

Chapter 15

A Picture Is Worth a Thousand Words: Commentary of Broadcast Meteorologists on the Visual Presentation of Climate Change

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ABSTRACT

Broadcast meteorologists are trusted by the general public to convey knowledge on climate change and they make choices about what information to present to their viewing audiences. Interviews with broadcast meteorologists revealed a wide range in their knowledge base and confidence in conveying climate science to their audiences. However, all interviewees agreed that visual images are an essential means for communicating with their viewers. Three major themes emerged from interviews with participants: visual imagery is important, dramatic images are powerful motivators, and the new visual presentation technologies have great value.

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INTRODUCTION

The emphasis on visual media in contemporary culture is changing the definition of literacy in the 21st century. A growing body of research indicates that visual content consistently garners more attention and is no longer subordinate to other forms of media (Iannuzzi, 2000). The success of environmental photographer James Balog's award-winning film *Chasing Ice* illustrates this shift. Using cutting-edge time lapse cameras, his footage compresses many years into a visually compelling narrative of how mountains of ice have disappeared at a dizzying rate. If "seeing is believing," this project provides vivid evidence of human impact on Earth (Orlowski et al., 2013). Indeed, it is difficult to think that global warming could have entered our consciousness as a crisis without the display of hundreds of thousands of images appearing in a wide variety of media.

Seventy percent of Americans regularly watch televised news primarily for the weather forecast (Miller, Augenbraun, Schulhof, & Kimmel, 2006). Broadcast meteorologists are considered the "station scientists" in TV news rooms, and this status is noted by the American Meteorology Society (Maibach, Witte, & Wilson, 2011). A majority of the public perceives meteorologists to have expertise in climate science (Leiserowitz & Broad, 2008; Leiserowitz, Maibach, & Roser-Renouf, 2009; Leiserowitz, Maibach, Roser-Renouf, & Smith, 2010; Leiserowitz, Maibach, Roser-Renouf, & Smith, 2011), and two-thirds of TV broadcast meteorologists wish to report on climate change (Maibach et al., 2011). This NSF-funded study explored broadcast meteorologists' interest in climate change and the impact of visual imagery in helping their audiences understand its ramifications.

Well before the debut of *Chasing Ice*, Vice President Al Gore showed audiences satellite imagery of Arctic sea ice between 1980 and 2006 (Gore, 2006). The shift over less than three decades makes evident that a substantial amount of ice cover has disappeared. The conclusion most viewers draw is that the trajectory of loss will continue and that there is no reason to think that it will reverse direction (Kjeldsen, 2013). Additional persuasive visual arguments employed over the years have included pictures of dry cracked earth and also red hot color codes on global maps and temperature graphs. Some of the more commonly presented images such as polar bears in distress have contributed to a public perception of the problem as spatially and temporally remote. Newer 3D multimedia interactive imaging tools could make climate change more salient for the layperson and hold the promise of balancing the issue with more positive imagery of effective mitigation and adaptive solutions (e.g. wind turbines). Representing climate change through images that can be framed through proactive messages can communicate that individual and community sustainability efforts are possible. Through the use of coherent visual scenarios, the challenge can be localized and made more meaningful to laypeople (Schroth et al., 2014).

Researchers have argued that vision is our most dominant sense (Wade & Swanston, 2013). We prioritize the visible at the expense of what is hidden (Doyle, 2007). However, the subtleties of climate change are invisible processes for the layperson (Hulme, 2009). Because of the gap between scientific knowledge and the layperson's ability to understand complex information, most news consumers can be greatly influenced by the presentations of experts. Visual images presented by authority figures on television have the potential to communicate more directly the phenomenon and effects of anthropogenic climate change. Research indicates that images are interpreted as more truthful than a narrative of words alone (O'Neill & Smith, 2014). This insight is important for communication about climate change; phrases like the "globally averaged near surface air temperature" or "atmospheric CO₂ concentration"

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