

# CSTPR

## ANNUAL REPORT

January 1 - December 31, 2015

Working to improve how

# SCIENCE



# TECHNOLOGY

policies address societal needs, through  
research, education and service

# CENTER & FOR SCIENCE & TECHNOLOGY POLICY RESEARCH

CENTER FOR SCIENCE AND TECHNOLOGY POLICY RESEARCH  
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Annual Report  
January 1 - December 31, 2015

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Cover photo: The Earth seen from space as the sun rises. iStock, artcasta.



University of Colorado **Boulder**



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# INTRODUCTION

The Center for Science and Technology Policy Research (CSTPR) was established within CIRES in 2001 and approved as a Center in 2002 to conduct research, education, and outreach at the interface of science, technology, and the needs of decision makers in public and private settings. The Center focuses considerable attention on the intersection of the environment and society, where it applies the social and policy sciences to problems of environmental change, management, and sustainability. The Center's research is integrated with the ongoing activities of CIRES, NOAA, CU-Boulder, and the broader science and technology community.

## LETTER FROM THE DIRECTOR



As 2015 ends and 2016 begins, we here in the Center for Science and Technology Policy Research (CSTPR) recognize that we are in both urgent and opportune times. Science, technology, and policy issues are as pressing, dynamically changing and important as ever.

Related challenges proliferate, and we in CSTPR press ahead through various research, teaching and service

projects to confront the urgent needs to improve our understandings of how the quality of decision-making can catalyze and enhance webs of interaction between science, technology, politics, policy and society. In short, this is a critical juncture in our history. More now than ever there is tremendous need for honest brokers like CSTPR at the University of Colorado-Boulder who can develop, maintain and continue active collaborations so that scientific work finds traction in political, cultural and social arenas.

Contemporary demands are such that science-technology-policy research is vital to understanding and improving how scientific ways of knowing can be more readily 'usable' for wider communities of researchers, practitioners and everyday people.

I have been a part of CSTPR since I arrived at CU-Boulder in Fall 2009, and I am honored to have just become Director of the Center in March 2016. Stepping into this role, I am excited for us to build upon foundational leadership from departing CSTPR Director Roger Pielke Jr. (2001-2007; 2013-2016) and Bill Travis (2008-2013), and the sustained efforts of the full CSTPR team, who have worked to make a significantly positive mark on science-technology-policy considerations over the past 15 years of the Center.

Going forward, we have begun to work to fortify our contributions to these core areas and develop new research initiatives as we increase our visibility and utility on the campus of CU-Boulder and to wider science-policy

research and practitioner communities. As we increase our 'footprint' in science-technology-policy issues, we have been mindful of the importance of staying true to our identity as a globally-recognized and top research center improving how science and technology policies and politics address societal needs.

I am excited about this next chapter for CSTPR, as our CU-Boulder and wider Boulder research community has incomparable talents, with great potential for meaningful and significant collaborations at the science-policy interface. Research, activities, collaborations, events and

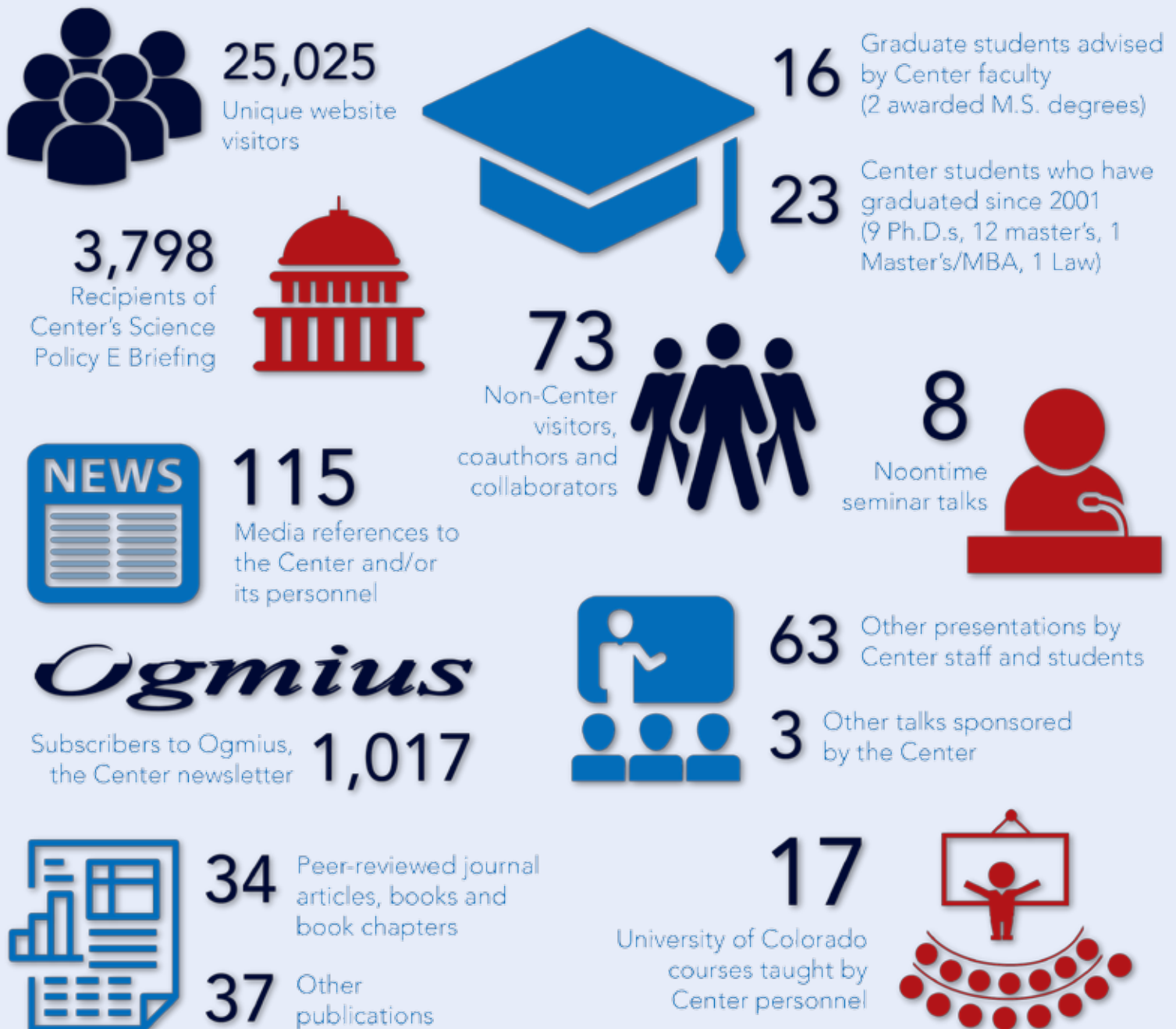
other endeavors in this 2015 annual report reflect the great energy and ambition of the CSTPR community, from Core Faculty and Research Associates to Affiliates, Graduate and Undergraduate students, Postdoctoral researchers and members of Staff.

Launching from a productive and fruitful 2015, we are looking forward to a great 2016. Enjoy reading through this report and getting a sense of some of the many activities ongoing in CSTPR.

Max Boykoff, Director  
[boykoff@colorado.edu](mailto:boykoff@colorado.edu)

## THE CENTER AT A GLANCE

### FOR THE PERIOD JANUARY 1 - DECEMBER 31, 2015







# 2015 HIGHLIGHTS

Maxwell Dalaba of the Navrongo Health Research Center leads a focus group discussion and improved cookstove auction in Ghana's Kassena-Nankana Districts. This work is part of the project *Prices, Peers, and Perceptions (P3): Improved Cookstove Research in Northern Ghana* (PI: Katie Dickinson), which is funded by the NSF Economics program and the NIH's Clean Cooking Implementation Science Network. Photo: Katie Dickinson.

## RESEARCH HIGHLIGHTS

Center researchers had a very productive year, adding significant findings in the areas of wildfires and floods, climate change adaptation and vulnerability, rulemaking, decision making, and improved cookstove use and impacts. Projects generated the following journal articles and reports in 2015 (see the Appendix for complete citations). The articles that received special recognition are indicated below. Titles are organized by Center research themes:

### EXTREME EVENTS AND DISASTERS

- Information, Resources, and Management Priorities: Agency Outreach and Mitigation of Wildfire Risk in the Western United States, Deserai A. Crow, Lydia A. Lawhon, Elizabeth Koebele, Adrienne Kroepsch, Rebecca Schild, and Juhi Huda

Deserai Anderson Crow, along with her co-authors, received the Charles Redd Award for Best Paper on the Politics of the American West for this paper.

- Wildfire Outreach and Citizen Entrepreneurs in the Wildland-Urban Interface: A Cross-Case Analysis in Colorado, Elizabeth Koebele, Deserai A. Crow, Lydia A. Lawhon, Adrienne Kroepsch, Rebecca Schild & Katherine Clifford

- Catching Fire? Social Interactions, Beliefs, and Wildfire Risk Mitigation Behaviors, Katherine Dickinson, Hannah Brenkert-Smith, Patricia Champ, and Nicholas Flores
- Learning Processes, Public and Stakeholder Engagement: Analyzing Responses to Colorado's Extreme Flood Events of 2013, Elizabeth A. Albright and Deserai A. Crow

Deserai Anderson Crow and Elizabeth A. Albright received the 2015 Sabatier Award for Best Conference Paper in Science, Technology and Environmental Politics for this paper.

### CLIMATE CHANGE

- The Dynamics of Vulnerability: Why Adapting to Climate Variability Will Not Always Prepare Us for Climate Change, Lisa Dilling, Meaghan E. Daly, William R. Travis, Olga V. Wilhelmi, and Bobbie Klein.

This paper was the subject of a Research Highlight in *Nature Climate Change*.

