

Science in the News: The Potential Impact of  
Televised News Stories About Global Warming

Michael E. Nitz

Sharon Jarvis

School of Communication

University of Idaho

Moscow, ID 83844-1072

USA

\*Paper presented at the 5th International Conference on Public Communication of Science and  
Technology, Berlin, September, 1998

Science in the News: The Potential Impact of Scientists as Sources in Televised  
News Stories About Global Warming

This paper presents findings in an ongoing project examining television news coverage of the environment. Research suggests that the media, in particular television, are the primary and often only source people will turn to for information about environmental issues. The current paper focuses on the sources relied upon in the coverage of global warming on network news. The sources selected for information could be significant determinants of the media's potential ability to prime viewers about the nature of particular issues. Journalists tend to use the most available outlets when seeking information for environmental issues (Davis, 1995).

Specifically, this paper looked at who gets to speak for the environment on televised network newscasts and whether they advance technical or cultural arguments. Technical-cultural distinctions become important for global warming in that people are more likely to practice environmentally sound behavior if advocacy messages are simple, clear, and understandable. Prior research on sources notes that while media often present environmental information from experts, the motivation and background of said individuals are often glossed over (Ward, 1992).

Findings indicate that most sources are scientists and that most stories contained a technical focus with emphasis on scientific reports, computer models, and predictions of risk. The key finding is that the best (ones in which the public actually learns something) environmental stories appear to be those featuring scientists. Thus, it behooves scientists to become more pro-active, get in touch with media outlets, answer their phones when reporters call, and be ready to speak within a cultural framework that simplifies complicated issues into a language that the public can understand.

## Science in the News: The Potential Impact of Scientists as Sources in Televised News Stories About Global Warming

The American public is expressing increased concern over the number and variety of environmental problems (Lange, 1993; McClellan, 1992; Pope, 1992). Research suggests that the media are the primary and often the only source people turn to for information about environmental issues. Although they often regard it as important, the environment is not a topic people spend much time thinking about (Ader, 1995). It seems, therefore, that environmental stories are important to report. In an ideal world, the media would strive to present numerous, in-depth environmental stories producing a well-informed public. Unfortunately, in contemporary American society, people's belief structures about the environment have been referred to as a „confusing briar patch“ of ideas (Cantrill, 1993, p. 81).

This paper presents new findings in an ongoing project examining television news coverage of the environment. Previous projects by the authors have examined the framing, priming, visual imagery, and bias of televised environmental coverage. The current project focuses on the sources relied upon in the coverage of global warming on network news. Specifically, this paper examined who get to speak for the environment and whether they advance technical or cultural arguments on nightly newscasts.

### Environmental News Research

Many allege that news coverage of environmental issues is poisoned by inconsistencies, distortions, and a misrepresentation of data (Adler, 1992; Atkin & Wallack, 1990; Boyle, 1993; Greider, 1992; Nitz & Jarvis, 1995). While some media outlets in communities with high levels of pollution tend to employ a reporter on the environmental beat, a „rule of least effort“ seems to be generally applicable to the large majority of coverage of environmental issues (Griffin &

Dunwoody, 1995, p. 281).

In an effort to be sensational, timely and simple, the media tend to underemphasize risks and overdramatize spins on disputes in environmental reporting (Sachsman, 1991). When covering environmental issues, the media mostly identify problems without spending much time on discussing solutions (Grunig, 1977; Jaehne, 1990). Many scholars agree that the media often cover the environment with a barrage of skewed uncertainties and misinformation (Atkin & Wallack, 1990; Cantrill, 1993; Chepesiuk, 1993; Stavins, 1995).

### Global Warming Coverage

A content analysis of global warming stories by Ruben (1994) suggests that coverage of this specific issue is similar to coverage of other environmental issues. In an analysis of newspaper headlines on April 15, 1993, Ruben found these inconsistent headings: „Wider damage to earth’s ozone layer is feared“ (*Los Angeles Times*), „Ozone problem seems headed for solution“ (*Dallas Herald*), „Satellite finds growing threat to ozone“ (*New York Times*), and „After 2000, outlook for ozone layer looks good“ (*Washington Post*).

