

Rachel Carson Center Perspectives

How to cite:

Martinez, Grit. "Let's Say It in Their Own Words," edited by Katrin Kleemann and Jeroen Oomen, *RCC Perspectives: Transformations in Environment and Society* 2019, no. 4, 105–14. doi.org/10.5282/rcc/8858.

RCC Perspectives: Transformations in Environment and Society is an open-access publication. It is available online at www.environmentandsociety.org/perspectives. Articles may be downloaded, copied, and redistributed free of charge and the text may be reprinted, provided that the author and source are attributed. Please include this cover sheet when redistributing the article.

To learn more about the Rachel Carson Center for Environment and Society, please visit www.rachelcarsoncenter.org.

Rachel Carson Center for Environment and Society
Leopoldstrasse 11a, 80802 Munich, GERMANY

ISSN (print) 2190-5088
ISSN (online) 2190-8087

© Copyright of the text is held by the Rachel Carson Center.
Image copyright is retained by the individual artists; their permission may be required in case of reproduction.

SPONSORED BY THE



Federal Ministry
of Education
and Research

Deutsches Museum 



Grit Martinez

Let's Say It in Their Own Words

At stake in society's responses to climate change are the socially constructed ways in which climatic changes come to be realized and addressed. Lynda Walsh (in this volume) suggests approaching societal actors in decentralized ways—through all available channels and moderated by a variety of actors—when communicating the dramatic changes our climate undergoes; while Jeroen Oomen (also in this volume) advocates the opposite—a centralized, governmental-led approach. However, is this really a discussion to be overly concerned with? It is well documented that different societal groups think, feel, and, in turn, act differently.

Anthropologists, who consider culture their defining concept, have provided empirical evidence that societal groups are bound by specific codes and values that are expressed semantically and materially in their respective environment.¹ The work of linguists has also been vital here. Although the “Cultural Ecology” theory—which was developed in the mid-twentieth century and holds that cultures are shaped by, and adapt to, their (changing) environments—has received criticism for the way it potentially oversimplifies social processes and communication amongst social groups, there is no doubt that societies are intricately bound up with their natural environments. Recently, other disciplines such as communication, political science, and education have brought new perspectives and approaches to the study of culture, focusing, for instance, on matters such as the self-interested power to influence what is seen as acceptable within a culture.²

For the purpose of this *Perspectives* issue, I am concerned with the role of culture and history in relation to local knowledge and values, as these are displayed in the interpretations and actions of distinct groups regarding climate change. I argue that it makes sense to communicate the climate in a manner appropriate to the given cultural-historical context and imaginary, and to the relevant semiotic and material views of the people in it.

- 1 Clifford Geertz, *The Interpretation of Cultures: Selected Essays* (New York: Basic Books, 1973); Alfred L. Kroeber and Clyde Kluckhohn, *Culture: A Critical Review of Concepts and Definitions* (Cambridge, MA: Peabody Museum, 1952); Julian H. Steward, *The Theory of Cultural Change: The Methodology of Multilinear Evolution* (Urbana: University of Illinois Press, 1955).
- 2 Judith N. Martin, Thomas K. Nakayama, and Lisa A. Flores, eds., *Readings in Intercultural Communication: Experiences and Contexts* (Boston, MA: McGraw Hill, 2002).

I will first take you on a little excursion to the origins of science and climate science. This is followed by an illustration of the role of climate science and the reactions of societal actors to it in different cultural settings. I will end with some reflections on climate-change communication

Science and Climate Science

Human beings have emerged out of a long evolutionary process. Social and cultural contacts, made possible by trade, shipping and transport, and war and conquest, paved the way for the emergence of free thought and eventually the beginning of science. The social division of labor created estates, classes, and castes, giving a certain amount of leisure to privileged individuals who gained the freedom to think and observe without the pressure of having to meet their immediate needs. Quickly, different schools of thought emerged, different understandings of the physical world and our role in it as humans, and diverse styles of producing and communicating knowledge.³ With the dramatic increase in scientific knowledge around the nineteenth century, more complex fields of expertise arose. This resulted in a process where knowledge that was formerly integrated (“Der Universalgelehrte”) became separated, and in the establishment of scientific disciplines. Conversely, it also affected the production and sharing of knowledge.⁴ In other words, science became powerful, with its power resting in the knowledge it produced, making it an authority in certain fields. For example, in Germany a “psychology of consciousness” was born and became firmly embedded in the new model of universities, in which “pure research” for its own sake became a social principle. In the English-speaking world, on the other hand, a trend towards the practical application of science arose.⁵