- Climate Change Adaptation in Mumbai, India, Emily Boyd, Aditya Ghosh, and Maxwell T. Boykoff
- Colorado Climate Change Vulnerability Study, Eric

Gordon and Dennis Ojima (eds). Bobbie Klein coauthored Chapter 3 (Demography, Land Use, and Economics); Chapter 5 (Water Sector); Chapter 8 (Transportation Sector); and Chapter 11 (Moving Toward Preparedness)

- What Stakeholder Needs Tell Us About Enabling Adaptive Capacity: The Intersection of Context and Information Provision across Regions in the United States, Dilling, L., K. Lackstrom, B. Haywood, K. Dow, M. C. Lemos, J. Berggren, and S. Kalafatis
- Dominant frames in legacy and social media coverage of the IPCC Fifth Assessment Report, Saffron O'Neill, Hywel T. P. Williams, Tim Kurz, Bouke Wiersma and Maxwell Boykoff
- Communicating in the Anthropocene: The Cultural Politics of Climate Change News Coverage around the World, Maxwell T. Boykoff, Marisa M. McNatt and Michael K. Goodman

## DECISION MAKING, UNCERTAINTY, AND THE USE OF INFORMATION

- Environmental Rulemaking across States: Process, Procedural Access, and Regulatory Influence, Deserai A. Crow, Elizabeth A. Albright, and Elizabeth Koebele
- Evaluating Informational Inputs in Rulemaking Processes: A Cross-Case Analysis, Deserai A. Crow, Elizabeth A. Albright, and Elizabeth Koebele

- The Colorado Basin River Forecast Center and the Decision Making Process, Bobbie Klein and Lisa Dilling
- Communicating mega-projects in the face of uncertainties: Israeli mass media treatment of the Dead Sea Water Canal, Itay Fischhendler, Galit Cohen-Blankshtain and Yoav Shuali and Max Boykoff

## ENERGY POLICIES

- Research on Emissions, Air Quality, Climate, and Cooking Technologies in Northern Ghana (Reacting): Study Rationale and Protocol, Katie Dickinson et al.

## NEW RESEARCH GRANTS

Katie Dickinson and Deserai Crow each received 3-year grants from the National Science Foundation (NSF) to expand upon their ongoing research. Katie was awarded \$456,282 for the CU portion of a project titled "Prices, Peers, and Perceptions: Field Experiments on Technology Adoption in the Context of Improved Cookstoves." Deserai was awarded \$216,344 for the CU portion of a project titled "Community Recovery and Colorado's Extreme Floods of 2013: Policy Learning in the Context of Resources, Coalitions, and Political Conditions."

Lisa Dilling was awarded a renewal of the Western Water Assessment project entitled: "Western Water Assessment: Building Climate Resilience by Design" from the National Oceanic and Atmospheric Administration (NOAA) Regional Integrated Sciences and Assessments (RISA) program of the Western Water Assessment grant for \$4,084,818 over 5 years.

### Opening vignette: GMOs and the EC CSA



"By all means, people can say, for ethical reasons, for philosophical reasons, for economical reasons, for political reasons,  
*'I am not keen on that.'*  
 But you cannot say it is dangerous, when it isn't."

Ann Glover 2013

<http://www.2013ecsa.org/ann-glover-2013>

Roger Pielke, Jr. giving the Mitchell Lecture on Sustainability at University of Maine on October 15, 2015. His lecture was titled "When Science Meets Politics: Symphony or Slugfest?". Photo: Mitchell Center.





Deserai Crow speaking at the Conference on Communication and the Environment (COCE) in June 2015. Photo: Max Boykoff.

## EDUCATION HIGHLIGHTS

The Center continued its strong educational focus by working with 16 graduate students on a variety of projects. Two of these students received M.S. degrees in Environmental Studies. Center personnel taught 17 University of Colorado courses. For the second year the Center organized a competition to select two CU-Boulder students to attend the AAAS “Catalyzing Advocacy in Science and Engineering” workshop in Washington, D.C. The competition is generously supported by the University of Colorado Graduate School and Center for STEM Learning. The Center also established a new partnership with the Forum on Science Ethics and Policy (FOSEP), a CU-Boulder student group.

## OUTREACH HIGHLIGHTS

Center personnel were actively involved in the 21st annual Conference of Parties (COP-21) in Paris where participants negotiated an international agreement on climate change. Max Boykoff and Marilyn Averill attended the conference. Max wrote an article for *Climate Matters*, “Do the mainstream media tell the full story? A critical account of coverage at COP21,” and blogged about the conference on the Inside the Greenhouse website. Max and Marilyn were both interviewed about the conference for *CIRES News*. The Media and Climate Change Observatory (MECCO), a Center project that monitors worldwide media coverage of climate change, found that the last six months of global coverage was up 43% from same 2014 period leading up to COP21.

Ben Hale co-edited a special issue of the journal *Ethics, Policy, & Environment* focused on the ethical dimension of climate negotiations on the way to Paris. Lisa Dilling was interviewed by KGNU Radio for a show titled “Beyond COP 21 Paris: Climate Science & Policy.”

The Center cosponsored the Conference on Communication and the Environment (COCE), which was attended by over 350 participants. Max Boykoff served as program co-chair and CIRES visiting fellows Gesa Luedecke and Joanna Boehnert, faculty member Deserai Crow and graduate students Elizabeth Koebele, Lydia Lawton, Juhi Huda, and Rebecca Schild presented their work.

The Center was a sponsor for a workshop that Deserai Crow helped organize and facilitate: Collaboration for Community Flood Response & Resilience Planning Workshop, Hosted by Colorado Collaborative Leadership Institute, including partnership with the Center for Science & Technology Policy Research, Boulder, CO, April 10-11, 2015.

A new Ebook was published containing a collection of 10 years of columns by Roger Pielke, Jr., for *Bridges*, a newsletter on science policy by the staff of the Office of Science & Technology at the Austrian embassy in Washington, D.C.

## PERSONNEL

The Center welcomed the following new personnel, all with broad expertise in science and technology policy.



## FACULTY

- Steve Vanderheiden, an Associate Professor in the Department of Political Science at the University of Colorado Boulder and a Professorial Fellow with the Centre for Applied Philosophy and Public Ethics (CAPPE) in Canberra, Australia, joined us in January. Steve works at the intersection of the social sciences and humanities, with a focus on issues related to international climate politics and a specific interest in how values affect the governance process.

## VISITORS

- Dr. Jan Marco Muller, a policy officer for international relations in the European Commission's Joint Research Centre (JRC), spent his sabbatical at the Center. He served from 2012-2014 as Assistant to Professor Dame Anne Glover, then the Chief Scientific Adviser to the President of the European Commission. Dr. Muller gave several talks on campus during his visit including "Chief Scientific Adviser in the European Commission: Results of an Experiment", CSTPR Noontime Seminar; "The Quest for Evidence: An Insider's View on Science and Politics in Europe", CIRES Distinguished Lecture; "Policy: Should it be Based on Fact or Fiction?" INSTAAR Seminar; "The Art of Communicating Science to Decision-Makers", FOSEP, INSTAAR and CSTPR Seminar. He also contributed an article to the Center newsletter, "Beyond the Chief Scientific Advisor."
- Gesa Lüdecke returned to the Center as a CIRES Visiting Fellow after having visited during fall 2010 while a graduate student. Gesa holds a Ph.D. in Sustainability Sciences from Leuphana University. Her research focus

is on the influence of media communication about climate change on individual behavior. She contributed an article to the Center newsletter about her research, "Individual Drivers for Environmental Engagement."

- Sam Schramski, a visiting postdoctoral scholar from the Federal University of Amazonas in Manaus, Brazil based out of the Graduate Program in Amazonian Society and Culture, visited the Center in 2015. Sam gave a noontime seminar on his research titled "Climate Change in an Amazon Town: Media and Environmental Perceptions in Ever-Rising Waters."

## AWARDS AND RECOGNITION

A book edited by Max Boykoff and Susanne Moser, *Successful Adaptation to Climate Change: Linking Science and Policy in a Rapidly Changing World*, was selected as Choice Review's Outstanding Academic Title.

Two articles published by Deserai Anderson Crow and others received awards, as discussed above.

Lydia (Dixon) Lawhon, a Ph.D. student who works with CSTPR, received a CU Graduate School Summer Dissertation Fellowship as well as a Beverly Sears graduate student grant in order to support her dissertation work on finding ways to improve wolf policy and management in Wyoming.

Elizabeth Koebele, a Ph.D. student and research affiliate with CSTPR, received awards from the Arkansas River Basin Water Forum and the Center to Advance Teaching and Research in the Social Sciences to support her dissertation work on collaborative water governance in the Colorado River Basin.



Dr. Jan Marco Müller presenting to the Colorado European Union Center of Excellence on October 26, 2015. Photo: CEUCE.



# CENTER FACULTY

Max Boykoff teaching ENVS 1000 Introduction to Environmental Studies. Photo: David Oonk.

## MAX BOYKOFF

Max Boykoff is an Associate Professor in Environmental Studies and a fellow of the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado Boulder. He also is a Senior Visiting Research Associate in the Environmental Change Institute (ECI) at Oxford University. Previously, Max was a James Martin 21st Century Research Fellow at the ECI as well as a department lecturer in the School of Geography at the Oxford University Centre for the Environment. Max has ongoing interests in environmental governance, science and policy interactions, and political economy and the environment. He has experience working in North America, Central America, South Asia and Europe. He holds a Ph.D. in Environmental Studies (with a parenthetical notation in Sociology) from the University of California-Santa Cruz and Bachelor of Sciences from Ohio State University.



Home page: [http://sciencepolicy.colorado.edu/about\\_us/meet\\_us/max\\_boykoff](http://sciencepolicy.colorado.edu/about_us/meet_us/max_boykoff). Twitter: @boykoff

## DESERAI ANDERSON CROW

Deserai Anderson Crow is on the Environmental Studies faculty at the University of Colorado Boulder. She is

Associate Director of the Center for Environmental Journalism and affiliated with the Center for Science and Technology Policy Research. She joined the faculty of the School of Journalism and Mass Communication in 2008 and moved to the Environmental Studies Program in 2012. She earned her Ph.D. from Duke University's Nicholas School of the Environment and Earth Sciences and a Master of Public Administration from the University of Colorado at Denver's School of Public Affairs. After earning her B.S. in Journalism from the University of Colorado Boulder, she worked as a broadcast reporter, anchor, and producer in Nebraska, West Virginia, California, Colorado Springs, and Denver.

Home page: [http://sciencepolicy.colorado.edu/about\\_us/meet\\_us/deserai\\_crow](http://sciencepolicy.colorado.edu/about_us/meet_us/deserai_crow)

## LISA DILLING

Lisa Dilling is Associate Professor of Environmental Studies, a Fellow of the Cooperative Institute for Research in Environmental Sciences (CIRES) and a member of the Center for Science and Technology Policy Research at the University of Colorado, Boulder.