Television coverage of global warming also appears to have many shortcomings. While global warming received a flurry of coverage for a short time in 1992, just prior to the Earth Summit, most of this coverage centered on President Bush’s unwillingness to go to Brazil to sign a treaty. A majority of these stories were framed from a political rather than a technical perspective (Lacey & Longman, 1993; McClellan, 1992). Additionally, Lacey and Longman report that, despite an overall worsening of global warming, news coverage has actually *declined*. Journalists themselves admit that the coverage of complicated environmental issues lacks credibility, with only 30 percent saying coverage is good (Chepesiuk, 1993). Thus, as Griffin and Dunwoody (1995) note, there is still much to learn about the content of mass mediated risk

messages.

### Sources

This paper examines the sources used in global warming television news stories. Prior research on sources tells us that while the media often present environmental information from experts, the motivations and backgrounds of said individuals are often glossed over (Ward, 1992). It is not uncommon to hear testimony from a „top federal scientist“ who consults for a chemical company that dioxin is harmless or to learn from a „biologist“ working for the Sierra Club that this same dioxin is deadly.

The sources selected for information in news stories could be significant determinants of the media’s potential ability to prime viewers about the nature of particular issues (Stallings, 1990). Journalists tend to use the most available outlets when seeking information for environmental sources (Davis, 1995; Friedman, 1991; Hendry, 1994). Government officials are usually the first choice, followed by environmental group leaders and „people on the streets.“ Because few have firsthand experience with global warming, media images and information tend to be considered the most reliable. The media help develop a picture of this issue. This paper measured whom is contacted by television newscasts to spread global warming information and then how this information is presented. Of particular importance here is whether sources provide technical or cultural information.

### Technical-Cultural Focus

Paystrup (1994), in addressing the issue of re-introducing wolves into Yellowstone National Park, notes that technical approaches focus narrowly on scientific risks or report the results of scientific studies. In contrast, cultural approaches expand the focus to include the lay public’s perception of dangers and threats that are „broader and deeper than those associated with

the actual risk event itself“ (p. 1). Paystrup and others (Lange, 1993; Moore, 1993) posit that many conflicts between those who are „pro and anti-environment“ often go beyond mere reporting of numbers and evolve into fierce battlegrounds between advocates of a person’s right to earn a living and advocates of preserving living species and eco-systems in their natural state.

Technical-cultural distinctions become important for the specific issue of global warming in light of the finding that people are more likely to practice environmentally sound behavior if advocacy messages are simple, clear and understandable. Technical messages would tend to present the scientific complexities behind the depletion of the ozone layer or the intricacies of a forest’s ecology. People are much more receptive to a cultural frame that is easily understood and that drives home the negative consequences of inaction. Global warming is a scientifically complex issue for many individuals. The complexity is exacerbated when scientists report puzzling findings, such as blizzards, are actually effects of global warming, editorials proclaim that warming and cooling operate in cycles, and media pundits place blame on natural sources of global warming such as volcanic emissions. Research on televised global warming stories can call attention to and indicate a need to remedy some of these inconsistencies in environmental reporting.

### Method

This study centered on four research questions: RQ1: Who gets to speak for the environment? RQ2: Do these sources appear in „technical“, „cultural“ or „political“ stories? RQ3: Do certain types of stories (technical, cultural, political) receive more air-time than others? RQ4: Do some types of stories feature more sources than others?

The content analytic scheme used in this project centered around the sources used in network news stories on global warming. Videotape recordings of network newscasts (Monday-

Friday from the three major American networks--ABC, CBS, NBC) that aired in 1986-1996 were examined. Global warming stories received public attention on network news in 1988-1989 and built to a climax at the Earth Summit in 1992. The years 1986-1996 were chosen because the authors wanted to look at how global warming has been portrayed in televised newscasts before, during, and after the Earth Summit. The unit of analysis is the news segment (each segment begins with the network anchor in the studio and ends either back in the studio or when another topic is introduced).

