Social Scientists Seek Ways Past Clash Over Climate Change

By David L. Wheeler

Paul Souders, Danita Delimont Photography, Newscom

Some Americans see global warming as a distant problem, "for polar bears or smaller islands in the middle of the ocean. Not for me, my town, or my community," says a Yale scientist.

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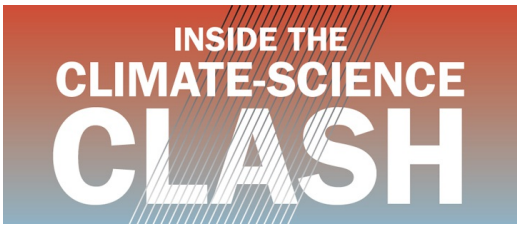
Kari Marie Norgaard has a folder full of hate mail.

It started coming in when Ms. Norgaard, an associate professor of sociology and environmental studies at the University of Oregon, spoke in March at a London conference titled "Planet Under Pressure 2012."

Rush Limbaugh, the radio commentator, and a global-warming skeptics' Web site called Climate Depot got hold of a news release describing a presentation about those not taking action to ease climate change: "Resistance at individual and societal levels must be recognized and treated."

The use of the verb "treated," later cut from the release, was all it took for Ms. Norgaard, the author of *Living in Denial: Climate Change, Emotions, and Everyday Life* (MIT Press, 2011), to get the full, unpleasant version of the skeptic assault: phone calls to the university president and her department chair, and lots of unpleasant e-mail, attacking her appearance and using the four-letter word that rhymes with "but."



The incident displays the dug-in sentiments of a portion of the American public. Among those who doubt global warming, a Stanford University poll last year found that their skepticism had grown even stronger: Those who are extremely or very certain that global warming is not happening rose from 35 percent in 2010 to 53 percent in 2011. But those skeptics are a minority among Americans over all. The same poll found that 83 percent of adult Americans believe that the

world's temperature has been going up. An even larger proportion of scientists actively working in climate change have similar views: 97 percent of them believe human-caused global warming is under way, although there is plenty of disagreement about the details (see related article, Page A15).

Academic pollsters, sociologists, historians, and anthropologists have been sorting through public attitudes about global warming for some time, but even though human behavior is central to the debate, the voices of social scientists are often lost in the din.

"In the end, all of the changes come down to what makes us behave the way we do and think the way we do," says Anthony Leiserowitz, director of the Yale Project on Climate Change Communication. "We need to understand us, not just the natural world."

The United States emitted most of the world's greenhouse gases until recently, when China surpassed it. America has also been home to some peculiarly adversarial politics about what to do about those emissions. Despite the majority belief in global warming, little legislation has been passed that directly seeks to alleviate it. The United States has also refused to ratify international agreements to reduce greenhouse gases, including the Kyoto Protocol, which was ratified by 191 countries.

Social-science research offers insights about the creation of that impasse, and some possible routes out. But no one is apt to come up with a one-size-fits-all science-communication strategy that will convince the skeptics, who will then relent and let politicians get on with the business of crafting a grand global solution. The solution, many social scientists say, may be in cities or villages away from the centers of power, not in Washington or Geneva. And the greatest barrier to action may not be the skeptics but the believers who are not stirred to action.

"Americans see global warming as a distant problem," says Mr. Leiserowitz, a research scientist at Yale University. "Distant in time and in space. It's a problem for polar bears or small islands in the middle of the ocean. Not for me, my town, or my community."

'Mental Landscape'

Ms. Norgaard, a third-generation Norwegian immigrant to the United States, tried to understand the blend of belief and inaction in one small Norwegian town, which she gave the fictional name of Bygdaby, that she studied in 2000-1. The "mental landscape" she encountered among the Norwegians there, she says, was a "bellwether for the United States and the rest of the world."

The winter of 2000 and 2001 in Bygdaby was odd indeed. It was so warm that the town's ski area didn't open until the end of December, with artificial snow. Ice on the town's lake never got thick enough for ice fishing and skating. A woman who tried to walk on the lake ice fell through and drowned. As of that January, the winter was the warmest one in 130 years.