She is Director of the Western Water Assessment, a NOAA Regional Integrated Sciences and Assessment project that studies and facilitates the use of climate information in decision making in the Intermountain West. Her scholarship focuses on decision making, the use of information and science policies related to climate change, adaptation, carbon management and geoengineering. Her current projects examine drought in urban water systems, water governance and climate change, municipal adaptation to hazards, decision making in public lands management, and knowledge for adaptation among pastoralists. She has authored numerous articles and is co-editor of the book, *Creating a Climate for Change: Communicating climate change and facilitating social change* from Cambridge University Press. She received her Ph.D. in Biological Sciences from the University of California, Santa Barbara and a B.A. magna cum laude in biology from Harvard University.

Home page: [http://sciencepolicy.colorado.edu/about\\_us/meet\\_us/lisa\\_dilling](http://sciencepolicy.colorado.edu/about_us/meet_us/lisa_dilling)

## BENJAMIN HALE

Benjamin Hale is an associate professor in Environmental Studies and Philosophy at the University of Colorado Boulder. He works primarily in the area of environmental ethics and environmental policy, though his theoretical interests span much larger concerns in applied ethics, normative ethics, and even meta-ethics. As for applied questions, much of his work centers on ethical and environmental concerns presented by emerging technologies. Before joining the Environmental Studies Program, Benjamin was the Director of the Center for Values and Social Policy in the Philosophy Department at the University of Colorado Boulder, and earlier was the Interim Director of the Environmental Conservation Education Program at New York University. Benjamin has a Ph.D. in Philosophy from the State University of New York at Stony Brook and an M.P.A. in Natural Resource Policy from the University of Arizona.



Benjamin Hale is an associate professor in Environmental Studies and Philosophy at the University of Colorado Boulder. He works primarily in the area of environmental ethics and environmental policy, though his theoretical interests span much larger concerns in applied ethics, normative ethics, and even meta-ethics. As for applied questions, much of his work centers on ethical and environmental concerns presented by emerging technologies. Before joining the Environmental Studies Program, Benjamin was the Director of the Center for Values and Social Policy in the Philosophy Department at the University of Colorado Boulder, and earlier was the Interim Director of the Environmental Conservation Education Program at New York University. Benjamin has a Ph.D. in Philosophy from the State University of New York at Stony Brook and an M.P.A. in Natural Resource Policy from the University of Arizona.

Home page: [http://sciencepolicy.colorado.edu/about\\_us/meet\\_us/ben\\_hale](http://sciencepolicy.colorado.edu/about_us/meet_us/ben_hale)

## ROGER PIELKE, JR.

Roger A. Pielke, Jr. has been on the faculty of the University of Colorado Boulder since 2001 and is a professor in the Environmental Studies Program and a fellow of the Cooperative Institute for Research in Environmental Sciences (CIRES). At CIRES, Roger served as the director of the Center for Science and Technology Policy Research from 2001-2007 and again from

2013-present. Roger's research focuses on the intersection of science and technology and decision making. In 2006 Roger received the Eduard Brückner Prize in Munich, Germany for outstanding achievement in interdisciplinary climate research. Before joining the University of Colorado, from 1993-2001 Roger was a scientist at the National Center for Atmospheric Research. Roger is a senior fellow of the Breakthrough Institute. He is also author, co-author or co-editor of seven books, including *Disasters and Climate Change* (2014, Consortium of Science, Policy and Outcomes), *The Honest Broker: Making Sense of Science in Policy and Politics* (2007, Cambridge University Press) and *The Climate Fix: What Scientists and Politicians Won't Tell you About Global Warming* (2010, Basic Books).



Home page: [http://sciencepolicy.colorado.edu/about\\_us/meet\\_us/roger\\_pielke](http://sciencepolicy.colorado.edu/about_us/meet_us/roger_pielke).

Twitter: @RogerPielkeJr

Blog: <http://rogerpielkejr.com>

## STEVE VANDERHEIDEN

Steve Vanderheiden (Ph.D., University of Wisconsin-Madison) is Associate Professor of Political Science and Environmental Studies at the University of Colorado at Boulder, as well as Professorial Fellow at the Centre for Applied Philosophy and Public Ethics (CAPPE) in Australia. He joined the CU-Boulder faculty in



2007, and specializes in normative political theory and environmental politics, with a particular focus on global governance and climate change. In addition to numerous published articles and book chapters on topics ranging from Rousseau's environmental thought to the politics of SUVs, and edited books on political theory approaches to climate change, energy politics, and environmental rights, his *Atmospheric Justice: A Political Theory of Climate Change* (Oxford, 2008) won the 2009 Harold and Margaret Sprout award from the International Studies Association for the best book on international environmental politics. He is currently completing a book entitled *Doing Our Bit: Individual Responsibility for Climate Change*.

Home page: [http://sciencepolicy.colorado.edu/about\\_us/meet\\_us/steven\\_vanderheiden/index.html](http://sciencepolicy.colorado.edu/about_us/meet_us/steven_vanderheiden/index.html)





# RESEARCH

Firefighters from the Cheyenne Mountain Air Force Station Fire Department. Photo: U.S. Air Force photo, Michael Golembesky.

The Center conducts research at the interface of science and decision making on a broad range of topics. Center research is organized into the following themes: Climate Change; Decision Making, Uncertainty and the Use of Information; Energy Policy; Extreme Events and Disasters; and Science and Society. The Center’s 2015 research projects are described below.

## MAX BOYKOFF

Max Boykoff’s research and creative work focuses on cultural politics and environmental governance, creative climate communications, science-policy interactions, disaster risk reduction and climate adaptation. Through many connected projects and collaborations, he examines how climate science and policy find meaning in people’s everyday lives, as well as how this, in turn, feeds back into science-policy decision-making.

### CULTURAL POLITICS OF CLIMATE CHANGE

The first strand of Max’s work that focuses on the cultural politics of climate change has two components: (a) media coverage of climate change, and (b) the relationship of cultural values and norms with policy and politics.

#### Media Coverage of Climate Change

Over the past decade, Max has published many peer-reviewed papers and book chapters addressing this

subject. Also, with colleague Maria Mansfield (University of Oxford) and then beginning in 2013 with colleagues Ami Nacu-Schmidt, Lucy McAllister, Kevin Andrews, , Gesa Ludecke, Lauren Gifford and Meaghan Daly, Max developed methods to monitor media coverage of climate change at the international and various national scales (updated monthly [http://sciencepolicy.colorado.edu/media\\_coverage](http://sciencepolicy.colorado.edu/media_coverage)).

#### *The Relationship of Cultural Values and Norms with Policy and Politics*

This component of work has sought to critically analyze the role of various actors and organizations shaping political and cultural dimensions of climate science and policy discussions in the public arena.

### TRANSFORMATIONS OF CARBON-BASED INDUSTRY AND SOCIETY

The second strand of research has focused on aspects of the transformations of carbon-based industry and society. This engagement has taken many forms. Among them was a co-edited volume with colleague Dr. Susi Moser (Stanford University) entitled ‘Successful adaptation to climate change: Linking science and policy in a rapidly changing world’ (Routledge, 2013). This edited volume makes significant progress toward unpacking the question of successful adaptation, offering both scientifically informed and practice-relevant answers from various

sectors and regions of the world. The book demonstrates how the question of success in important ways is normative and context specific, and appraises what role science does and can play in adaptation decision making, and how trade-offs and other concerns and priorities shape adaptation planning and implementation on the ground. Colleagues Lisa Dilling and Ben Hale each contribute to this volume as well along with co-authors.

### INTERNATIONAL COLLECTIVE ON ENVIRONMENT, CULTURE & POLITICS (ICE CaPs)

Founded in 2012 at the University of Colorado Boulder, the International Collective on Environment, Culture and Politics is a research group that examines some of today's most pressing environmental issues. ICE CaPs members and affiliates cross disciplines to apply a wide range of theories and perspectives to study issues at the human-environment interface and work across scales from the individual to the global.

ICE CaPs explores the complex and dynamic cultural and political dimensions of environmental problems at the intersection of science and society. Individual members confront a broad range of issues such as adaptation to environmental hazards, energy conflicts, polarization of climate politics, disposal of hazardous materials, alternative environmental policies, and public engagement with and understanding of complex environmental problems. Through both empirical and theoretical work, ICE CaPs seeks to improve understanding and broaden the

discussion about the nature of evolving environmental challenges.

