

## Creative (Climate) Communications

Conversations about climate change at the science–policy interface and in our lives have been stuck for some time. This handbook integrates lessons from the social sciences and humanities to more effectively make connections through issues, people and things that everyday citizens care about. Readers will come away with an enhanced understanding that there is no “silver bullet” to communications about climate change; instead, a “silver buckshot” approach is needed, where strategies effectively reach different audiences in different contexts. This tactic can then significantly improve efforts that seek meaningful, substantive and sustained responses to contemporary climate challenges. It can also help to effectively recapture a common or middle ground on climate change in the public arena. Readers will be equipped with ideas on how to harness creativity to better understand what kinds of communications work where, when, why and under what conditions in the twenty-first century.

**Maxwell Boykoff** is the Director of the Center for Science and Technology Policy, which is part of the Cooperative Institute for Research in Environmental Sciences at the University of Colorado Boulder. He is also an Associate Professor in the Environmental Studies program at the University of Colorado. Max has ongoing interests in cultural politics and environmental governance; science and environmental communications; science–policy interactions; political economy and the environment; and climate adaptation. He has authored many peer-reviewed journal articles, book chapters and books on these subjects, including *Who Speaks for the Climate? Making Sense of Media Reporting on Climate Change* (2011, Cambridge University Press).

“When it comes to science communication, no topic is more fraught with politics and pitfalls than climate change. Max Boykoff deftly navigates the minefield of climate communication by providing a range of informed perspectives and insights into how to communicate the science and its implications. *Creative (Climate) Communications* is a great resource for practitioners and novices alike.”

Michael E. Mann, Distinguished Professor, Penn State University and co-author  
of *The Madhouse Effect*

“The world failure to act on climate change is not primarily the result of a failure to communicate. But ineffective communication does make it easier for denial and disinformation to reign. This important book helps us to understand what works and what doesn’t work in climate communication, and why. A must-read for anyone involved in this issue.”

Naomi Oreskes, Harvard University

“I appreciate the intent of this book: to make “a creative shift from ‘turning on each other’ to ‘turning to each other’ for support and collaboration.” Nothing short of that will be needed to get through the climate crisis. This is a book that makes real and practical the “cultural turn” in climate communications and asks us to tap our oldest and most unique human capacities to do so: our emotions and our imagination to connect with each other and make sense of the transformative journey we have embarked upon. In doing so, it implores us to be authentic, ambitious, accurate, imaginative and bold in climate communications and this book is just that. A great accomplishment!”

Susanne Moser, independent scholar and consultant

“Effective climate communication is an emerging area that has lacked an authoritative text – until now! This innovative, accessible book unites cutting-edge theory with practice. It synthesizes the peer-reviewed literature, existing approaches to effective climate communication, and representations of climate change in the media. If you’re looking to be informed by the latest theory, research, and practice in climate engagement and outreach, this is a must-read.”

Katharine Hayhoe, Texas Tech University

“With this book Boykoff splendidly articulates the creative thinking and approaches necessary to find common ground and move forward in our engagement with climate change. In an exemplary and engaging style of writing, Boykoff moves with elegant ease and superb scholarly insight through a wealth of research, comment and opinion to interrogate the growing body of knowledge on the successes, failures and challenges of climate change communication. And he proceeds – with an admirable command of contemporary, historical and philosophical context – to offer clear and optimistic guidance on promising pathways to effective engagement on climate change.”

Anders Hansen, University of Leicester

Creative (Climate) Communications  
Productive Pathways for Science, Policy and Society

MAXWELL BOYKOFF  
*University of Colorado Boulder*



CAMBRIDGE  
UNIVERSITY PRESS

Cambridge University Press  
978-1-107-19538-7 — Creative (Climate) Communications  
Maxwell Boykoff  
Frontmatter  
[More Information](#)

CAMBRIDGE  
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom  
One Liberty Plaza, 20th Floor, New York, NY 10006, USA  
477 Williamstown Road, Port Melbourne, VIC 3207, Australia  
314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre,  
New Delhi – 110025, India  
79 Anson Road, #06–04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.  
It furthers the University's mission by disseminating knowledge in the pursuit of  
education, learning, and research at the highest international levels of excellence.

