



## 2. **COMMUNICATION: Does a 'cultural divide' between science and journalism confuse the public about climate change?** (08/01/2011)

**Julia Pyper, E&E reporter**

With public belief in climate change declining, the issue of media communication has caused enough concern for the scientific community to take action with a new monthly column in *Nature Geoscience* aimed at bridging the chasm between journalists and scientists.

"A cultural divide separates science from the media," wrote the editors of the journal, citing it as the motivation for the column.

"Communication between scientists and journalists hasn't always been easy," said Heike Langenberg, chief editor of the journal. "The way to communicate is to have a better understanding of each other's position."

Scientists have long struggled with speaking about their research in accessible and interesting ways, and journalists continue to labor to break down technical language and report on science accurately. Together, tensions like this increase the risk of misunderstanding, and when it comes to the complex issue of climate change, miscommunications can have a big impact, according to a number of researchers. The *Nature Geoscience* column is the latest in a long series of attempts to wrestle with this problem ([ClimateWire](#), Nov. 10, 2010).

"The [climate] debate has been polarized in the media, and climate skeptics have a strong counterposition," said Langenberg. "In a polarized environment, you need to communicate as clearly as you can, because often the subtle tones are lost in such a politicized debate."

The first *Nature Geoscience* column was published last month by geologist and science writer Axel Bojanowski, who reports for *Spiegel Online*, a leading German news source. Bojanowski said he had two central aims in writing the column: to offer scientists a new way of seeing their work -- from the viewpoint of the public -- and to give scientists insight into how journalists think.

"Scientists and journalists usually have different objectives," said Bojanowski. "Scientists are oriented towards a scientific audience. They want their results presented in detail and to know that the complexity of their findings is being given its due. Journalists, on the other hand, have to direct themselves towards the interests of the general public. When they are writing for mass media, they need to tease out the aspects of scientific results that are relevant to daily life."

Journalists must consider a number of factors in putting together a story, beyond understanding the scientific material, said Bojanowski, like the need to challenge scientists' results as a way of marking the boundary between advertising and journalism. He said he wants to highlight more of those elements to help avoid misunderstandings.

### **Who's to blame for miscommunication?**

Huge gaps in the language used by scientists and journalists are a central issue in the public's perception of climate issues, according to Susan Joy Hassol, director of Climate Communication, a nonprofit organization that advises on climate change communication strategies.

"Even calling it the 'climate debate' I think implies to people that there's still a debate on the basics of the science," said Hassol. "There's only a legitimate debate on the policy side -- what do we do about it? -- but that's not the public perception."

Indeed, as of May 2011, the Yale University "Global Warming's Six Americas" report found that on average, 40 percent of Americans believed scientists still disagree over whether or not global warming is happening. Studies show, however, that there is over 95 percent agreement among scientists who actively publish on climate change that global temperatures are rising and that human activity is a significant contributing factor.

"I think journalists can help a lot in increasing public knowledge, but my sense is that many journalists don't see that as their responsibility," said Hassol.

Hassol criticized the media for publishing news stories that give equal weight to the statements of peer-reviewed scientists and climate change deniers. An independent review of the BBC's science coverage, reported on by the *Guardian* newspaper, came to a similar conclusion. The BBC, which the analysis acknowledged to have generally high reporting standards, was found guilty of giving too much weight to marginal views, or presenting a "false balance" in certain stories.

Hassol also takes issue with a number of words often used by the media, which she says are misunderstood by the general

public. The word "consensus," for instance, as in "there is a consensus among scientists that the world is warming," sounds like a matter of shared belief rather than a fact, she says.

According to Hassol, the word "error" is also misused because to the public it means "wrong or mistake," but to scientists it means "a possible range around an exact true value of something." She called that range "the error bar." If she ever leaves science writing for the hospitality industry, Hassol said, she plans to open a pub by that name.

## Differing vocabularies and working styles

But the problems don't stop there.

"'Uncertainty' is a very very tricky one, because to the public it means 'We don't know.' So if the scientist says there's uncertainty about future warming, the public thinks it might not be warming. But the scientists meant there's a range of possible future warming somewhere between 2 and 10 degrees Fahrenheit," said Hassol. "So much of the time you don't hear the reasons for the range presented [in news stories]; you just hear 'uncertainty.' It's not to be nitpicky; it makes a difference."

Tom Bowman of Bowman Global Change, a science communications firm, said the way climate change is perceived by the public is not only affected by the way journalists present information. It's also affected by the way scientists discuss their work.