### INSIDE THE GREENHOUSE

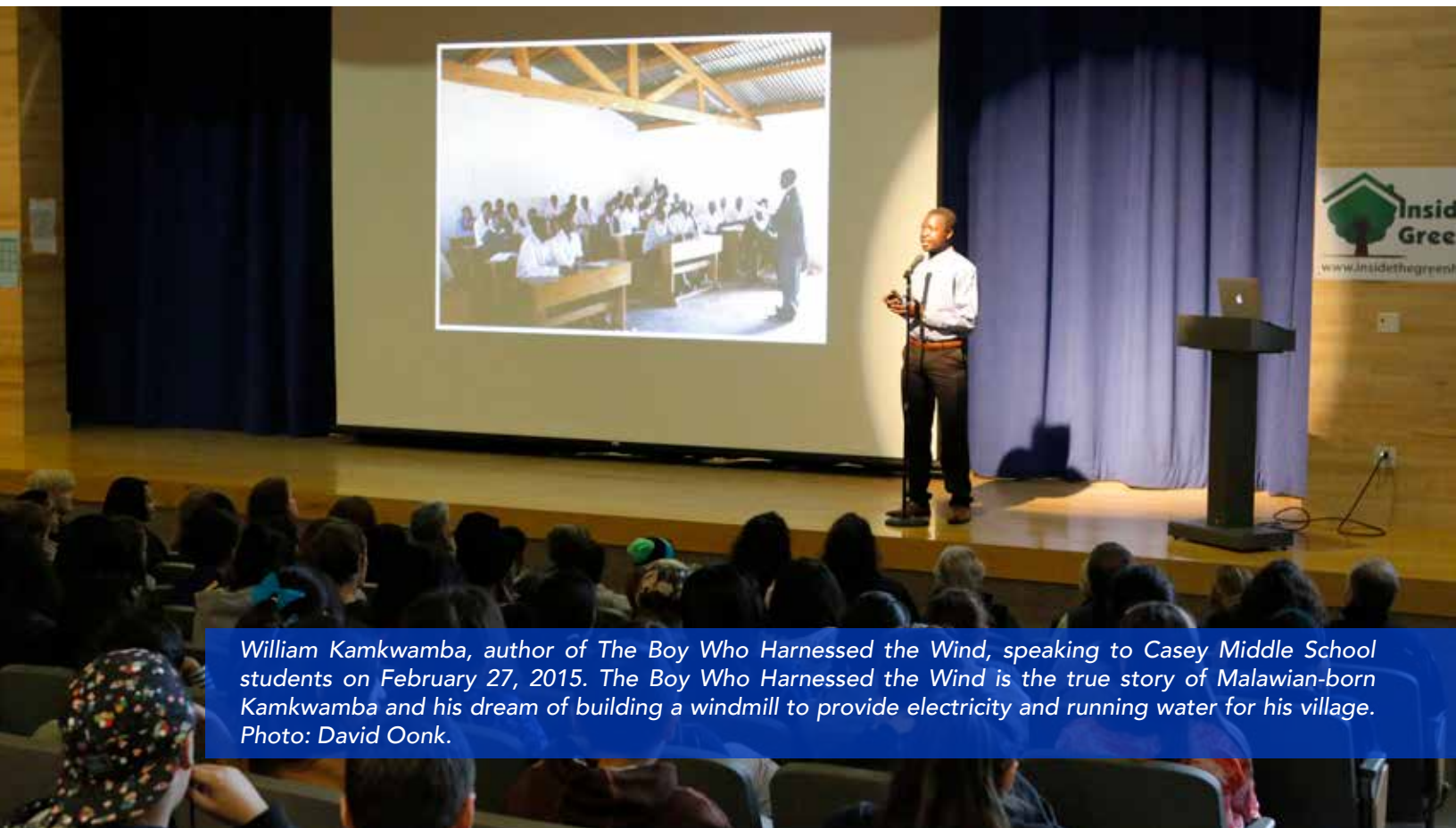
Max Boykoff, Rebecca Safran (Associate Professor, Ecology and Evolutionary Biology) and Beth Osnes (Associate Professor, Department of Theater and Dance) at the University of Colorado Boulder are working to deepen our understanding of how issues associated with climate change are/can be communicated, by creating artifacts through interactive theatre, film, fine art, performance art, television programming, and appraising as well as extracting effective methods for multimodal climate communication.

The objectives for this project are:

1. To generate multimodal compositions on the subject of climate change
2. Engage with various dimensions and issues associated with sustainability
3. Build capacity, competence and confidence among CU-Boulder undergraduate students working on creative climate communications

### DESERAI ANDERSON CROW

Deserai Anderson Crow researches environmental policy, particularly how local- and state-level policy decisions



*William Kamkwamba, author of The Boy Who Harnessed the Wind, speaking to Casey Middle School students on February 27, 2015. The Boy Who Harnessed the Wind is the true story of Malawian-born Kamkwamba and his dream of building a windmill to provide electricity and running water for his village. Photo: David Oonk.*





The Conference on Communication and the Environment (COCE) held at University of Colorado Boulder in June 2015. Photo: Max Boykoff.

are made. She also studies the role that information in the form of media, expertise, and citizen-produced knowledge plays in local decisions. Her work often focuses on environmental and natural resource issues in the western United States. Her current research includes studies on policy learning after extreme floods, the influence and limits of information in promoting wildfire mitigation by homeowners, information in environmental regulation, and the influence of various narrative strategies in environmental policymaking. Her previous research focuses on the adoption of non-consumptive recreational water rights by Colorado communities and the factors that influenced policy change within these communities, including mass media, policy entrepreneurs, stakeholder group involvement, and citizen engagement.

### EVALUATING INFORMATIONAL INPUTS IN RULEMAKING PROCESSES: A MULTI-STATE REGULATORY ANALYSIS

This study analyzes the informational inputs and strategic actions of coalitions of actors within the regulatory context and the resulting regulatory outcomes. Scholars understand the resources of coalitions of actors to be important to influencing policy outcomes. The study investigates one such category of resources: information. Information that can influence policymaking in the regulatory context can include science and other expert-produced information, advocacy-oriented information, industry-focused information, or media-produced information. Citizens can also, at times, produce effective information that can be influential to informing and influencing regulatory decisions. Not only is the information itself a resource,

used to inform and persuade, but also the strategy with which the information is used can be important to understand when studying coalitions of actors.

### NARRATIVES, MEDIA, AND ISSUE FRAMING IN ENVIRONMENTAL POLICYMAKING

As part of this umbrella of studies, we are investigating stakeholder strategies and effectiveness as key components in a complete analysis of policy change and policy coalition dynamics. Using a comparative study of stakeholder coalitions in environmental policymaking, researchers are analyzing stakeholder narrative strategy, effectiveness, and framing of winners and losers by policy actors. Additionally, we are evaluating the difference between narratives used in direct stakeholder outreach and those used in and through media sources, in an attempt to understand the variation in narratives used in different communication channels. This project will contribute to the methodological conversations related to narratives in policymaking as well as expanding our understanding of the role of these narratives. We are now using our wildfire project (below) to analyze these narrative patterns within local communities, focusing on how communities debate and understand wildfire risk.

### POLICY LEARNING AND POLITICAL CONTEXT: ANALYZING RESPONSES TO COLORADO'S EXTREME FLOOD EVENTS OF 2013

With Elizabeth Albright, a colleague at Duke University, this National Science Foundation funded project is working to



understand the policy responses in the aftermath of the September 2013 floods along Colorado's Front Range. Understanding the factors that encourage policy learning and adaptation in local policy contexts may prove critical, since this can mean the difference between ongoing flood vulnerability as a consequence of extreme weather events rather than long-term resilience. Determining the factors that increase the likelihood of successful policy adaptation in response to these extreme events will produce policy-relevant knowledge that may encourage long-term local-level adaptability and resilience to extreme climatic events.

### RISK PERCEPTIONS AND SUPPORT FOR MANAGEMENT REGIMES IN WILDLAND-URBAN INTERFACE ZONES: A COMPARATIVE ANALYSIS OF WILDFIRE POLICY AND CITIZEN RESPONSE IN THE INTERMOUNTAIN WEST

Western states are experiencing significant population growth and development combined with prolonged drought conditions and predictions of climate change that indicate increasing drought in the West. An area that is geographically and climatically prone to catastrophic wildfires and which also overlaps with high rates of population growth is termed the Red Zone. More fires are expected in the Red Zone in future years, necessitating appropriate and well-informed policy in order to reduce risk to life and property as well as sustain ecological benefits.

Understanding residents' perceptions of risk and responsibility in regards to fire mitigation and management

in the Red Zone is important to shaping policy and land management decisions. Though this is an increasingly urgent topic, little research has been conducted to investigate the nexus between fire and residents' values, beliefs, and the role of information in promoting support for fire management as well as influencing individual beliefs about the locus of responsibility for fire abatement (local, state, federal government, or individual homeowners).

With a team of graduate students, this study attempts to gain insight into the role that individual beliefs and external information sources (science, policy/management prescriptions, media coverage, advocacy communication) play in shaping residents' behavior, risk perception, and policy support regarding fire management in the wildland-urban interface.

### KATIE DICKINSON

Katie is an environmental economist whose interdisciplinary research examines human behaviors and decision making in the face of environmental and health risks. She is particularly interested in the role of social interactions and social networks in shaping risk perceptions and behaviors.

### PLAYING WITH FIRE: SOCIAL INTERACTIONS AND HOMEOWNERS' WILDFIRE MITIGATION BEHAVIORS

Homeowners' decisions in fire-prone areas play a crucial role in shaping wildfire occurrence and, especially, impacts.



The West Fork Complex Fire in Southern Colorado. Photo: NASA.



These decisions are interdependent: what one household does can affect the choices of neighbors and other social contacts. Conceptually, there are at least five pathways through which social interactions among homeowners in fire-prone areas can influence mitigation choices: information and learning; social amplification of risk perceptions; risk interdependency (or risk externalities); social norms; and social capital. Using survey data from Boulder and Larimer counties, we have shown that social interactions have multiple and varying relationships with risk perceptions, beliefs about mitigation options and wildfire risk mitigation behaviors (particularly actions to reduce vegetative fuels on one's property). However, inferring causality from these observational relationships can be difficult. Working with Hannah Brenkert-Smith (CU-IBS) and Nicholas Flores (CU-IBS/ECON), Katie conducted choice experiments in a web-based survey of homeowners living in fire-prone areas of Colorado's Western Slope to measure the effects of risk interdependency, social norms, and costs on risk reduction decisions. By combining experimental and observational approaches, this body of research seeks to deepen our understanding of the role(s) of social interactions in shaping risk-related decisions, and the ways in which policies and programs can harness the power of these social effects to encourage homeowners to take action. This project is funded by a grant from the NSF's Decision Risk and Management Sciences program.

## IMPROVED COOKSTOVE RESEARCH IN NORTHERN GHANA

Nearly 3 billion people cook over open flames on a daily basis. This behavior impacts local and regional air quality, global climate, and human health. With colleagues in CU's Engineering and Applied Math departments, the National

Center for Atmospheric Research, North Carolina State University, and the Navrongo Health Research Center in Ghana, Katie is investigating how cooking behaviors and the adoption of cleaner stoves influence environmental and health outcomes.

In a first phase (2013-2015), the Research on Emissions, Air quality, Climate, and Cooking Technologies in Northern Ghana (REACTING) project implemented a randomized intervention with 200 households in the Kassena-Nankana district of Northern Ghana. This project was funded by the NSF (Coupled Natural and Human Systems) and the US EPA. The study tested two types of biomass burning stoves, with households randomized into three different intervention arms receiving different combinations of stoves and one control arm (receiving their choice of stoves at the end of the study). Measurements assessed stove use and cooking behavior, cooking emissions, household air pollution and personal exposure, health burden, and local to regional air quality.

A second phase of the project received funding in 2015 from the NSF Economics program. Prices, Peers, and Perceptions (P3): Improved Cookstove Research in Northern Ghana will build on the REACTING project, offering stoves at varying prices to peers and non-peers of the REACTING households in order to study technology adoption decisions in this context.

