



WINTER 2005

Culture Contributes to Perceptions of Climate Change

A comparison between the United States and Germany reveals insights about why journalists in each country report about this issue in different ways.

By Hans von Storch and Werner Krauss

When we talk about the weather, we also establish our social relations and construct the world we live in. Today such discussions are commonplace, especially when we have many extreme weather events and climate change to talk about. A cultural dimension is inherent in these conversations, and this is evidenced in how people perceive and connect these phenomena differently in the United States and in Germany.

With the Kyoto treaty, differing responses became evident. Now, as the role of climate change is being hotly debated in the aftermath of the recent catastrophic hurricanes in the United States, differences in perception are surfacing again. These moments teach those of us who study public responses to the issue of climate change that cultural history and media representations are often neglected factors and that a firm understanding of aspects of culture is indispensable in sorting through these differences in national perspectives and in adequately planning for management for a catastrophe.

Many Americans have come to view the last few hurricane seasons as particularly extreme. This year the devastation was especially severe when New Orleans was almost directly hit by Hurricane Katrina. In comparing the 2005 hurricane season to previous ones, the greatest surprise was not so much the severity and frequency of the storms that made landfall but the degree to which civil defense was obviously overwhelmed at a site historically known for its extreme vulnerability.

The basic events of the Katrina disaster unfolded in much the same way as did disastrous European storm surges in 1953 in the Netherlands and 1962 in northern Germany. These storms came as surprises after a long lull; underestimating the danger, thousands of people in the Netherlands and hundreds in Hamburg drowned.

The difference among these situations is evident, however, in the societal response. In Hamburg, then-unknown state minister Helmut Schmidt took the initiative. In spite of uncertain legality for the orders he issued, he called for the military, which turned out to be a key factor in managing the catastrophe. It was the mythical beginning of Schmidt's political career, who later became chancellor of Germany. Shortly after the event, a new large-scale coastal defense program was instituted. When, 14 years later, a much more severe storm surge formed, Hamburg's coastal defense proved sufficient, and no serious damage occurred. The Netherlands became famous for its coastal defense politics in the aftermath of the disastrous 1953 flooding, an event that has become part of the country's national identity.

What happened in New Orleans? As in Hamburg in 1962, people underrated the known vulnerability of the place and its potential damage. But then in New Orleans, little aid on the ground and insufficient catastrophe management led to four days of agony with close TV coverage of the human devastation in the wake of the storm. It becomes clear that specific social conditions made this meteorological extreme event a social catastrophe:

The link between race, poverty and vulnerability was suddenly rendered transparent. Rumors of massive looting and crime spread before the armed forces arrived. President Bush took the initiative too late, only after widespread protests were heard in the news media and the emergence of social unrest could be witnessed on TV.

There is another crucial difference to be considered: During the last 50 years, the perception and interpretation of such extreme weather events have changed dramatically. "Global warming" and "Klimakatastrophe" (the English translation is climate catastrophe) are concepts that have captured public attention at the same time that extreme weather events are more likely—in some parts of the world—to be interpreted as man-made rather than natural. Moreover, even though there are significant differences in the public understanding of climate change in the United States and Germany, the media in both societies use a similar framework of vulnerability, even if it is constructed in culturally different ways.

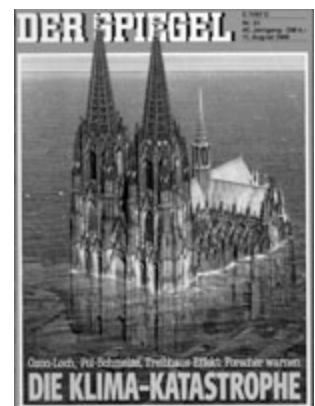
Among mainstream climate scientists, there is little doubt that climate is changing significantly faster today than in the historical past. As a consequence of this "detection," they conclude that there must be nonnatural factors at work. When different external factors are considered as possible causes, the most consistent explanation attributes two-thirds of 20th-century's warming to the accumulation of greenhouse gases in the atmosphere, while the other third is ascribed to the sun's changing output. While broad scientific consensus asserts that rising temperatures are a result of human emissions, a similar conclusion has not been drawn about anthropogenic changes in other weather phenomena such as windstorms in the tropics or at mid latitudes. Recently, a number of claims about worsening hurricane intensity have been made. However, the hurricane statistics vary on time scales of a few decades; the data describing the significant upward trend cover just the last 30 to 40 years, with a lull commencing in the 1970's after an active period in the 1940's and 50's. Thus the conclusion of an anthropogenic signal is methodologically premature.

Climate change is not only a topic in the inner circles of climate researchers but also in the public domain. The interplay between climate research and the public sphere—the public demand for explanation and advice about how to cope with climate change—is one of the key constraints on current climate research. Given prevailing uncertainty about the scientific facts on the one side and the high stakes for the public on the other, climate science is now a contested field. And it emerges as exemplary of what some social scientists call postnormal science.