Climate science is the scientific study of climate within the field of atmospheric sciences. It is a relatively new discipline and it is heavily politicized. Disseminating climate forecasts and mitigation and adaptation options for the world (e.g., the IPCC reports) or for a region (e.g., the BACC reports for the Baltic Sea region) has become a huge

3 Hans Joachim Störig, *Kleine Weltgeschichte der Wissenschaft*, vol. 1 (Cologne: Parkland Verlag, 2004), 53–54.

4 Grit Martinez, Clara Armario, Susana Costas, Mitchell D. Harley, and Michael Paolisso, “Experiences and Results from Interdisciplinary Collaboration: Utilizing Qualitative Information to Formulate Disaster Risk Reduction Measures for Coastal Regions,” *Coastal Engineering* 134 (2017): 62–72, <https://doi.org/10.1016/j.coastaleng.2017.09.010> (accessed 14 December 2018).

5 “Science as an Institution,” *Psychistorian’s Weblog*, 6 October 2008, <https://psychistorian.wordpress.com/2008/10/06/science-as-an-institution/> (accessed 14 December 2018).

responsibility and a moral obligation for the various actors involved, from the scientists producing the knowledge to the social actors who consume, interpret, and apply it, including politicians, citizens, businesses, and media. How scientific knowledge about our changing climate is perceived, interpreted, used, or ignored differs across nations, regions, and places amongst the various “stakeholders.” Although climate science, like any other scientific discipline, cannot create values, it can undermine or support them, depending on whose interests and values are at stake.

Why Would One Ban Climate Science?

When it comes to climate change, many of the readers of this volume probably have “zero tolerance” for climate skeptics or climate deniers. Yet, there are many people who deny the existence of climate change, and some who even design laws to ban the application of knowledge produced by climate scientists.

The case of North Carolina’s Bill HB819 (Paragraph 113 A-107.1 Sea level policy)—a bill that forbids climate scientists to extrapolate future sea-level rises in North Carolina based on their current knowledge—is a prime example that can illustrate the entanglement between cultural values and policies.

The bill states that “No rule, policy, or planning guideline that defines a rate of sea-level change for regulatory purposes shall be adopted” and further designates that the Coastal Resources Commission “shall be the only State agency authorized to define rates of sea-level change for regulatory purposes” (§ 113A-107.1. Sea level policy). What is behind the bill? Why and in what cultural context was it issued?

North Carolina is a coastal state in the USA with over 19,000 kilometers of inland sound coastline and more than 500 kilometers of Atlantic Ocean coastline along the barrier islands. The state is highly vulnerable to sea-level rise and has a long and continuous history of battling shoreline erosion. Many houses are built in low-lying areas next to the sea on very vulnerable locations, some even within the sand dunes. The aesthetics of the location are generally considered the most valuable aspect of a house. Traditional fishing practices and lifestyles are declining, and shoreline areas, especially in Carteret County, have changed their character as permanent residential populations have been

replaced by a seasonal population (second-home owners) and later by different groups of year-round residents such as retirees. These are mostly white, well-off residents who tend to live along the oceanfront, often protected by costly safety measures while “in return” contributing significantly to the income of the county via their property taxes. This creates a dependency on local property taxes, is an important driver for local politics, and defines the voice of the political attitude towards climate change and discussions about sea-level rise.⁶ Today, North Carolina is known as a state where religious right-wing politicians and neoconservatives are in the majority. Many of them deny climate change as much as they disagree with a liberal policy. In 2012, the Board of Commissioners and the county manager of Carteret County adopted a resolution “Concerning North Carolina’s Sea Level Rise Reports, Policies and Monitoring Efforts,” where the concern was expressed that “exaggerated sea level rise projections and resulting policy/ rules can cause irreparable economic harm to the coastal plain of North Carolina by adversely changing land/ property values, uses, insurances, and construction/ maintenance costs of both private and public infrastructure.”⁷

The entanglement between property owners, county commissioners, and ultra-conservative policy makers in North Carolina came at the expense of climate-science findings, their communication, and the application of mitigation and adaptation measures. Finally, when speaking about climate change we should not forget the Thomas theorem, that it is not important whether the interpretation of a situation is correct or not: “If men define situations as real, they are real in their consequences.”⁸