## SOCIAL AND ECONOMIC ASPECTS OF VECTOR-BORNE DISEASE

Vector-borne diseases impose wide-ranging costs on human societies. Human behaviors and decision-making at various scales influence the transmission and impacts



*The Navrongo Health Research Center leads a focus group discussion in Ghana's Kassena-Nankana Districts. This work is part of the project Prices, Peers, and Perceptions (P3): Improved Cookstove Research in Northern Ghana, which is funded by the NSF Economics program and the NIH's Clean Cooking Implementation Science Network. Photo: Katie Dickinson.*



*Horsetooth Reservoir, Colorado.  
Photo: 365ed.wordpress.com.*

of these diseases. As part of Katie’s dissertation research, she examined determinants of malaria prevention, diagnosis, and treatment behaviors in Tanzania. Specifically, she examined how these behaviors varied with socioeconomic status, and also looked at knowledge and behaviors around environmental management for malaria control. A related project has worked with malaria control policymakers in Tanzania, Kenya, and Uganda, building decision support tools to assess different control strategies. Katie has also used economic stated preference methods to measure willingness to pay for mosquito control. A study in Madison, WI, used choice experiments total willingness to pay as well as measuring whether demand for control was motivated by a desire for disease risk reduction or a reduction in nuisance biting (or both). A contingent valuation approach was used to measure willingness to pay for mosquito control in two cities with varying recent exposure to vector-borne disease, Key West, Florida, and Tucson, Arizona.

## **LISA DILLING**

Lisa Dilling’s research program focuses on decision making, the use of information and science policies related to climate change, adaptation, carbon management and geoengineering. Her current projects examine drought in urban water systems, water governance and climate change, municipal adaptation to hazards, decision making in public lands management, and knowledge for adaptation among pastoralists. She is Director of the Western Water Assessment, a NOAA Regional Integrated Sciences and Assessment project that studies and facilitates the use of climate information in decision making in the Intermountain West.

## **BALANCING SEVERE DECISION CONFLICTS UNDER CLIMATE EXTREMES IN WATER RESOURCE MANAGEMENT**

Collaborators: Joseph Kasprzyk and Rebecca Smith (University of Colorado Department of Civil, Environmental and Architectural Engineering), Imtiaz Rangwala, Kristen Averyt, and Eric Gordon (CIRES Western Water Assessment), Laura Kaatz (Denver Water), and Leon Basdekas (Colorado Springs Utility). This project is funded by the NOAA Sectoral Applications Research Program.

An interdisciplinary team (policy, social science, engineering, operations research, climatology) including academics and water utility practitioners from 6 water providers in Colorado’s Front Range managers and researchers will work together to define the problem formulation (policy levers, objectives and constraints) that will inform multi-objective evolutionary algorithms (MOEAs) and be combined with a representative water resources simulation model for a range of extreme climate scenarios. This Testbed approach will result in a visualization of the decision space that, we argue, may in fact expand the alternatives that still meet managers’ decision criteria and allow managers to be able to visualize these more clearly than traditional tools. In our final step we will query managers about the tool, its results, and the process involved in incorporating such a tool into practice for helping to make decisions in anticipation of future extreme events. We will analyze these results and make some inferences about the viability of MOEAs and the larger issue of incorporating new tools into practice for urban water utilities.





Graduate student Meaghan Daly assists in constructing a new structure where she stayed and conducted ethnographic data collection during her research, in the village of Arkaria in northern Tanzania.

## CARBON MANAGEMENT ON PUBLIC LANDS IN THE INTERMOUNTAIN WEST: MULTI-SCALE ANALYSIS OF CARBON STOCK RESPONSES TO HUMAN AND NATURAL DISTURBANCES

Lisa is collaborating on a USDA-funded project with colleagues to understand the decision process on public lands in southwest Colorado and how carbon information might be incorporated into decision making. Under new requirements, U.S. National Forests are required to evaluate their carbon stocks and potential for management in the future for an agency-wide 'Performance Scorecard.' However, the potential for carbon management is limited by existing management priorities and location of adequate carbon stocks to justify management. Moreover, our work suggests the main tool and data that managers use for decision making have significant limitations for supporting carbon management. This research utilizes GIS to understand the opportunities for managing carbon where management designations and carbon stocks portfolios are in alignment.

## INTERACTIONS OF DROUGHT AND CLIMATE ADAPTATION (IDCA) FOR URBAN WATER

This NOAA Sectoral Applications Research Program (SARP) project is examining how drought policies interact with both short-term drought and long-term climate

change, asking whether adjustment today or in the past leads to more resilient systems across climate time scales. It is taking a unique interdisciplinary approach to tackling these questions by including investigators from the natural hazards community, the climate adaptation community, experts in the use of climate information, and the water resource and policy community, as well as working in tandem with an Advisory Working Group of stakeholders from the water management and urban adaptation community to ensure that the work is relevant in this rapidly evolving context. The project conducted a literature review of the vulnerability and drought management literatures, interviewed 21 water managers from around the country about drought history and response, and conducted three in depth case studies of urban water systems to evaluate changing vulnerabilities with specific drought policies.

## KNOWLEDGE, POWER AND THE COPRODUCTION OF CLIMATE INFORMATION FOR ADAPTATION TO CLIMATE CHANGE IN TANZANIA

Lisa Dilling, Meaghan Daly, Mara Goldman and Eric Lovell are conducting a project that aims to improve understanding of processes to effectively link climate information and adaptation at national and local scales in Tanzania. The approach is to explicitly recognize and



examine the ways in which the varying epistemological traditions and relations of power among vulnerable communities, disaster management professionals, and climate experts influence the perceived value of climate information for improved early warning and climate adaptation. The primary research question is “what processes or institutions can support improved application of technical climate information to facilitate successful adaptation to climate related disasters?” This research draws upon theoretical contributions from the fields of science policy, disaster research, science and technology studies (STS), and political ecology to support a mixed-methods research approach to explore practices and modes of engagement that may best facilitate the production of usable science that can be successfully integrated within adaptation decision-making and policy development processes. This project is supported by the NSF, CU Seed Grant Fund and the USAID.

### THE ROLE OF U.S. STATES IN BUILDING ADAPTIVE CAPACITY FOR WATER RESOURCE MANAGEMENT

Lisa and Christine Kirchhoff examined the role of U.S. states in governing water planning and allocation, with an emphasis on the use of information and the interaction of decision making across scales. Five U.S. states were studied in a total of 45 interviews of planners, water managers, data providers and the like. Results indicate that the role of information varies with the type of allocation governance structure, and that values and constituent demands can act as either motivators or barriers to change, depending on circumstances. These results have been presented at several international meetings and are being written up in two publications.

### UNDERSTANDING THE DRIVERS OF ADAPTATION AT THE MUNICIPAL LEVEL IN CO, WY AND UT

Lisa is co-leading this WWA-funded project to investigate why some local decision makers choose to adapt to climate-related stress and risk while others do not. The project is systematically investigating the conditions under which local decision-makers in cities and large towns in Colorado, Utah, and Wyoming decide to adapt (or not) to increased climate-related risk and hazards. The two-fold objective of the project is (1) to collect, organize, and analyze original data on the causes and consequences of local adaptation decision making, and (2) to produce new knowledge that is relevant to the work of WWA and its key constituents.

### BEN HALE

Ben Hale’s work is directed toward advancing a more deliberative and interdisciplinary approach to environmental issues. His research has focused primarily on ethical questions associated with environmental remediation, public health, moral status, and the tools of public policy.

### THE COMMITTEE ON ENVIRONMENTAL THOUGHT (COMET)

The Committee on Environmental Thought (ComET) is an environmental theory research group located at the University of Colorado Boulder. The Committee was initially convened by Professor Benjamin Hale in early 2010 as a means of collaborating on projects related to environmental theory. Members of the group seek to investigate and explore environmental problems and the



*Joint retreat of Western Water Assessment, the North Central Climate Science Center at Colorado State University, and the USDA Northern Plains Regional Climate Hub, at the Semi-Arid Grasslands Research Center, near Nunn, CO. Participants are looking at a field site that is part of NEON, the National Ecological Observatory Network. Photo: North Central Climate Science Center.*





Alex Lee and Ben Hale in video clip for *The Shifting Frontier* video. Credit: *The Shifting Frontier* (Ben Hale, director).

normative presuppositions that inform, frame, and guide solutions to these problems.

Using the tools and resources of philosophical inquiry, ComET engages in environmental problem solving, theory, and education by presenting its ideas through academic and multimedia outlets, with the hope of engaging philosophy in environmental discourse. It hopes to foster deeper thought and reflection on the values espoused by actions with regard to the natural world.

Current and past committee members include Benjamin Hale, Adam Pérou Hermans, Alexander Lee, Lucy McAllister, Amanda Magee, Jordan Kincaid, and others.

### DELIBERATION AND COMMUNICATION- BUILDING PRACTICAL SKILLS IN THE NEXT GENERATION OF ENVIRONMENTAL SCIENTISTS

In 2012 Ben was part of a successful joint NSF proposal between Northern Arizona University, the University of Montana, and the University of Colorado. The CU portion is supporting Ben and his team of students in the creation of ten short ethics videos on the normative dimensions of climate change. They will place particular emphasis on the mountain west and steer the topic matter to suit the classroom.

### ROGER PIELKE, JR.

Roger A. Pielke, Jr.'s research focuses on the governance of sport. He also studies policy related to science and technology.

### HOW PHILANTHROPY CAN IMPROVE ITS EFFECTIVENESS IN POLICY AND POLITICS

This project is focused on clarifying a broader scope of practical options for how philanthropy can contribute to policy and politics, building upon the model of engagement first introduced in Roger's book, *The Honest Broker*. As such it is a unique and novel approach to the challenges faced by contemporary philanthropy in 21st century American politics. This project has two major components: 1) sustained in-person interaction over the course of a year with the Nathan Cummings Foundation, including its board and staff to develop a novel and practical approach to philanthropy as a contribution to its on-going strategic planning exercise; 2) 3 white papers prepared on the following topics: expert arbitration, honest brokering, and options for philanthropy.

### SCIENCE, TECHNOLOGY, POLICY AND POLITICS OF SPORT (STEPS)

STePPS is focused on the governance of sport, with a special emphasis on the roles of science and technology

in how sport is governed. STePPS will focus on original research, university education and outreach to the broader community.