[www.cambridge.org](http://www.cambridge.org)  
Information on this title: [www.cambridge.org/9781107195387](http://www.cambridge.org/9781107195387)  
DOI: 10.1017/9781108164047

© Maxwell Boykoff 2019

This publication is in copyright. Subject to statutory exception  
and to the provisions of relevant collective licensing agreements,  
no reproduction of any part may take place without the written  
permission of Cambridge University Press.

First published 2019

Printed in the United Kingdom by TJ International Ltd. Padstow Cornwall  
*A catalogue record for this publication is available from the British Library.*

ISBN 978-1-107-19538-7 Hardback  
ISBN 978-1-316-64682-3 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of  
URLs for external or third-party internet websites referred to in this publication  
and does not guarantee that any content on such websites is, or will remain,  
accurate or appropriate.

I dedicate this book to Monica Boykoff, Elijah Boykoff and Calvin Boykoff.

I also dedicate this work to the memory of Max Thabiso Edkins (1983–2019).

## Contents

---

	<i>Preface: Creativity, Collaboration, Confrontation</i>	page ix
	<i>Acknowledgments</i>	xiv
<b>1</b>	<b>Here and Now</b>	1
<b>2</b>	<b>How We Know What We Know</b>	26
<b>3</b>	<b>Do the Right Thing</b>	54
<b>4</b>	<b>Ways of Learning, Ways of Knowing</b>	93
<b>5</b>	<b>It's Not You, It's Me . . . Well It's Actually Us</b>	130
<b>6</b>	<b>Academic Climate Advocacy and Activism</b>	165
<b>7</b>	<b>Silver Buckshot</b>	190
<b>8</b>	<b>Search for Meaning</b>	218
	<i>References</i>	240
	<i>Name Index</i>	294
	<i>General Index</i>	299



## Preface

### *Creativity, Collaboration, Confrontation*

---

Climate change has become a defining symbol of humans' collective relationship with the environment. Since the 1990s, climate change has become a high-stakes, high-profile and highly politicized venture involving science, policy, culture, psychology, environment and society. Confronting climate change is essentially a collective action problem. Addressing climate change gets to the heart of how we live, work, play and relax in modern life, shaping our everyday lives, lifestyles, relationships and livelihoods.

The bad news is that this is a daunting venture, bigger than any one particular way to solve it or one particular way to even communicate effectively about it. The good news is that there are many ways that individuals, collectives, businesses, organizations and institutions are stepping into the challenge and working in different ways to creatively find resonant ways to connect with different sectors of society. Through new and enterprising communication approaches, these address a range of objectives. Among them, goals of communication efforts include improving education and literacy, helping mobilize more effective advocacy efforts, prompting individual- to collective-scale awareness raising and behavior change, and promoting cultural change. These are burgeoning spaces of engagement. Today, many people, collectives, businesses and institutions are creating content, giving advice on what content to create and researching the efficacy of this content for different segments of public citizens.

In this book, I address key themes in creative climate communications as I track, appraise and evaluate various creative communications on climate change. I highlight how and why certain approaches find success with selected audiences as I critique approaches that fall short in a variety of critical ways. This work is motivated in part by an argument put forward by Dan Kahan (2015a) to gain “satisfactory insight” into the science of science



communication through scientific approaches to evaluation (p. 1). Dan Kahan has taken up the “science of science communication” while this project takes a different tactic through creative climate communications. Moreover, Stephen Schneider (2001) – one of the most effective climate communicators in the past decades – argued for moving beyond platitudes to show, through detailed empirical examples, what works in different circumstances. Similarly, Dan Kahan and Katherine Carpenter (2017) have commented that empirical research is “essential to distinguish the mechanisms that are true from the vast set of those that are merely plausible but untrue, lest researchers and real-world communicators drown in a veritable sea of just-so stories” (p. 310).