"It was not just the weather that was unusual," writes Ms. Norgaard. She was perplexed by the villagers' behavior as well. Norwegians advertise their country with images of pristine fjords, view themselves as environmentalists, and are politically active.

But in Bygdaby, despite the social and economic impact of the warmer weather, including a short winter tourist season, the strange winter produced little more than small talk. Survey data indicate Norwegians were well aware of global warming by 2001, but in Bygdaby, even though the townspeople were confronted with its symptoms, there were no letters to the editor in the local newspaper, no discussion in public forums, no political pressure on leaders to plan for climate change.

In trying to explain the silence, Ms. Norgaard talks about Debbie Downer, the *Saturday Night Live* character who tastelessly brings up depressing topics at inappropriate times, such as mentioning mad-cow disease at a steak-and-eggs breakfast. Climate denial, she says, is "socially organized." That is, norms have been created that prevent people from discussing global warming seriously, to avoid difficult emotions, including guilt, fear, and powerlessness. And, she says, Norwegians had standard ways of playing down their ability to affect climate change, like blaming it on the United States or suggesting that Norway was a "little country" that couldn't do much.

Some social-science research, Ms. Norgaard says, indicates that "the reason we don't have a political response is that people don't understand climate change or just don't care. I turn that on its head—they may care a great deal but feel they can't do anything."

A key question, she says, is "under what circumstance will people be able to think about information that is disturbing or threatening to their identity or way of life?"

A few anthropologists are beginning to answer that question, as they study people in a variety of circumstances: farmers in Peru, horse and cattle breeders in Northern Siberia, and residents of Maryland's Eastern Shore.

Anthropologists say they refrain from using phrases like "climate change" or "global warming" or even "the environment," because of its connection to the politically loaded term "environmentalism." To avoid walking in wearing the political badge of one side, they carefully enter people's lives inquiring about changes of any kind.

Since 1991, Susan A. Crate, an associate professor of anthropology at George Mason University, has studied villages in Northern Siberia where people known as the Sakha breed horses and cattle on plains where temperatures can swing from minus 75 degrees in the winter to 105 plus in the summer. When analyzing surveys in the summer of 2005, she and her colleagues noticed that in response to an open-ended question—"Is there anything else you want to tell me?"—many participants expressed concern about weather, temperature, and weather-related landscape changes.

The researchers returned for another three years. They documented how the villagers could no longer create underground freezers in the permafrost under their houses, how flooding was ruining roads and hay fields, and how the "bull of winter," a mythological creature representing a bitterly cold time, didn't arrive.

At the end of their fieldwork, the researchers arranged "knowledge-exchange sessions," in which the villagers shared their experiences. A Sakha scientist explained his research on permafrost degradation, and the villagers spoke of losing land to erosion. In the aftermath, the villagers are sharing ways of mitigating the effects of climate change, such as putting pipes under their houses, which they open in the winter to harden the permafrost and close in the summer to keep the ground from thawing.

Ms. Crate, who is now doing a similar study on Maryland's Eastern Shore, says you can't necessarily "scale up" such research. But, she says, those seeking to help people understand global warming can use a similar approach in many places. "Don't come at people saying 'Do you believe in climate change?" she says. "Start talking about their life and interaction with the natural world."

Increasingly Distant Poles

Aaron M. McCright, an associate professor of sociology at Michigan State University, says he grew up in a small town in Iowa where opinions at the family dinner table spanned a wide political spectrum. He has gone on to study the polarization of the American public's views on climate change.

In a study published last year, he and a colleague found that the divide over global warming widened from 2001 to 2010 between those who labeled themselves liberals or Democrats and those who labeled themselves conservatives or Republicans. The proportion of self-declared liberals who believed global warming was already happening grew from 67 percent to 74 percent, while the proportion of conservatives with the same views sunk from 49 percent to 30 percent.

Education levels broadened that split. Among those surveyed who did not have a college degree, 62 percent of liberals and 42 percent of conservatives believed in global warming, while among those with a

college degree, liberal belief rose to 82 percent while conservative belief barely inched up, to just 43 percent. That, Mr. McCright concludes, indicates that public-education campaigns are apt to have little effect on conservative skeptics.