## STEVE VANDERHEIDEN

Steve Vanderheiden's research is focused on social values and governance issues in environmental politics and policy, especially climate change.

## OTHER PROJECTS

### COLORADO CLIMATE CHANGE VULNERABILITY STUDY (Bobbie Klein)

Bobbie Klein participated in this WWA study, in collaboration with Colorado State University, of climate vulnerability for the state of Colorado. Drawing from existing data and peer-reviewed research, the study summarizes the key challenges facing seven sectors: ecosystems, water, agriculture, energy, transportation, outdoor recreation and tourism, and public health. It also

details current adaptive capacity and potential strategies in those sectors to meet future climate challenges. See Gordon, E. and Ojima, D. (Eds.), 2015. Colorado Climate Change Vulnerability Study. A Report by the University of Colorado Boulder and Colorado State University to the Colorado Energy Office, January.

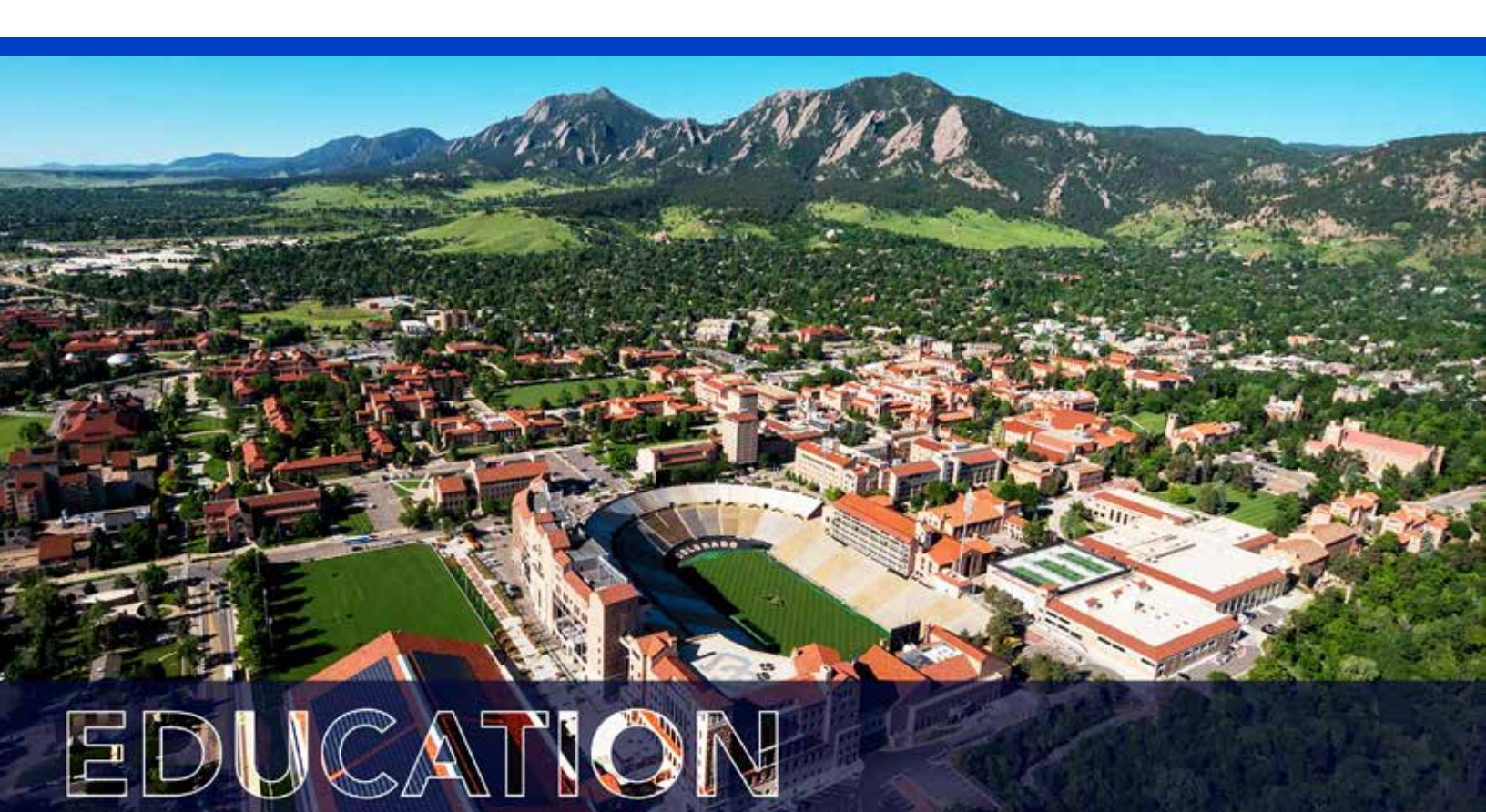
### THE COLORADO BASIN RIVER FORECAST CENTER AND THE DECISION MAKING PROCESS (Bobbie Klein with Lisa Dilling)

This WWA-funded project investigated characteristics of the users or potential users of Colorado Basin River Forecast Center (CBRFC) forecasts and their decision making contexts, and analyzed the utility of a Western Water Assessment project quantifying the contribution of tree death due to bark beetle infestation along with desert dust deposition on snowpack on streamflow. The study results were included in a final project report, Klein, R. and L. Dilling (2015), The Colorado Basin River Forecast Center and the Decision Making Process. Western Water Assessment White Paper, 56 pp., October.



Al Gore presenting at the United Nations Framework Convention on Climate Change (COP21) in Paris, France. Photo: Max Boykoff.





An important part of the Center's mission involves educating the next generation of science and technology policy scholars to work at the interface of science and decision making. In furtherance of this mission the Center, in collaboration with the Environmental Studies Program, sponsors a certificate in Science and Technology Policy for graduate students. Center faculty also teach classes and advise individual graduate students. The Center's Red Cross/Red Crescent internship for graduate students is now in its third year. The Center organizes a competition to send two CU students to the AAAS "Catalyzing Advocacy in Science and Engineering" workshop.

## GRADUATE CERTIFICATE IN SCIENCE AND TECHNOLOGY POLICY

The Graduate Certificate in Science and Technology Policy program, directed by Roger Pielke and now in its twelfth year, is a rigorous educational program to prepare students pursuing graduate degrees for careers at the interface of science, technology, and decision making. Upon completion students will have attained a measure of understanding of the broad societal context of science and technology as well as an introduction to methodologies of policy analysis that are used in decision settings related to science and technology. The program currently includes 25 students from a variety of CU departments and institutes. Twenty-seven students have received certificates from the program and have found careers in government, academia and non-profits.

## COURSES TAUGHT BY CENTER FACULTY IN 2015

- ENVS 3032: Environment, Media & Society, Spring (Deserai Crow)
- ENVS 3140: Environmental Ethics, Spring (Ben Hale)
- ENVS 3140: Environmental Ethics, Fall (Steve Vanderheiden)
- ENVS 3521: Climate Change Politics and Policy, Summer (Max Boykoff)
- ENVS 3525: Natural Resource Management in Colorado and the West, Fall (Deserai Crow)
- ENVS 3621: Energy Policy and Society, Spring (Lisa Dilling)
- ENVS 5100: Science and Technology Policy, Spring (Lisa Dilling)
- ENVS 5100: Theory and Methods in Environmental Studies, Spring (Ben Hale)
- ENVS 5100: Science and Technology Policy, Fall (Roger Pielke, Jr.)



- ENVS 5120: Quantitative Methods of Policy Analysis, Fall (Katie Dickinson)
- ENVS 5720/PSCI 7026: The Problem Orientation, Spring (Max Boykoff)
- ENVS 6201: Qualitative Research Methods in Environmental Studies, Fall (Deserai Crow)
- PSCI 2004: Introduction to Western Political Thought, Fall (Steve Vanderheiden)
- PSCI 3064: Environmental Political Theory, Fall (Steve Vanderheiden)
- PSCI 3064: Environmental Political Theory, Maymester (Steve Vanderheiden)
- PSCI 3206: Environment and Public Policy, Spring (Steve Vanderheiden)
- PSCI 7024: Seminar in Environment and Political Theory, Spring (Steve Vanderheiden)

## 2015 CENTER GRADUATES

Kevin Andrews and Brian Devine received M.S. degrees from the Environmental Studies Program. Kevin is now employed with the City of Boulder's Sustainability Program.

## RED CROSS/RED CRESCENT CLIMATE CENTRE INTERNSHIP PROGRAM

The Red Cross/Red Crescent Climate Centre Internship Program seeks to improve climate change communication and adaptation decision-making in response to climate variability and change within the humanitarian sector. It connects humanitarian practitioners from the Red Cross/Red Crescent Climate Centre (RC/RC CC) with science policy graduate student researchers at the University of Colorado to accomplish three specific goals:

1. to improve the capacity of humanitarian practitioners at the interface of climate science, policy and practice
2. to forge a unique partnership and facilitate collaborations between CU and RC/RC CC
3. to help meet needs and gaps as well as work as a research clearinghouse in the stated themes climate change communication and adaptation decision-making in response to climate variability and change, as identified through RC/RC CC priorities and projects

Now in its third year, the program has placed graduate student interns in Zambia, South Africa, Uganda, and Kenya.



*Poster highlighting the dangers of overuse of local natural resources in Otuke, Uganda. Photo: Red Cross Red Crescent Climate Centre Intern Drew Zachary.*





2015 AAAS "CASE" workshop competition winners, Thomas Steele Reynolds and Nicholas Valcourt, speaking with Riki Parikh, Policy Counsel for U.S. Senator Michael Bennet. Photo: Heather Bené.

## AAAS CASE WORKSHOP COMPETITION

For the second year the Center organized a competition to send two University of Colorado graduate students to the American Association for the Advancement of Science "Catalyzing Advocacy in Science and Engineering" Workshop in Washington, D.C. At the workshop students learn about Congress, the federal budget process, and effective science communication, and meet with Members of Congress. The 2015 winners were Nicholas Valcourt (Civil Systems Engineering) and Thomas Reynolds (Chemical and Biological Engineering).

According to a workshop attendee, "the experience of attending this workshop and the value of the information presented was an extremely beneficial opportunity for me as I look to further my aspirations of using fact-based, scientific information to support and advocate for issues relevant to my work and research. The lineup of speakers and panel topics proved to be a great introductory crash-course in science advocacy and lobbying. I think that the programming on a whole proved mutually beneficial to AAAS and the participants present and I would support others in my cohort who exhibit interest in advocacy and policy to apply for the workshop next year."