Reckless speculation masked as scholarship can be damaging; however, there is a danger of too narrowly defining legitimate scholarship through quantitative (over qualitative) approaches to research in these areas. As such, while this book values and highlights empirical research into these arenas of creative climate communication, it also values storytelling and other ways of examining and knowing about these phenomena. For example, it is a mistake to impose hypothesis testing on creative artists and practitioners as the requisite pathway to knowing what communication strategies are effective in selected audiences. To do so is to alienate a key set of communicators needed to confront these communication challenges. In this book, I therefore take up the position that hypothesis testing and storytelling both can contribute substantively, and at times complementarily, to better understand the efficacy of creative climate communications as both arts and the sciences together.

This project is also motivated in part by comments from Amy Luers (2013), who has also called on researchers to “evaluate what works and share what we learn” ( p. 13). In that spirit, I deliberately deploy extensive citations to take advantage of this long-form book artefact and provide opportunities for you, the reader, to follow up on research, ideas, concepts and cases that pique your interest. While this might be a little cumbersome for the casual reader, I hope it ultimately makes this text a more useful resource for all readers. Misplaced name-dropping (and hero worship) can be both distracting and annoying. But I aim for this pathway of crediting many researchers and practitioners by name to help readers more capably dig into how they may then choose to approach their own communications efforts. I also recount numerous research projects that I have been involved in in recent years. I hope that this cataloguing – evidenced by an extensive reference list at the end of this volume – can catalyze further explorations and research endeavors into these spaces. This pathway also aspires to help you to see how diverse and multimodal approaches have found success in creatively communicating about climate change on multiple scales with different people in the public arena.

Many scholars (including myself) have (vigorously) researched and debated the extent to which media representations and portrayals are potentially conduits to attitudinal and behavioral change. However, there remains a dearth of systematic analyses regarding how creative climate communications elicit varying levels of awareness and engagement. Beyond examining the mechanisms of news media communications on climate change (Boykoff, 2011), we need to continue to expand our experimentation with ways that conversations about climate change can become present and meaningful in our everyday lives. Adam Corner from the Climate Outreach in the United Kingdom (UK) has commented, “There’s a real kind of absence of inspiring programming or engagement to go with all this amazing science we’re producing” (Sobel Fitts, 2014).

Creative and participatory communications and representations can be ignored or dismissed in shaping climate science, governance and everyday cultural politics at our peril. Denigrating views and demeaning utterances about creative climate communications as a sideshow or mere “jawboning” are the views of yesteryear. Through interdisciplinary engagements, this book takes stock of lessons learned from the past few decades of research and practices, in order to inform effective ways to move forward. I have therefore endeavored to write a cogent and central text to anchor us in creative climate communications research and practice going forward.

In the chapters that follow, I wrestle with various dimensions of climate communication, exploring ways to harness creativity to better understand what endeavors work where, with whom (what audiences), when and why. I explore elements and realities that constitute shared twenty-first-century communications ecosystems. In Chapter 1, I lay a foundation for effective communication by understanding intersecting dimensions of intended and perceived audiences. I also consider elements of trust along with who might be creative and effective messengers in the context of a post-truth Anthropocene era. After I initially explore these notions, Chapter 2 then considers how we have come to know what we know about climate change. In this chapter, I explore the value of narratives and stories in meeting people where they are and finding common ground on climate change. I also contend with an argument invoked through the title: effective communications about climate change sometimes may importantly involve *not* invoking the term “climate” or “climate change” explicitly. In Chapter 3, I interrogate how and why the deficit model of communication persists, and how this persistence stands in the way of more effective and creative climate communication. The chapter is animated by considerations of how dissent from climate contrarian (or “denier”) voices persist and find traction. I make the case that dominant information-deficit model approaches