However, this is only one explanation. In his classic 1893 essay,⁹ Frederick Jackson Turner argued that the American frontier promoted individualism and the possession of land and goods. Half a century later, Herbert Hoover used the phrase “rugged individualism” during his time as US president to refer to the idea that individuals should be able to rely on

6 Grit Martinez, Mike Orbach, Fanny Frick, Alexandra Donargo, Kelsey Ducklow, and Nathalie Morison, “The Cultural Context of Climate Change Adaptation: Cases from the U.S. East Coast and the German Baltic Sea Coast,” in *Social Dimensions of Climate Change Adaptation in Coastal Regions*, ed. Grit Martinez, Peter Fröhle, and Hans-Joachim Meier, vol. 5, Klimawandel in Regionen zukunftsfähig gestalten (München: oekom publishing, 2014), 92.

7 North Carolina Carteret County, Resolution Concerning North Carolina’s Sea Level Rise—Reports, Policies, and Monitoring Efforts. Adopted 19 March 2012. Available online: <http://www.nc-20.com/pdf/CountyofCarteret-SLR.pdf>. Accessed 14 December 2018.

8 W. I. Thomas and Dorothy Swaine Thomas, *The Child in America: Behavior Problems and Programs* (New York: Knopf, 1928).

9 Frederick Jackson Turner, “The Significance of the Frontier in American History,” essay published in the Proceedings of the Forty-First Meeting of the State Historical Society of Wisconsin, 1893.



Figure 1:
Atlantic Beach, North
Carolina, 2012. Photo
by the author.

themselves and that the government should not overreach when it comes to intervening in people's economic lives or the nation as a whole. We should not forget this historical context when trying to make sense of the bewildering sea-level rise policy that North Carolina's authorities implemented—not to justify it of course but to understand how it emerged and how to plan climate communication efforts wisely under such circumstances.

Interestingly enough, in the state of Louisiana, just a half day's drive away from North Carolina, recent climate data, especially storm and land-loss data, prompted the state government to the opposite reaction. Instead of banning policy makers from considering data and climate science altogether, officials took the first necessary steps to relocate the population to higher ground. This is neither mitigation nor adaptation; this is retreat, the "hottest" topic in Europe and hardly practiced anywhere yet. Recently, a "\$92.6 million award was split up into two projects, the implementation of the resilience policy framework known as Louisiana's Strategic Adaptations for Future Environments (LA SAFE) and the resettlement of the Isle de Jean Charles community located in coastal Terrebonne Parish."¹⁰

¹⁰ Resilient Cities (website), "Biography: Dakota Fisher," <https://resilientcities2018.iclei.org/speaker/dakota-fisher/> (accessed 25 April 2018).

Why Would One Express Uncontested Trust in Climate Science? The Story of “We Have to Adapt Immediately!”

In sharp contrast to how coastal policy makers in North Carolina ridiculed climate scientists, regional political decision makers on the German Baltic Coast take climate change and climate science quite seriously.¹¹ Based on information from a survey exploring the construction of perceptions, city and village mayors in Germany were inclined to perceive the threat of climate change as more imminent than climate scientists themselves were and, in turn, advocated for preventive strategies such as mitigation and adaptation measures.¹² Given the fact that sea-level rise for the German shores of the Baltic Sea is predicted to be rather conservative compared with the global outlook,¹³ this might come as a surprise to policy makers and scientists alike. When looking at the sociocultural context in which these perceptions are embedded, it might seem less surprising. Historically, scientists and academic bodies in general enjoy a high societal regard and a good reputation in Germany. If regional political decision makers in Germany seem to easily accept the fact that climate change puts their communities at risk and, in turn, demand prompt action—despite the fact that climate predictions for the region in which they live are rather conservative—this points to significant trust in climate science and in governance. Moreover, Germany has a “cradle-to-grave” welfare system ranging from governmental healthcare and pension schemes to an obligation for coastal protection and risk management. The process where the government takes care of citizens was mostly initiated in the aftermath of the founding of the German Empire in 1871. Only one year after the kingdom was formed the 1872, a “one in a thousand year flood” accelerated the process. After the devastating storm surge, public defense programs were systematically planned and implemented by the Prussian authorities along the German Baltic Sea coast. In addition to other development trajectories, these contributed to a culture of strong state welfare and trust in climate science in Germany.