The competition is supported by the University of Colorado Graduate School and Center for STEM Learning.

## FORUM ON SCIENCE ETHICS AND POLICY

The Center established a formal partnership with the CU chapter of FOSEP, the Forum on Science Ethics and Policy, in 2015, to assist with outreach, events, and web presence. The CU-Boulder chapter (the second FOSEP chapter) was founded at the University of Colorado Boulder by Ursula Rick and Melanie Roberts in 2009. FOSEP has expanded to approximately 100 members from 20 programs and hundreds of people across campus have attended FOSEP events. FOSEP chapters are led by graduate and professional students and postdoctoral fellows from fields ranging from natural sciences and engineering to humanities, business, and education. FOSEP's primary mission is "to promote civic dialogue about issues at the intersection of science and society across our campus and community. FOSEP believes that a better understanding of the 'big picture' about issues such as health care, energy policy, and climate change, and talking with people outside of our own disciplines and outside of academia will help us to better connect our scholarly work with solutions to real-world problems. We strive to provide a respectful forum for dialogue among

people with diverse expertise and opinions in order to help all of us make more informed decisions about complex issues.” See <http://sciencepolicy.colorado.edu/students/fosep>.

## ENVIRONMENTAL BRIGADES

CSTPR has added this new project offering student volunteers the opportunity to gain first-hand experience in environmental management and education by empowering community members in rural communities. During brigades, volunteers spend time with environmental committees to better understand the region’s pressing environmental concerns and potential

for improvement. Through interactive workshops and the implementation of physical projects, student volunteers provide the education and physical assistance necessary for these families to sustain long-term behavioral change, which will benefit the well-being of not only themselves but their surrounding environment as well. Subsequent brigades build on each other and therefore, projects are continued through successive phases year after year. Between brigades, our in-country team maintains relationships with our community leaders to ensure the continuation of projects started by brigades and to provide follow-up on community members’ feedback as well as next steps.



*Lisa Dilling speaking at the 2015 graduation commencement ceremony. Photo: Deserai Crow.*





# OUTREACH

Inside the Greenhouse's co-director Beth Osnes and collaborators produced the musical for youth-sparked community engagement for climate action, *Sol-Her Energ-He* on October 2, 2015. Photo: Conner Callahan.

Center outreach engages the science and technology policy community and others in discussion of and reflection on critical issues at the intersection of science, technology and decision making. Center outreach efforts over the past year have included the following:

## NOONTIME SEMINAR SERIES

The Center held eight talks in its noontime seminar series. See the Appendix for a complete list of titles and speakers. The Center now provides live webcasts of our noontime talks to allow remote viewing. The webcasts are also available on our website after the event.

## FACULTY AND STUDENT PRESENTATIONS

In addition to noontime seminar talks, Center faculty and students gave 63 presentations over the past year on a wide variety of topics. A complete list can be found in the Appendix.

## CONFERENCE ON COMMUNICATION AND THE ENVIRONMENT (COCE)

The Center supported the Conference on Communication and the Environment (COCE), a meeting put on by the International Environmental Communications Association

every two years in different locations. Max Boykoff served as program co-chair along with Prof Julie Doyle. Max has been involved in the community for a number of years and has also been on the Editorial Board for the connected 'Environmental Communication' journal for some time now. The meeting brought over 350 scholars and practitioners from around the world to Boulder June 11-14. Former CIRES visiting fellows Gesa Luedecke and Joanna Boehnert presented their work, as did CSTPR faculty member Deserai Crow who presented a paper co-authored by current/former Center graduate students Elizabeth Koebele, Lydia Lawton, Juhi Huda, Adrienne Kroepsh, Rebecca Schild and John Berggren. See: <https://theieca.org/conference/2015-conference-communication-and-environment-boulder>.

## COLLABORATION FOR COMMUNITY FLOOD RESPONSE AND RESILIENCE PLANNING WORKSHOP

The Center was a sponsor for a workshop that Deserai Crow helped organize and facilitate:

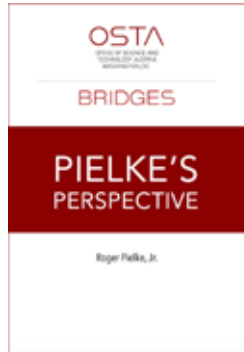
Collaboration for Community Flood Response & Resilience Planning Workshop, Hosted by Colorado Collaborative Leadership Institute, including partnership with the Center for Science & Technology Policy Research, Boulder, CO, April 10-11, 2015.

## NEW BOOKS

### PIELKE'S PERSPECTIVE: A COLLECTION OF ARTICLES FROM BRIDGES

by Roger Pielke, Jr.  
OST's Publication on Science & Technology Policy, 2015

For 10 years, 2005-2014, Roger Pielke, Jr. wrote a quarterly column for Bridges, a newsletter on science policy by the staff of the Office of Science & Technology at the Austrian embassy in Washington, DC. All of Pielke's columns have now been formatted into an e-Book: [http://sciencepolicy.colorado.edu/admin/publication\\_files/2015.35.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2015.35.pdf).



### ENVIRONMENTAL JUSTICE: THE LIBRARY OF ESSAYS ON JUSTICE

Edited by Steve Vanderheiden  
Ashgate Publishing, 2015

This collection of scholarly articles takes as its subject matter discourses on environmental justice. The concept emerged in recent decades as an important framing concept for a wide variety of environmental movements and objectives, and has gained



considerable currency due to the scope and normative force that its principles contain, whether in legal, political, or philosophical applications. This collection is an invaluable resource for researchers and scholars in this field given that the multiple theories and analyses of environmental justice are likely to remain central to the ongoing development of normative theorizing about the human role in the environment in the foreseeable future.

## OTHER ONGOING OUTREACH EFFORTS

- Articles in peer reviewed journals and non-peer reviewed publications (see Appendix)
- Content rich website (<http://sciencepolicy.colorado.edu>)
- Regular newsletter, Ogmios (<http://sciencepolicy.colorado.edu/ogmios>)
- Briefing sent to over 3,700 Washington, D.C. decision makers ([http://sciencepolicy.colorado.edu/outreach/cstpr\\_briefings.html](http://sciencepolicy.colorado.edu/outreach/cstpr_briefings.html))
- Frequent media references (see Appendix)
- Twitter ([https://twitter.com/cu\\_cstpr](https://twitter.com/cu_cstpr)) and Facebook (<https://www.facebook.com/pages/Center-for-Science-and-Technology-Policy-Research/279714958827043>) presence



Deserai Anderson Crow presenting at the Conference on Communication and the Environment (COCE) in June 2015. Photo: Max Boykoff.





# CENTER PERSONNEL

## ADMINISTRATIVE AND RESEARCH STAFF

### RAD BYERLY

Rad Byerly received his Ph.D. in experimental atomic and molecular physics at Rice University in 1967. After a postdoctoral fellowship at JILA, Rad moved to science management and policy at the National Institute of Standards and Technology. He joined the staff of the U.S. House of Representatives Committee on Science and Technology in 1975 with responsibility for environmental research programs. He became staff director of the House Space Subcommittee in 1985. In 1987 Rad became director the University of Colorado's Center for Space and Geosciences Policy. Rad was appointed Committee chief of staff in 1991. He retired in 1993, and wrote about science policy and served on various committees. At the Center Rad worked with students to offer his perspective as a practitioner and with faculty on various projects. Rad passed away in January 2016. He will be greatly missed by all Center participants for his insight, warmth and wit.



### KATIE DICKINSON

Katherine Dickinson joined the Center as a Research Associate/Research Scientist in October 2013. Katie is an environmental economist who studies how humans behave in the face of environmental risks. Her research topics have included sanitation behaviors in India, malaria-related decision making in Tanzania, willingness to pay for mosquito control in Wisconsin and Florida, and homeowners' wildfire mitigation choices in Colorado. Across these diverse topics, Katie has examined how people perceive different environmental risks and what costs and benefits people consider in deciding how to respond to those risks. She is particularly interested in how neighbors and social contacts influence a person's own choices. Katie received Bachelor and Master of Science degrees from Stanford University, and a Ph.D. from Duke University's Nicholas School of the Environment. She was a Robert Wood Johnson Health and Society Scholar at the University of Wisconsin before joining NCAR in 2010 as a Postdoctoral Fellow with support from the Advanced Study Program and the Integrated Sciences Program.



## NANCY FILICE

Nancy provided invaluable administrative, web and graphics support while acting as Center Office Manager. She holds a bachelor's degree in Environmental Design from the University of Colorado-Boulder.



## ROBERTA (BOBBIE) KLEIN

Bobbie Klein is the Center's Managing Director. She has a law degree from the University of Wisconsin and an M.A. in Public Policy with a focus on environmental policy from the University of Colorado. Bobbie's recent research interests include climate change adaptation and vulnerability.



## ROBIN MOSER

Robin stepped into the Center Office Manager position in October. She provides expert assistance in all areas of office administration.



## AMI NACU-SCHMIDT

The Center's outreach efforts are coordinated by Ami Nacu-Schmidt. Ami provides graphics and website design for all of the Center's websites. She also serves as the associate editor for the Center's newsletter, Ogmios, and as the academic advisor for the Graduate Certificate in Science and Technology Policy. She designs posters and flyers for events, provides logistical support for workshops and compiles workshop reports.



## STUDENTS

### JACKIE ALBERT

Jackie Albert is an M.S. student in the Environmental Studies Program in the Sciences core.

### MARILYN AVERILL

Marilyn Averill is a Senior Fellow with the Getches-Wilkinson Center for Natural Resources, Energy and the Environment at the University of Colorado Law School. She previously served as an attorney for the U.S. Department of the Interior, where her primary clients were the U.S. Fish and Wildlife Service and the National Park Service. Marilyn's research interests focus on international environmental governance, the politics of science, and the ethical implications of environmental issues, primarily in the context of global climate change. She is particularly interested in the role of the courts in shaping public policy in response to complex and controversial environmental problems.