The German Perspective

While in the United States, the words global warming refer to a tendency towards warmer conditions, climate change in Germany is framed more broadly, equated foremost with Klimakatastrophe. In Germany, all disastrous weather events are interpreted as consequences of climate change. The severe Elbe River flooding in August 2002 exemplifies this. While media reports on flood mitigation and repair work dominated the first days after the events, the search for underlying explanations soon attracted even greater attention. Aside from such presumably minor sins such as manipulating river beds and flood plains, the main culprit was quickly identified—climate change, brought upon us by ourselves. This explanation, while not explicitly supported by scientists, was assumed by many commentators and could be read between the lines of many reports. The commentary in Sächsische Zeitung, a regional newspaper in the flooded area, illustrates this: "Now the flood finally reached our backyard. This flood confronts us with the 'why,' with the sins we have committed, with the search for its origins. Even without scientific certainty we know that the flood is a consequence not only of cosmic changes, but of our own way of living."

... even though there are significant differences in the public understanding of climate change in the United States and Germany, the media in both societies use a similar framework of vulnerability, even if it is constructed in culturally different ways.



In 1986, Der

This is only one impressive example of an explanatory strategy that Germany's legendary weekly, *Der Spiegel*, had already dubbed *Klimakatastrophe* in 1986. Its cover image became an icon for the German attitude towards climate change, with the Cologne Cathedral half submerged in a flood. The argument in the cover article was based on plausible scientific claims: Rising temperatures increase the volume of the ocean, melt ice sheets and fuel an accelerated atmospheric energy cycle, which together lead to higher water levels and more water vapor and thus to more intense rainfall.

Spiegel's cover of the Cologne Cathedral half submerged in a flood became an iconic image for the German attitude towards climate change.

A tendency in the 1980's towards more violent North Atlantic and North Sea storms helped to support these claims empirically. Reference to such exceptionally vigorous and erratic weather events helped to implant the concept of *Klimakatastrophe* firmly in the public's mind. Further, the theory was consistent with older, culturally constructed views that the weather is getting worse and less predictable—due to nature's response to human misconduct.

Yet since the mid-1990's, the wind storms in Northern Europe again returned to a less severe state, a trend scarcely noticed by the media or the public. Research further revealed that the number and violence of storms started increasing around 1960, after a long period of weakening storm activity—and many analyses began in just about 1960, when good meteorological data became available for the region. Both in terms of the actual data available and public perception of it, this situation parallels contemporary discussions on the increasing intensity of hurricanes in the Atlantic. While there has been an increase in storm intensity in the past 30 or so years, the data are too limited and cover so short of a time span to afford any clear or final conclusion.

During the past two decades in Germany, the concept of *Klimakatastrophe* has become a valuable asset in the public shift towards a more environmentally "conscious" political attitude. And this attitude is often expressed with moral undertones: Humanity, in general, is blamed for destroying the fundamental balance between nature and humans. Following in the tradition of Romantic and Protestant ethics, many actions, symbols and stereotypes became associated with German *Klima-Angst*: the rise of the Green Party, the fall of nuclear industry, the societal task of household waste separation and recycling, and the moralizing call to bike instead of drive. Closely connected with this shift in the public's perception was the rise of German climate research, as scientists became public figures and drew on these symbolic resources to communicate with the public via the media.

Interestingly, German climate scientists form a rather uniform phalanx of supporters of the concept of anthropogenic climate change. Only a few dissenters exist. They are not climate scientists and are hardly noticed by the public. Rather, a handful of publicly identifiable individuals have emerged to dominate media discourse on climate change. They do not explicitly claim causal relationships between increased greenhouse gas levels and extreme events, but rather allude to the cautionary principle and point out that the extreme events are "consistent" with future expectations. The public understands such weak causal claims as overly cautious assertions about what they see as an established "fact": Specifically, recent violent climate events such as the Elbe or the New Orleans flooding are not natural but human-made and thus, by implication, they are avoidable. Consistently, then, the federal minister for the environment from Germany's Green Party alluded to the "fact" that the New Orleans disaster was self-inflicted by a stubborn U.S. administration.

The American Mindset

In the United States, the household term referring to anthropogenic climate change is not "climate catastrophe," but "global warming." This language leaves an impression that the future will be warmer but not more variable or extreme—a very different projection than in the German metaphor. Not surprisingly, therefore, cold spells in the United States are

often associated with jokes that dispute global warming, while German scientists can use such events as further evidence for an evolving human-made disaster.

As in Germany, the interplay between science and the public has had a lot to do with the overall perception of weather events and climate change. Public opinion and the direction of research have been heavily influenced by long-standing disputes (rhetorical and real) between powerful social groups such as industry, scientists, environmentalists and religious groups (with the creationists in science serving as a symbol for the blurring of boundaries among these parties). The term “skeptic” in this context is a respectable label for the opposition in the United States and not considered a dirty word, as it is in Germany.

