3-1-2013

Political bias meets climate bias: Overcoming science denial in a politically polarized world

Minda Berbeco
National Center for Science Education

Lawrence C. Hamilton
University of New Hampshire, Durham, lawrence.hamilton@unh.edu

Recommended Citation

Hamilton, L. "Political bias meets climate bias: Overcoming science denial in a politically polarized world." Interview by Minda Berbeco in Reports of the National Center for Science Education, 33(2), 2013 http://reports.ncse.com/index.php/rncse/issue/view/14/showToc

REPORTS OF THE NATIONAL CENTER FOR SCIENCE EDUCATION

Published bimonthly by the National Center for Science Education

REPORTS.NCSE.COM
ISSN 2159-9270

FEATURE

Political Bias Meets Climate Bias: Overcoming Science Denial in a Politically Polarized World

Minda Berbeco

In October 2012, the Pew Research Center released a poll on the American public's acceptance of climate change. The results were dismal: only 42% of Americans reported believing that the rise in the earth's temperature was mostly caused by human activity. A further breakdown revealed significantly more self-identified liberals than conservatives accepted the evidence that human activity is warming the earth.

Though the scientific consensus is clear, a significant segment of the American public still seems to be confused about climate change, and political affiliation appears to be a major factor. After years of unambiguous research results, public outreach initiatives, and educational programs, the science does not appear to be penetrating every community. So why don't all Americans understand the scientific consensus of human-caused climate change? Is there a better way to reach them? What else can be done?

Lawrence Hamilton, Professor of Sociology at the University of New Hampshire and Senior Fellow at the Carsey Institute, has been researching the public's relationship to environmental issues for more than thirty years. Over this time, Hamilton has worked to understand how people relate to conservation, how their political affiliations influence their decision making, and the role of education in making informed choices.

When looking at people's knowledge and their acceptance of the scientific consensus, Hamilton says, "I would separate out three things. One of them is years of education … another is science literacy … and third, specific climate knowledge." All three correlate with acceptance of the consensus, but not necessarily in the way one would think.

One might predict that more education, better science literacy, and greater climate knowledge would all be positively correlated with understanding and accepting human-caused climate change. The more you know in general, and about science in particular, the more you would believe what scientists are telling you. But this is not necessarily the case.

"If you are educated," Hamilton says, "if you are scientifically literate but also politically motivated, you can potentially be more efficient at acquiring facts that support the world views you already believe." In other words, more education makes you a better scavenger for information that supports your pre-existing views. For example, if I believe the moon landing was a hoax, I'll search the internet for articles and reports that claim to demonstrate this. My beliefs are then supported by my "research". How then does this play out with climate change?

Although just about any environmental question will show a strong partisan bias, according to Hamilton, "there is really no reason why your political party should tell you what to think about whether the ice is melting or not." Instead, it's the implications for climate change that drive much of the dissent: if the ice is melting, and people are causing it, then it could be argued that something should be done. "So if your ideology is that government is bad and it should do less regulation, then that [leads to] rejection of the problem's existence because you find the solution ideologically unpalatable."

An example of this is demonstrated by asking subjects whether humans or volcanoes have released more carbon dioxide in recent decades. Hamilton notes:

> That is pretty well known in the science literature, but it is not a matter of public discussion and most people don't know what the quantities look like .... People who don't believe that humans are changing the climate are more likely to say that volcanoes are emitting more CO_2. Not because it's true and not because they know that, but the idea fits better with their world view.

So rather than listening to the great majority of scientists or science organizations, a highly educated climate change denier might be an expert at finding blogs or other media that provide scientific-sounding arguments to support his or her worldview.

That's not the whole story, though. The type of question asked in these surveys may also determine how people respond. "There are some facts I can ask, like 'Has sea ice declined?', where your beliefs about climate change may filter what you have heard or believed about sea ice. Even if you haven't actually heard a word about sea ice, your beliefs about climate change may guide you what to guess."

What if instead, you asked a question where politics could not lead you to an answer? Hamilton suggested the following as an example:

> Which of these melting would add the most to sea level rise: Himalayan glaciers, Antarctic ice sheets, or Arctic Ocean ice?

For this question, you need information to guide you, not politics. "Your politics don't give you any guidance which of those is right; you have to know something about geography."

How you ask the question can have a large impact on your results. So how can researchers avoid triggering answers that demonstrate political affiliation rather than scientific knowledge? "Something I am really trying to do with the newer work," says Hamilton, "is to write these carefully thought-out questions that are scientifically accurate with central issues on which there is no controversy."

For example, a question as to whether or not polar ice caps have increased or decreased in recent years is rather imprecise, and might tap into people's political, rather than scientific, knowledge. "Polar ice caps are at two poles, and are we talking about land ice or sea ice, and when it increases, are we talking about area or volume or both, and what season are we referring to?"

"When I went to write my own question about it, the wording was very precise: 'What is the area of sea ice covering the Arctic Ocean in late summer now, compared with thirty years ago?' It specifies the metric, it specifies the season, and it specifies the time frame."

In his research, Hamilton has seen the effect of political affiliation on environmental surveys very clearly when subjects are asked about the Arctic. "The Arctic is where climate change is happening first and worst," and though people seem to think they know quite a bit about the Arctic, his research has suggested they know very little.

> There are certain things they pick up from the media that are widespread, for example the idea that polar bears are or are not endangered .... [People] who really don't know about the actual physical reality, may become convinced that they do because they have some narrative that ties to their political beliefs.

So if politics are muddling scientific education, how can scientists and educators best communicate with the public?

> Whether you are a grade school teacher or a local newspaper columnist or just having a discussion at the water cooler, you have to be aware that all of these counterarguments and counter-facts exist in the infosphere regarding just about any point you could make about climate change. I think education or communication could be more designed from the start with an awareness of what those counterarguments are.

So a discussion of Arctic change should start out with an explanation of how we know that what's happening now is not a natural cycle.

"If people don't already know the counter-arguments, they will hear them pretty soon anyway," Hamilton said. In this case, when it comes to climate change denial, the best defense is a strong educational offense.

As we move into educating the entire public in coming years about human-caused climate change, we have to understand how political affiliation will influence their acceptance of the facts. Only by understanding our own reflexive biases can we find new ways to reach that audience, and help address an increasingly urgent problem.

About the author

Minda Berbeco received her PhD in biology from Tufts University in 2011 specializing in the effects of climate change on terrestrial systems. She joined NCSE in the fall of 2012 as a Programs and Policy Director in NCSE's new global climate change program.

Author's address

Minda Berbeco
NCSE
PO Box 9477
Berkeley CA 94709-0477
berbeco@ncse.com