveals that a majority of Iowa farmers believe climate change is occurring but only a fraction attribute climate change mostly to human activities. A substantial proportion of farmers perceive some level of concern for several climate risks (excess precipitation, soil loss, and GHG), both for their own operations and the state as a whole. We find that high levels of perceived risk predict support for adaptive action, and belief that human activities contribute to climate change predicts increased support for mitigation.

We complete the structural model by connecting climate change belief to trust in information sources. Farmers with high levels of trust in a group of pro-environmental interests are more likely to believe that climate change is occurring and is attributable to human activities. An opposite but weaker relationship exists between a group of agricultural interests and climate change belief.



Figures shown, from top to bottom, are: distribution of climate change belief/ attribution and distribution of concern for climate change impacts on Iowa agriculture from the 2011 Iowa Farm and Rural Life Poll.



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