Politicians, members of the public, and scientists engage in fierce debates about how to interpret scientific data and models. The media, following the U.S. norm of “balance,” typically present the problem of anthropogenic climate change as a conflict between two opposing schools of thought—and give both schools similar space in advocating their views. Within the scientific community, in contrast, one finds the skeptics isolated and accused of doing poor science; nonetheless, their arguments are eagerly fostered by political and religiously motivated groups who can command significant media attention.

Despite such differences in U.S. and German media coverage of the science, a recent survey among European and North American climate scientists revealed that these two scientific communities actually hold very similar views on the assessment and projections of future climate change. But differences in coverage remain. In the past, for example, U.S. articles about global warming—and this contrasts with German ones—rarely were pegged explicitly to extreme weather events. Given this, it is perhaps not surprising that in the early days of the Katrina disaster, a New Orleans Times-Picayune cartoonist showcased local attitudes towards the hurricane without making any broader connection.

However, the new media’s focus in its coverage of Katrina soon changed to the “national shame” that this storm had fostered. President Bush picked up on this public perception when he tried to repair American self-understanding and confidence in his almost biblical address to the nation: “In the life of this nation, we have often been reminded that nature is an awesome force and that all life is fragile. We’re the heirs of men and women who lived through those first terrible winters at Jamestown and Plymouth, who rebuilt Chicago after a great fire, and San Francisco after a great earthquake, who reclaimed the prairie from the Dust Bowl of the 1930’s. Every time, the people of this land have come back from fire, flood and storm to build anew—and to build better than what we had before. Americans have never left our destiny to the whims of nature—and we will not start now.”

Contrary to the German attitude sketched above, the American construction of identity in relation to nature is optimistic and far from self-critical. President Bush never mentioned climate change or the possibility of human action in causing it. He spoke about saving energy, but that reference was related to the potential damage to Texan oil refineries, not to a global ethical imperative. Whereas in Germany, climate change became a media issue from the first day of the Elbe River flood (and the German media immediately covered New Orleans’s catastrophe in headlines), it was not until three weeks after Katrina that any widespread discussion of climate change appeared in the leading journals in the United States. It will be interesting to see how long interest in the issue persists, given that infrastructure and social welfare concerns predominate in the public discussion.

Yet climate change has not been absent from U.S. public discourse. In fact, in the late 1980’s and early 1990’s, some powerful voices used extreme weather events to argue for the need to reduce greenhouse gas emissions. After the 1988 heat wave and drought, for example, a famous claim was made during a U.S. Senate hearing that the heat conditions in that summer were due to global warming. That argument was also used regularly to

Politicians, members of the public, and scientists engage in fierce debates about how to interpret scientific data and models. The media, following the U.S. norm of ‘balance,’ typically present the problem of anthropogenic climate change as a conflict between two opposing schools of thought—and give both schools similar space in advocating their views.

appeal for support for environmental policy, with then-Vice President Al Gore as its most prominent public proponent. However, that campaign could not be sustained over the long term, and the link between extreme events and human actions lost its persuasiveness among the U.S. media and public. It had been oversold, and the political climate had changed to what we've seen happen during the Katrina disaster.

What the Future Holds

Media symbols and representations of extreme weather events and their embedding in overarching cultural frameworks fluctuate over time. And the story of differing perceptions and resulting actions has not, and will not, come to an end.

The boundaries between science, politics and the public sphere are blurring, and climate research is one of the most prominent examples for this ongoing "postnormal science" process. By bringing social science into this debate, in particular with respect to different time horizons and media discourses, does not just add a further element to the end of an analysis, but it is indispensable for understanding public dynamics and for designing appropriate catastrophe management in a world, which was, is and will remain, vulnerable.

People react not really according to abstract concepts and scientific data, but to traditions, experience and shared values. Indeed, we have shown that the scientific construction of facts is cultural as well. If most Germans understand weather extremes as scripture written on the wall of impending, self-inflicted disaster, and if most Americans are willing to chance climate extremes as existential risks, these different attitudes have little to do with superior morality or rationality, but with deeply held—but very different—cultural values and orientations.

The German approach might have the advantage that it helps to institute a meaningful policy of sustainability with respect to environment and resources. The advantage of the U.S. approach might be that it helps individuals adapt better to crises, doing so with less fear. The disadvantage of the U.S. approach is that people are also shielded from thinking about sustainable energy and resource usage, while Germans are led to assume a missionary attitude, telling the world what is environmentally right and what is wrong. Some Germans seem to even believe that improved protection against extreme events will not really be needed as soon as appropriate Klimaschutz (which translated means climate protection) measures are implemented.

In either case, it becomes critical to examine how the rhetoric of the public discourse and that of the scientific community intersect to create climate politics and guide the direction of research. This societal rhetoric is not ancillary to "real science" but serves as a critical determinant of scientific attitudes and explanations.

Hans von Storch is the director of the Institute for Coastal Research at the GKSS Research Center in Geesthacht, Germany and professor at the Meteorological Institute at the University of Hamburg. Werner Krauss is an adjunct associate professor with the department of Germanic studies at the University of Texas at Austin. Katherine Arens and Sheldon Ungar assisted in the preparation of this article.



No responses to this article yet