to climate communication counterproductively provide oxygen to breathe more life into counterproductive claims. An expanded approach can then stifle the efficacy of outlier assertions. In Chapter 4, I focus on ways in which experiential, visceral, emotional and aesthetic learning informs scientific ways of knowing about climate change. To illustrate, I explore how comedy can be an effective vehicle for creative climate communications. Through Chapter 5, I consider the importance of framing in context. I explore how framing for selected audiences has functioned through the “More than Scientists” collaboration with “Inside the Greenhouse.” I also look at different scalar approaches where climate communication seeks to create change. This offers opportunities to consider consumption issues and the oft-focused locus of agency at the individual. It also provides a good space to consider climate communication strategies such as “consensus messaging.” In Chapter 6, I analyze the flavors of climate advocacy in today’s highly politicized communications environment. Here I trace a current engagement gap, drawing on survey research and exploring the influence of certain climate science communicators to better make sense of the promises and pitfalls of advocacy through climate communications. In Chapter 7, I situate the value of experimentation in these areas of creative climate communication. I explore numerous examples of forays into these spaces and then assemble features on a “road map” along with “rules of the road” to help guide ongoing creative climate communications. In Chapter 8, I ponder how younger people today are grappling with these issues and consider how they may face them in the decades to come. I link these inquiries to intersecting routes of communication about decarbonization and sustainability. In taking up this set of considerations, I pull in intergenerational and intragenerational equity questions about who has a voice and how, going forward in creative (climate) communications.

As the book proceeds, case study examples in Chapters 4 and 5 reveal that I am not only an (armchair) analyst and researcher but also a participant in experimentation, mainly through the Inside the Greenhouse (ITG) project at the University of Colorado Boulder. With Professor Beth Osnes from the Theatre Department and Professor Rebecca Safran from the Department of Ecology and Evolutionary Biology, we cofounded ITG in 2012. We designed ITG to facilitate and support creative storytelling about issues surrounding climate change through video, theatre, dance and writing to help connect wider and new audiences to climate change in resonant and meaningful ways. In the process, we have also worked to build competence, confidence and capacity of undergraduate and graduate students as emergent communicators and leaders in the new millennium. As such, this project has sought to create cultures of participation and productive collaboration among students, interfacing with the

larger community and world in retelling the stories of climate change and to become meaningful and sustaining content producers. In 2018, Professor Phaedra Pezzullo from the Department of Communication joined the project, adding insights from her experiences and research. The chosen title of the ITG initiative acknowledges that, to varying degrees, we are all implicated in, part of and responsible for greenhouse gas emissions into the atmosphere. Through the development and experimentation with creative modes to communication, we treat this “greenhouse” as a living laboratory, an intentional place for growing new ideas and evaluating possibilities to confront climate change through a range of mitigation and adaptation strategies. Through commitments to meet people where they are on climate change, the ITG project draws on students’ strengths and perspectives to consider the complexity of climate change in new ways. In so doing, ITG offers direct links between the natural and social sciences and arts to communicate, imagine and work toward a more resilient and sustainable future.

Overall, by systematically scrutinizing these linkages and fissures in awareness as well as engagement with climate mitigation and adaptation themes, I hope this book will be valuable to you: researchers, students, practitioners and members of the public citizenry who are interested in **creatively** and **collaboratively confronting** persistent (climate) communication challenges and improving climate communication outcomes.

## Acknowledgments

---

I am grateful to networks of collaborations and support that have made the writing of this book possible. Among them, direct collaborators are Beth Osnes, Rebecca Safran, Justin Farrell and David Oonk. Parts of Chapter 3 come from work coauthored with Justin Farrell, forthcoming through wider collaboration with Nuria Almiron at Universitat Pompeu Fabra in Barcelona, Spain. Portions of Chapter 4 come from work coauthored with Beth Osnes. Portions of Chapters 4 and 5 come from collaboration with Rebecca Safran and Beth Osnes through the Inside the Greenhouse project. Parts of Chapter 6 come from work coauthored with David Oonk.