Among the factors he believes contribute to the split is the "Balkanization of the media," and the reality that people select a news source that reflects their views: Liberals listen to National Public Radio or read *The New York Times,* which reflect the scientific consensus when writing about climate change, while conservatives may watch Fox News, and hear a commentator ridicule global warming while the channel displays the book *An Inconvenient Truth* stuck in the snow during an East Coast blizzard.

Two historians, Erik M. Conway and Naomi Oreskes, point to another source of polarization in their 2010 book *Merchants of Doubt.* There Mr. Conway, a historian affiliated with the California Institute of Technology, and Ms. Oreskes, a professor of history and science studies at the University of California at San Diego, write about the efforts of a handful of physicists to emphasize uncertainty on some key science-policy issues, including acid rain, the ozone hole, and global warming.

As early as the 1960s, climate scientists were trying to warn such political leaders as President Johnson that the "greenhouse effect" could be a problem, the historians write, and in 1995 the Intergovernmental Panel on Climate Change reported a scientific consensus that humans were creating climate change. But the historians showed that long after the majority of climate scientists believed in global warming, the physicists sowed confusion and delayed action. The physicists' motives weren't entirely clear, although at times they expressed concern over the expense of mitigating global warming and conveyed the view that human migration to cooler parts of the earth would solve any problem caused by climate change.

They borrowed tactics from the tobacco companies' fight against the antismoking movement, launching assaults in the letters-to-the-editor pages of scientific journals, at White House meetings with the Bush administration, and in supposedly neutral forums like a 1983 National Academy of Science report. Journalists, feeling compelled to present "both sides" of the issue and drawn to the drama of contrarian views, often served as handmaidens to the denialists. At least one young researcher, the graduate student of a climate-change scientist who objected to one of the physicist's tactics, found himself slapped with a libel suit. Without resources to defend himself, he was forced to settle, issuing a retraction and submitting to a 10-year gag order.

Mr. Conway remembers having to take breaks to "detoxify" when he was doing research on the book. He says he avoids keeping up on the climate-denial movement. "It's not a happy story; it's kind of a disturbing one," he says.

Ways Past the Impasse

As social scientists turn from describing the political impasse to finding ways to overcome it, many of them suggest that scientists firmly persuaded of climate change shouldn't focus on public arguments with skeptics. "Don't waste time on convincing people whether global warming is happening or not. Figure out what we have in common." says Julie Brugger, an anthropologist and postdoctoral fellow at the University of Arizona at Tucson who has conducted research on social responses to global warming in towns in western Washington, near where glaciers are melting, and in Arizona, where ranchers are coping with drought.

She and other anthropologists suggest making the discussion much more local: Vermonters are experiencing a shrinking maple-syrup production season, while city dwellers in Los Angeles are dealing with smog. Building on those experiences and creating local ways of mitigating them, anthropologists say, may make more of a contribution to reducing climate change than a Congressional decree that is unlikely to come.

Social scientists also have plenty to say when campaigns to ease global warming get down to specifics. About 40 percent of U.S. energy consumption is by individuals and households, and raising the price of energy is not the only way to drive conservation, research has found. A research program called Behavioral Wedge, based at Michigan State University, makes the case that, by taking advantage of existing social-science research, household contributions to greenhouse emissions could be reduced by an amount equal to all of the emissions from France.

Surveys indicate, the researchers say, that consumers don't realize the contribution that efficiency

upgrades can make and overemphasize the importance of curtailing their energy use. Changes like energy-efficient appliances, low-flow showerheads, and fuel-efficient cars let people cut reductions without having to give much up. Policy makers could influence people to use such technology without necessarily sparking public resentment, argue "behavioral wedge" researchers.

Lastly and more broadly, some social scientists suggest desanctifying science itself. By having focused for so long on winning an argument about climate change, the reasoning goes, scientists may have lost an opportunity to have made more progress on remediating it. The problem, says Mike Hulme, a professor of climate change at the University of East Anglia, in Britain, is not that the right-of-center public in the United States worries that the government will impose an expensive regulatory solution to climate change.

The reality is that people experience nature differently, and have different views on what human progress will be and what kind of good life they are striving for. He says depending on the authority of scientists to explain the climate-change problem and suggest an answer simply will not work.