11 Dennis Bray and Grit Martinez, “A Survey of the Perceptions of Regional Political Decision Makers concerning Climate Change and Adaptation in the German Baltic Sea Region,” *International BALTEX Secretariat Publications* 50 (2011).

12 See Dennis Bray, “A Survey of the Perspectives of Climate Scientists concerning Climate Change and Climate Science in the Baltic Sea Basin,” *International BALTEX Secretariat Publications* 48 (2010), and Bray and Martinez, “A Survey of the Perceptions of Regional Political Decision Makers.”

13 Marcus Reckermann, “Der Klimawandel und seine Ausprägungen im Ostseeraum unter besonderer Berücksichtigung der südlichen Küsten der Ostsee,” <http://docplayer.org/27304813-Der-klimawandel-und-seine-auspraegungen-im-ostseeraum-unter-besonderer-beruecksichtigung-der-suedlichen-kuesten-der-ostsee.html> (accessed 11 December 2018).

The following example of dealing with the climate-change-induced risk of sea-level rise in the community of Timmendorf Beach, illustrates how cultural knowledge and values shaped the self-understanding of the community, which became instrumental for the development of specific climate-change adaptation measures while at the same time documenting high trust in climate science and the authorities. In the Timmendorf Beach community, located near Hamburg, more than 4,000 inhabitants lived less than three meters above sea level until 2012. The state authority for coastal protection, supported by climate scientists, explained to the community that existing defense structures would not withstand the projected increase in extreme storm surges in the region. The authority put forward technical solutions to the municipality for raising the dyke. In the tourism-dependent community, however, there was fierce local resistance to this solution, which was considered visually intrusive. Instead, the community developed their own adaptation measures, a landscaped sea wall offering protection from storm surges whilst also preserving the sea view so essential for tourism. Congruence can be noted between the interests of coastal protection, adaptation to climate change, and tourism development. The rapid development of tourism in the region in the early twentieth century can be understood as a founding myth, enabling the community to quickly establish itself as a well-respected spa town and coastal resort. Tourism has always been a key driver of developments and represents the centerpiece of community identity. Apart from generating material wealth, this has also shaped the immaterial values of the community, promoting for example entrepreneurial thinking and investment in infrastructure.¹⁴

Communicating the Climate according to the Audience's Reality

As illustrated above, culturally filtered knowledge and values hold the potential to form reactions to climate change. In Germany, the general framing is that anthropogenic climate change is an “issue to be solved” (i.e., by reducing emissions or adapting to changing circumstances) through politics, science, technology, and environmentally friendly behavior. Although there is no perception of acute danger at the shores of the Baltic Sea yet, adaptation measures are widely accepted by residents, taken as reassuring evidence

¹⁴ Grit Martinez, Fanny Frick, and Kira Gee, “Socioeconomic and Cultural Issues in the Planning, Implementation, and Transfer of Adaptation Measures to Climate Change: The Example of Two Communities on the German Baltic Sea Coast,” in *Social Dimensions of Climate Change Adaptation in Coastal Regions*, ed. Grit Martinez, Peter Fröhle, and Hans-Joachim Meier, vol. 5, *Klimawandel in Regionen zukunftsfähig gestalten* (München: oekom publishing, 2014), 203–19.

that the authorities are managing the risks. While some opposing positions do exist, there is not as much dispute about climate change as in the USA, where the scientific basis used to estimate sea-level rise is an issue of political contestation.

In Germany's rather open, problem-solving societal atmosphere, communicating the climate and appropriate mitigation or adaptation measures can come in many formats (participatory bottom-up, top-down, spontaneous, social-norm campaigns, and others), but certainly is not a matter of a centralized or a decentralized approach. It is rather an issue of fitting the approach into the knowledge and values in the place-based context of a community or institution.