"They start talking about what they don't know and then talk about their results. They don't frame in a simple statement what they're working on," he said. "In the climate issue, most of the big issues are settled. The world is warming, the cause of warming is CO2 in the atmosphere, and that's mostly coming from burning fossil fuels and deforestation. But the way scientists communicate professionally makes it seem like it's not settled."

The danger of these different working styles is that the public and policymakers who follow the news could miss the important conclusions that the scientific community is trying to share, or end up with an overstated or underestimated perception of it, Bowman said.

Bud Ward, editor of the Yale Forum on Climate Change & the Media, agreed that while journalists need to pull their weight in communicating effectively about climate change science and policy, scientists also need to step up their game.

"Don't let scientists off too easily. I think the scientific community has not played its role well," said Ward. "You don't get tenure by going out and speaking to the public, and you don't get tenure for speaking to reporters, city council or the mayor's office about concerns of climate change. You get tenure for publishing peer-reviewed journals and talking in language the public generally can't understand."

## Can the gulf between two cultures be bridged?

Matthew Nisbet, an associate professor at American University specializing in science communication, says there are two ways to improve the way scientists engage with journalists.

Nisbet says that scientists need to move beyond tactics that help explain the science better, and start thinking about strategic ways of communicating through new information channels. Many scientists are already doing this, Nisbet noted. They're blogging, taking media training and working with journalists within their own institutions in order to better relay their message. Another important step, says Nisbet, is for scientists to discuss how their own political motives shape how they define the climate issue.

"Helping scientists recognize how they view the world politically shapes how they communicate about the issue of climate change in assessing blame," he said. "The scientific community is straitjacketed. They don't want to appear as advocates or political, and yet all of their motivation is political and their definition of the problem is based on their own political leanings."

Many scientists, in talking about climate change, are trying to have the wider public come to see the issue and what should be done as they do, said Nisbet. And without acknowledging their biases, he said, some outspoken scientists can further cement the division on climate issues.

Myron Ebell, director of the Center for Energy and Environment at the Competitive Enterprise Institute, says journalists are also guilty of bias when it comes to describing their sources. "Reporters often quote people who clearly are very strongly political leftists, but they're just quoted as straight scientists," he said, "whereas scientists who are skeptical of global warming alarmism are accused of having close ties to the oil industry or something that suggests they're not really reliable."

Nisbet says that overall, there needs to be less focus on problem-based doom-and-gloom messages, and more on solution-based communication, which is why he is calling for a more pragmatic and localized approach to the climate issue that avoids the national mainstream media. Regional communication makes problems seem bite-size, says Nisbet, making local policy actions less controversial.

"They're win-win policies you'd want to take into account even if climate change wasn't a factor -- like preparing for disasters, being less vulnerable to extreme heat, spending time outdoors and driving less," he said. "And by taking actions on a local level, people start to feel they can make progress."

## Does shrinking press coverage swell disbelief?

"Something we've seen in looking at the public is that there's been a dramatic decline in the belief in climate change, human cause, and even drops in public worry," said Anthony Leiserowitz, director of the Yale Project on Climate Change Communication and lead author of the "Global Warming's Six Americas" report. He said that a major drop in media coverage on climate change greatly affected people's priorities.

In a media study, Drexel University professor Robert Brulle found that last year, the three major television networks -- NBC, CBS and ABC -- aired 32 stories on climate change, down from 84 in 2009 and 144 in 2007, the year former Vice President Al Gore's documentary "An Inconvenient Truth" hit theaters. There has been a similar decline in major newspaper coverage.

"The media is in the midst of a historic transformation, and we're not sure into what. There has been this axing of environment desks and closing of sources, and that's shifted how journalists are doing their work. And I don't think that all scientists realize the shift that's taking place," said Leiserowitz.

To Yale's Ward, shifts in the general circulation media toward smaller newsrooms and fewer specialists will make communication on scientific matters worse. "The [climate change] issue cries out for better public understanding, but the mainstream media in the current and foreseeable climate just aren't able to provide that," he said.

A 2004 study by brothers Maxwell Boykoff, an assistant professor at the University of Colorado, Boulder, and Jules Boykoff, an associate professor and department chairman at Pacific University Oregon, found that the media's adherence to balance led to biased coverage of climate change. But Maxwell's more recent research shows that since 2006, the media has vastly improved the quality of its coverage -- a major coup in climate change communication.

Leiserowitz sees room for more progress ahead. "For all their differences in their culture, timelines and what they're trying to ultimately do," he said, "what they both share as a core value is the truth."

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