Secondarily, I have many colleagues to thank who have (often selflessly) helped support research therein. They include Bienvenido Leon, for supporting early thinking on this project during my 2015 sabbatical at the University of Navarra in Pamplona, Spain. I also thank Jennifer Fluri and Jessie Clark for prompting writing in Chapter 4 through their organization of American Association of Geography (AAG) sessions on “Humor Amid Adversity” and the resultant 2018 special issue of the journal *Political Geography*. Thanks as well to *Political Geography* associate editor Kevin Grove for his measured handling of the process of review for the manuscript. I thank Mike Goodman, Julie Doyle and Nathan Farrell for catalyzing the writing of Chapter 6 through their planning and coordination of a special issue on “Everyday Climates” in the journal *Climatic Change*. Thanks as well to colleague Amanda Carrico for her help in the early stages of development of the research embedded in Chapter 6. And thanks to Michael Bruggeman, Stefanie Walter, Fenja de Silva-Schmidt, Ines Schaudel and others in CliSAP (the Cluster of Excellence Integrated Climate System Analysis and Prediction) at Universität Hamburg who led a 2017 “Re-defining the Boundaries of Science and Journalism in the Debate on Climate Change” workshop where I presented a working version of Chapter 4. I also appreciate and thank Eric Michelman from

the Climate Change Education Project for his partnership through More Than Scientists that influenced work described in Chapters 4 and 5. And I thank Brian Daniell and Vicki Bynum for their support of Inside the Greenhouse endeavors, with consequent perspectives, insights and outputs that show up throughout the book.

I also thank colleagues at the University of Illinois, Susan Koshy and Trevor Birkenholtz in particular, for hosting the “Unnatural Disasters” conference; the University of Chicago, Elizabeth Chatterjee and Greg Lusk in particular, for hosting the “Neubauer Collegium for Culture and Society on Climate Science and Democracy”; the Colorado School of Mines, Adrienne Kroepsch and Shannon Mancus in particular, for hosting me in the “Hennebach Lecture Series in the Humanities, Arts and Social Sciences Division”; the Universitat Pompeu Fabra, Departament de Comunicació, in Barcelona, Spain, Nuria Almiron in particular; and Reading University, Catriona McKinnon and Mike Goodman in particular, for hosting the “Communicating Climate Change in Troubled Times” workshop. At these conferences, guest lectures and workshops in 2018, I presented drafts of various portions of the manuscript for this book.

Thanks go to the many colleagues and co-conspirators who have given permission to reproduce their figures, schematics and photos in this volume. These people include Sarah Barfield Marks, Una Chaudhuri, William Daniels, Fritz Ertl, Gordana Filipic, Madeleine Finlay, Giovanni Fussetti, Matthew Goldberg, Lisa Goulet, Justin Brice Guariglia, Meaghan Guckian, Abel Gustafson, Ole Christoffer Haga, Iain Keith, Oliver Kelihammer, Anthony Leiserowitz, Heather Libby, Ed Maibach, Michael Mann, Ezra Markowitz, Andrews McMeel, Julia Metag, Sarah K. Miller, Ami Nacu-Schmidt, Beth Osnes, Amanda Overton, Hannah Phang, Bill Posters, Tejopala Rawls, Seth Rosenthal, Mike Schäfer, Tom Toles, Solitaire Townsend, Sander van der Linden and Marina Zurkow.

I also appreciate the collegiality of co-workers including Mike Goodman, Phaedra Pezzullo, Lisa Dilling, Bruce Goldstein, Steve Vanderheiden, Cassandra Brooks, Eve Hinckley, Carol Wessman, Heidi Vangenderen, Pete Newton, Suzanne Tegen, David Ciplet, Matthew Burgess, Ben Hale, Björn Ola-Linner, Victoria Wibeck, Roger Pielke, Jr., Steve Nerem, Waleed Abdalati, Christine Wiedinmyer, Mike Hardesty, Jen Kay, Katy Human, Robin Moser, Rebecca Stossmeister, Dave Zakavec, Nate Campbell, Matthew Price, Abigail Ahlert, Ryan Harp, Aditya Ghosh, Pablo Suarez, Janot Mendler de Suarez, Katie Chambers, Denise Fernandes, Emily Nocito, Jerry Peterson, Robert Ferry, Alice Madden, Matt Druckenmiller, Fernando Briones, Ryan Vachon, David Kang, Rob Schubert, Linda Pendergrass, Emily Coren, Josh Wolfe,