In contrast, in the USA, climate change has become a politically charged cleavage between Republicans and/or conservatives and Democrats and/or liberals. On the other hand, at the sub-federal level, many US states have made room for climate policies in the recent past. US scientists also used to be the leaders in the production of climate-science information.¹⁵

Diverse cultural embedded responses to climate changes require a better understanding about how the absorption of knowledge functions in a given societal context and which interventions can prompt action. Regardless of whether our audiences are decision makers, experts, or lay people, knowledge, especially climate knowledge, is only one of the many components that together form audiences' views on climate change. This knowledge can be simplified or distorted, repressed or overemphasized, depending on the recipient's economic, social, and political culture. The footprint of climate-change communication is visible. Museum exhibitions, newspapers, novels, theatre plays, films, and other media discuss our changing climate. Yet these cultural industries are often reduced to serving as a channel to communicate the possible societal implications of our changing climate. As Bukeley points out, "climate politics are cultural politics . . . [and] adopting this perspective requires that we think of the nature and workings of power as always and already cultural, and of culture—the meanings, artifacts and practices that animate society—as intimately political."¹⁶ In other words, whether stakeholders are

15 Bernd Sommer, ed., *Cultural Dynamics of Climate Change and the Environment in Northern America*, *Climate and Culture* 3 (Leiden: Brill), 9.

16 Harriet Bulkeley, Matthew Paterson, and Johannes Stripple, eds., *Towards a Cultural Politics of Climate Change* (Cambridge: Cambridge University Press, 2016).

approached using a form of communication in which science is centered or decentered is not an issue we need to be overly concerned with, as long as we and others communicate the climate to our audiences in a manner appropriate to their cultural context, and as long as we are truly interested in a joint social-learning process towards changing consumption patterns and lifestyles. Even though climate change is a global threat, most action is still local and regional, and it has to be taken by those who inhabit and govern the world regions.

Suggested Further Reading

Bray, Dennis, and Grit Martinez. "Climate Science and Communication for the Baltic Sea Region." In *Second Assessment of Climate Change for the Baltic Sea Basin*, edited by the BACC Author Team, 481–88. Heidelberg: Springer International Publishing, 2015.

Cleaver, Frances, and Luke Whaley. "Understanding Process, Power, and Meaning in Adaptive Governance: A Critical Institutional Reading." *Ecology and Society* 23, no. 2 (2018): 49. <https://doi.org/10.5751/ES-10212-230249>.

Dove, Michael, and Carol Carpenter, eds. *Environmental Anthropology: A Historical Reader*. Malden, MA: Blackwell Publishing, 2008.

Leiserowitz, Anthony. "Communicating the Risks of Global Warming: American Risk Perceptions, Affective Images, and Interpretive Communities." In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Susanne C. Moser and Lisa Dilling, 44–63. Cambridge: Cambridge University Press, 2007.

Martinez, Grit, Peter Fröhle, and Hans-Joachim Meier, eds. *Social Dimensions of Climate Change Adaptation in Coastal Regions*. Vol. 5, Klimawandel in Regionen zukunftsfähig gestalten. München: oekom publishing, 2014.

Martinez, Grit, and Michael J. Paolisso. "Cultural Dynamics of Adaptation to Climate Change: An Example from the East Coast of the US." In *Cultural Dynamics of Climate Change and the Environment in Northern America*, edited by Bernd Sommer, 304–22. Climate and Culture 3. Leiden: Brill, 2015.

Martinez, Grit, and Mike Orbach. "Küstenschutz—Europa und USA im Vergleich." In *Jahrbuch Ökologie 2015. Re-Naturierung. Gesellschaft im Einklang mit der Natur*, edited by Heike Leitschuh, Gerd Michelsen, Udo Ernst Simonis, Jörg Sommer, and Ernst Ulrich von Weizsäcker, 215–22. Stuttgart: S. Hirzel, 2014.

- Martinez, Grit. "Anpassung an den Klimawandel: Einblicke in den 'American Way of Adaptation.'" *Meer und Küste*, no. 3 (2012): 36–37.
- Martinez, Grit, Livia Bizikova, Daniel Blobel, and Rob Swart. "Emerging Climate Coastal Adaptation Strategies and Case Studies Around the World." In *Global Change and Baltic Coastal Zones*, edited by Gerald Schernewski, Jacobus Hofstede, and Thomas Neumann, 155–76. Coastal Research Library 1. Dordrecht: Springer, 2011.
- Ratter, Beate M. W, and Kira Gee. "Heimat—A German Concept of Regional Perception and Identity as a Basis for Coastal Management in the Wadden Sea." *Ocean & Coastal Management* 68 (November 2012): S127–137, <https://doi.org/10.1016/j.ocecoaman.2012.04.013>.
- Costas, Susana, Oscar Ferreira, and Grit Martinez. "Why Do We Decide to Live with Risk at the Coast?" *Ocean & Coastal Management* 118, Part A (December 2015): 1–96.