Abstracts of newscasts were obtained from the Television Archives at Vanderbilt University. The authors initiated a search in the Archives for all stories on global warming, ozone layer, and air pollution. For the three year period, 171 global warming stories were found. These stories were coded both quantitatively and qualitatively, visually and with abstracts. The sources of material were coded as coming from the President or other world leader, members of Congress or other legislative body, business leaders, environmental group leaders, government agency officials, scientists, people on the street, and other. In some news stories, no source was given. A final category of none was included to cover this option. All sources in a news story are noted. The focus of a story was coded as either technical, cultural, mixed or neither. Coders used a two-thirds rule to determine the story focus.

## Results

The tables and figures (see attachments at end of paper) display the findings.

### RQ1

Initial findings suggest that sources are primarily American scientists. Sources were usually identified as coming from the United States (40%). British scientists in Antarctica were

the sources for two stories (8%) and European scientists were the source for one story. In general, the news media relied on scientists or scientific reports of information on global warming (52%). Environmental groups also received a good share of attention (24%). Other sources were world leaders (8%), legislative bodies (8%) and government agencies (8%). Nearly 68% of stories contained a technical focus. Stories emphasized scientific reports, computer models of global warming, and predictions of the seriousness of the threat. A mere eight percent of the stories featured a cultural focus. Another eight percent featured a mixed focus.

However, the President and federal agencies are the second and third most common sources cited in televised news stories. Thus, it appears that global warming is covered in both technical and political ways.

#### RQ2

Like RQ1, findings here indicate further the salience of political frames in global warming news coverage. Initially, the authors had intended to have news focus be a dichotomous variable. However, because so many stories on global warming dealt with the „state“ (B, a political category was added.

#### RQ3

On average, technical news stories receive the least amount of air-time of the three types of stories. Technical stories are roughly half as long as political stories.

#### RQ4

Technical stories often just featured one source, whereas political stories often featured five or more sources.

### Discussion

This study adds to understanding of global warming news coverage. A primary

contribution of this paper relative to other work on global warming is it looks at the primary mode by which global warming information is communicated to the public: the sources cited on television. Much of the work on global warming has been undertaken in the „hard sciences“. One of the main challenges for scientists in these hard sciences is how to get the message out to the lay person that global warming is a serious threat.

This study's key finding is that the best environmental stories (ones in which the public will actually learn something) appear to be those stories featuring scientists. Thus, if there is an applied finding to be drawn from this paper, it is for scientists to become pro-active, get in touch with news outlets, answer their phones when reporters call, and be ready to speak in a way that the media can cover them (e.g. simplify the complicated issues into a language the layperson can understand).

It also appears to be true that environmental stories (certainly at least global warming stories) have a heavy political slant in televised news coverage. While the public can learn from television, the five or more sources per story (in political stories) indicates Cantrill's (1992) briar patch of ideas is becoming more and more tangled as sources in these stories simply bicker rather than proposing concrete solutions to problems. The prevalence and length of political stories is troubling; it is possible that the conflict and drama intrinsic to political news may encourage individuals to take environmental stories less seriously.

Cultural stories are longer and seem to be able to increase the public's awareness and understanding of global warming issues. Unfortunately, they are the least common type of story. Scientists and other sources would have more impact within the context of cultural stories since cultural stories may be best suited for citizen learning (Paystrup, 1994).

In sum, there is a mixed bag of findings. The bad news is that the television news media,

the primary source of information for environmental stories, seems to mainly focus on conflict and drama inherent in political stories. In addition, there are more technical stories than cultural stories. Unfortunately, this does not enhance learning and solution-finding. The good news is that citizens do learn something when scientists are involved as sources and when stories have a cultural focus. Future research should explore the best way journalists and others could take scientific findings and relay them to the average person so that good science can be promoted and „junk“ science can be avoided.