Anne Gold, Erin Leckey, Susan Lynds, Susan Sullivan, Michael Kodas, Chuks Okerekee, Diana Liverman, Paul Chinowsky, Noah Finklestein, Dustin Mulvaney, Paty Romero-Lankau, Brian Gareau, Tara Pisani-Gareau, Jill Harrison, Jill Litt, and Susan Avery. Thanks as well to all the students in the “creative climate communications” classes who bravely performed in the “Stand Up for Climate Change” comedy events in 2016 and 2017. Thanks to the teaching and support teams for those experiences as well as the More Than Scientists work including Dan Zietlow, Scott Gwozdz, William “Max” Owens, Garrett Rue and Barbara MacFerrin.

I also thank Ami Nacu-Schmidt at the University of Colorado Boulder for her great help throughout, from securing permissions for images, figures and schematics to designing the book cover. And I thank James Balog and the Earth Vision Trust for their contribution of the photograph represented on the front cover. In addition, I thank Jennifer Katzung for her great support and encouragement during the process, and for keeping our Center for Science and Technology Policy Research (CSTPR) buzzing productively during some of my necessarily cloistered writing times. Celeste Maldonado and Andrew Benham from CSTPR deserve my gratitude as well for their support and assistance with various aspects of this project, including figure designs and reference formatting.

Thanks as well go out to Matt Lloyd, Lisa Bonvissuto, Theresa Kornak, Gayathri Tamilselvan, Zoë Pruce, those involved in the anonymous peer review and others at Cambridge University Press for their gracious assistance and support throughout the process.

I have many to thank in my personal support system including Monica Boykoff, Susan Schoenbeck, Leah Moore, Thomas Boykoff, Gitta Ryle and my sons Elijah and Calvin. Thanks to Monica, Elijah and Calvin too for the practical (yet somewhat sad) birthday gift of a real office chair to get this book manuscript over the line to completion.

In addition to these key individuals, I also thank many groups and programs (with associated people) that have supported and catalyzed my writing of this book. In particular, I thank the Leadership Education for Advancement and Promotion (LEAP) Growth Grant at the University of Colorado. I also thank the University of Colorado Hazel Barnes flat in London, England for support during some field research and writing for this project. And I thank the ATLAS Black Box Experimental Studio in the Center for Media, Arts and Performance as well as the Program Council and Old Main at the University of Colorado for hosting the comedy events. I also extend thanks to the Spanish Ministry of Science and Technology for travel support associated with presentation of work appearing in Chapter 4 at the 2017 Association of American Geographers

meeting. And thanks to the International Collective on Environment, Culture and Politics (ICECaPs) and the Media and Climate Change Observatory (MeCCO) including key folks such as Patrick Chandler, Olivia Pearman, Jeremiah Osbourne-Gowey, Lucy McAllister, Marisa McNatt, Meaghan Daly, Kevin Andrews, Lauren Gifford, Midori Aoyagi-Usui, and Rogelio Fernández-Reyes. I thank a growing group called the Boulder Faculty Science and Education Committee, with Shelly Miller, Kris Karnauskas, Jim Meiss, Seth Hornstein, Steve Nerem and Sam Flaxman as particular inspirations. Thanks as well to the Albert A. Bartlett Science Communication Center, with inspiring people such as Shelly Sommer, Marda Kim, Wynn Martens and Brett KenCairn.

I also appreciate the influence that several organizations had on my work in this book. These include the Cooperative Institute for Research in Environmental Sciences (CIRES), the Center for Science and Technology Policy Research (CSTPR) and the Environmental Studies Program at the University of Colorado Boulder; Grounds Guys snowplowing; the Environmental Change Institute (ECI); and the School of Geography and the Environment (SoGE) at the University of Oxford, and the International Order of Oddfellows Lodge #9 in Boulder, Colorado.