## References

- Ader, C. A. (1995). A longitudinal study of agenda setting for the issue of environmental pollution. Journalism and Mass Communication Quarterly \_\_\_\_, 2, 300-311.
- Adler, J. (1992). Little green lies: The environment miseducation of America's children. Policy Review , 56, 18-27.
- Atkin, C., & Wallack, L. (1995). Mass communication and public health: Complexities and conflicts . Beverly Hills: Sage.
- Boyle, R. (1993). All the news that's fit to twist: Misleading news on the environment. The Amicus Journal \_\_\_\_, 15, 9.
- Davis, J. (1995). The effects of message framing on response to environmental communications. Journalism and Mass Communication Quarterly \_\_\_\_, 72, 285-299.
- Cantrill, J. (1993). Communication and our environment: Categorizing research in environmental advocacy. Journal of Applied Communication Research \_\_\_\_, 21, 36-66.
- Chepesiuk, R. (1993). Covering the environmental beat. Editor and Publisher \_\_\_\_, 126, 18-21.
- Friedman, S. (1991). Two decades of the environmental beat. In LeMay, C.L., & E.E. Dennis, (Eds) Media and the environment . Washington, D.C.: Island Press.
- Greider, W. (1992). Who will tell the people? The betrayal of American democracy . New York: Simon and Schuster.
- Griffin, R., & Dunwoody, S. (1995). Impacts of information subsidies and community structure on local press coverage of environmental contamination. Journalism and Mass Communication Quarterly \_\_\_\_, 72, 271-284.

- Grunig, J. (1977). Review of research on environmental public relations. Public Relations Review \_\_ , 3, 36-58.
- Hendry, J. (1994). The three voices of the media: A case study of the television media's coverage of the controversy surrounding a toxic waste incinerator . Paper presented at the annual conference of the Speech Communication Association, New Orleans, LA.
- Jaehne, D. (1990). From polluted environment to endangered planet: Ideology and environment in Time, 1969-1989. Paper presented at the annual meeting of the Speech Communication Association, Chicago, IL.
- Lacey, C., & Longman, D. (1993). The press and public access to the environment and development debate. The Sociological Review \_\_ , 41, 207-244.
- Lange, J. (1993). The logic of competing information campaigns: Conflict over old growth and the spotted owl. Communication Monographs \_\_ , 60, 239.
- McClellan, S. (1992). Gearing up for green coverage: Media coverage of the earth summit in Rio de Janeiro. Broadcasting \_\_ , 122, 14-17.
- Moore, M. (1993). Constructing the irreconcilable conflict: The function of synecdoche in the spotted owl controversy. Communication Monographs , 60, 258-274.
- Nitz, M., & Jarvis, S. (1995). Television coverage of the environment: Polluted or purified? Proceedings of the Conference on Communication and Our Environment . Chattanooga: University of Tennessee Press.
- Paystrup, P. (1994). There's more to it than crying wolf: Uncovering deeper concerns behind an endangered species recovery plan's „Not-in-my-

- backyard“ protest . Paper presented at the annual conference of the Speech Communication Association. New Orleans, LA.
- Pope, C. (1992). Alive and kicking: Mythical backlash against environmentalism. Sierra \_\_, 77, 16.
- Ruben, B. (1994). Backtalk: Environmental problems are being misrepresented in the media. Environmental Action Magazine \_\_ , 25, 11-17.
- Sachsman, D. (1991). Environmental risk communication and the mass media . Paper presented at the annual meeting of the International Communication Association, Chicago, IL.
- Stallings, R. (1990). Media discourse and the social construction of risk. Social Problems \_\_ , 37, 80-95.
- Stavins, R. (1995). Environmental policy: Better media coverage of risks urged. Nieman Reports \_\_ , 49, 12.
- Ward, B. (1992). American journalism has a new arrow in its quiver. Safety and Health \_\_, 145, 63-64.