Marilyn is a member of the steering committee for the Research and Independent Non-Governmental Organizations (RINGOs), one of the nine civil society constituencies to the United Nations Framework Convention on Climate Change secretariat. She also serves as an observer member of the Emerging and Cross-Cutting Issues Task Force, which is a working group of the UNFCCC Technical Executive Committee.

Marilyn holds a J.D. and an M.A. in Educational Research and Evaluation Methods from the University of Colorado at Boulder, an M.P.A from the Harvard Kennedy School of Government, and a B.A. from Wellesley College.

### JOHN BERGGREN

John is a Ph.D. candidate in Environmental Studies at the University of Colorado, with a secondary focus on water policy. His academic research will be on western water policy and governance, with a focus on the Colorado River. John worked with Lisa Dilling on the Framework for Assessing Stakeholder Needs for





Climate Information project. John holds a B.A. in Public Health Studies from the Johns Hopkins University, and an M.H.S. in Environmental Health from the Johns Hopkins Bloomberg School of Public Health.

## PAUL BOWMAN

Paul Bowman is an M.S. student in Environmental Studies at the University of Colorado in the Values and Theory core. He has an M.A. from Northern Illinois University and a B.A. from the University of Virginia.

## MEAGHAN DALY

Meaghan Daly is a Ph.D. candidate in the Environmental Studies Program and was a research assistant for the Interactions of Drought and Climate Adaptation (IDCA) for Urban Water project. Prior to attending the University of Colorado, Meaghan was a consultant for the Red Cross/Red Crescent Climate Centre and the International Research Institute for Climate and Society, working in Senegal, Kenya, Tanzania, South Africa, and Malaysia, to identify and support strategies to enhance climate risk management in the humanitarian sector. Her academic research focuses on climate change adaptation and risk management in East Africa. Meaghan holds a B.A. in Environmental Science from Colorado College and an M.A. in Climate and Society from Columbia University.



## MICHAEL HENRY

Mike Henry examines the response of the U.S. Congress to climate change in order to gain a deeper understanding of how and why Members of Congress act (or fail to act) on one of the defining global issues of the 21st Century. A Ph.D. student pursuing the Policy Track in ENVS since 2009, Mike also works full-time as a Legislative Specialist in the UCAR/NCAR Office of Government Affairs. Before becoming an ENVSer, Mike was a Legislative Correspondent for U.S. Senator Ben Cardin in Washington, D.C. He graduated from Williams College in 2004 with a B.A. in Political Science.



## JUHI HUDA

Juhi Huda is a doctoral student in the Environmental Studies Program (policy core) and an instructor for the Program for Writing and Rhetoric (PWR) at the University of Colorado Boulder. She holds a B.A. in English Literature from University of Pune, India and an M. A. in English (Literature and Environment emphasis) from University of Nevada, Reno. Her current research investigates the role of narratives in the policy process and for her doctoral research she is studying the varied narratives in agricultural biotechnology policy with a specific focus on a case study in India. Other current research projects include investigating the role of information in wildfire mitigation policy. Her past research has explored issues of uncertainty in climate change mitigation and adaptation policy, state climate policy networks in US, the relationship of environmental justice and environmental policy in environmental literature, and narrative strategies used in environmental discourse.



## JORDAN KINCAID

Jordan is a student and teacher of environmental philosophy, policy, and science. He is a Ph.D. student in Environmental Studies at the University of Colorado at Boulder, holds an M.S. in Environmental Policy from Bard CEP, and a B.A. in Philosophy and Government from the University of Texas at Austin. He is also a Visiting Fellow at the University of North Texas' Center for the Study of Interdisciplinarity involved with the Future of Energy Project. His professional experience is in higher education, ethical analysis, energy and environmental policy analysis, municipal and state legislative procedure, statistical analysis, political advocacy, and medical research. His current research includes analyzing the role of mythology in environmental philosophy; the ideology and politics of risk; philosophy of energy; the ethics of natural gas development; and the politics of fracking.



## ELIZABETH KOEBELE

Elizabeth Koebele is a doctoral candidate in the Environmental Studies program, a research affiliate with the Center for Science and Technology Policy Research

(CSTPR), and an instructor for the Program for Writing and Rhetoric (PWR) at the University of Colorado Boulder. She holds BAs in English literature and secondary education from Arizona State University's Barrett, the Honors College, and an MS in Environmental Studies from CU Boulder. Her research



focuses generally on water policy in the American West and specifically on the collaborative governance of water resources. She is also actively involved in research on the role of information in wildfire mitigation, environmental regulatory processes, and college-level science education.

## LYDIA (DIXON) LAWHON

Lydia Lawhon is a doctoral candidate in the ENVIS Policy track. Her research broadly investigates the drivers of practical conflicts between people and large carnivores and the political conflicts between people over large carnivore management. She is



interested in finding ways to improve policy at the local and regional scales for the benefit of large carnivore populations as well as rural communities. Her work is currently focused on understanding how different stakeholder groups contributed to the policy-making process for wolf management in the state of Wyoming, as well as the implications of this management policy on the ground. She uses several methods of inquiry in her work, including interviews, surveys, and participatory mapping. Lydia is also a research associate with the Northern Rockies Conservation Cooperative (NRCC) in Jackson, WY. She received an A.B. from Dartmouth College and an M.E.M. from the Yale School of Forestry and Environmental Studies.

## ALEXANDER LEE

Alex has been a Ph.D. candidate in the Environmental Studies Program and member of the Committee on Environmental Thought (ComET). He has focused on applied ethics and the environment, using ethical theory and applied



philosophy to better understand human impacts on the natural world. Alex received his A.B. from Dartmouth College as double major in environmental earth science and philosophy. He completed his M.S. working on the ethics of environmental restoration, work he has continued with ComET. His dissertation has focused on moral responsibility and the ontology of environmental change.

## LUCY MCALLISTER

Lucy McAllister graduated *summa cum laude* from Connecticut College in 2009 with a B.A. in Environmental Studies and German Studies. Before coming to study at the University of Colorado Boulder in the fall of 2011, Lucy spent time in Hamburg, Germany on a Fulbright scholarship and



worked at the German Consulate in Chicago, Illinois. Lucy worked at the University of Hamburg's climate change campus, where she conducted research for her master's thesis on e-waste governance. She was awarded a master's in 2013 and is now pursuing a doctoral degree. Broadly, Lucy is interested in the nexus of environmental justice, development and political ecology at the international level. For her Ph.D. research, she is exploring transboundary movements and governance of e-waste, particularly between India and the U.S.

## MARISA MCNATT

Marisa is a Ph.D. candidate in the Environmental Studies Program with a policy focus and a member of the research group the International Collective on Environment, Culture & Politics (ICE CaPs). Marisa is generally interested in the factors that influence and shape the public and policy-makers' opinions on climate



and energy policy in the U.S., ranging from geographical, to socioeconomic, to cultural values. Marisa was chosen as a 2013 Climate Media Fellow for the Heinrich Boll Foundation with the goal of familiarizing U.S. energy experts with the European and German experiences transitioning toward a low carbon economy. Marisa received her B.A. in English Literature from Davidson College in 2007 and earned her Master in Journalism and Broadcast and a Graduate Certificate on Environment, Policy and Society from the University of Colorado Boulder in 2011.



## REBECCA SCHILD

Rebecca Schild is a Ph.D. candidate in the Environmental Studies Program at the University of Colorado Boulder, researching the link between citizen science and civic ecology on individual environmental values and literacy and community capacity to address environmental



change. She received her B.A. at Colorado College in International Sustainable Development and a Masters of Environmental Management at the Nicholas School of the Environment, Duke University. Rebecca and her husband run a traveling semester program for the High Mountain Institute that is focused on outdoor education, environmental field studies, service-learning, and personal growth. Over the course of three months, students aged 18-22 travel through Colorado, Utah, and Patagonia advancing their outdoor rock climbing and wilderness travel skills, investigating important conservation issues, and taking part in service projects to protect and restore the areas they visit. Students can get some college credit from Colorado Mountain College.

## ARIELLE TOZIER DE LA POTERIE

Arielle is a Ph.D. candidate in the Environmental Studies Program. She has a B.A. in anthropology from Vassar College and an M.Sc. in Sustainable Development from Utrecht University in the Netherlands. Before deciding to pursue her master's, she taught English



in France and worked for several years in environmental education, restoration, and policy in the Portland area. She has many interests but hopes to focus her research on environmental issues related to international development.

## MICHAEL WEISS

Michael attended the US Air Force Academy, graduating from there in 1992. While in the Air Force, he was an intelligence analyst. During his career, he lived in nine US states (including Alaska) and lived in or visited Saudi Arabia, France, South Korea, Thailand, Australia, Japan, Germany, Qatar, Iraq, Kuwait, South Africa, Zambia,

Kenya, and Afghanistan. In August 2014, he began the Master's in Environmental Studies program, focusing on policy. He chose the policy track because he liked that CU emphasizes that policy is really about decision making. He is looking for ways to be in the middle of making decisions on how best to protect our environment. Currently he is doing that by writing a conservation blog.



## DAN ZIETLOW

*(writing intern)*

Dan is a PhD candidate in Geophysics at the University of Colorado, where his current research focuses on utilizing seismic data to better characterize anisotropy in the mantle underlying the South Island of New Zealand. Using data recorded on both the New Zealand National Seismograph Network



and a recent deployment by CU of ocean bottom seismometers, he aims to resolve the presently debated topic of whether seismic anisotropy under the South Island occurs in a diffuse region in the mantle lithosphere or a more localized zone that extends to the asthenosphere.

## VISITORS

### GESA LUEDECKE

Gesa Luedecke studied Environmental Sciences at the University of Lueneburg, Germany with a focus on environmental communications, sustainability and media as well as informal learning. Gesa holds a Diploma degree in Environmental Sciences and a Ph.D. in Sustainability Sciences from Leuphana University.



She has ongoing interests in environmental and sustainability communication, climate change and sustainability communication via media, media communication and sustainable behavior as well as in inter- and transdisciplinary studies. Her research focus

is on the influence of media communication about climate change on individual behavior. With her experience in transdisciplinary research, Gesa is seeking to provide support for cross-disciplinary collaborations on the themes of media communication and social learning for decision-making in climate-related issues.

## JAN MARCO MÜLLER

Jan Marco Müller, a policy officer for international relations in the European Commission's Joint Research Centre (JRC) in Brussels, was a visiting sabbatical fellow at the CIRES Center for Science and Technology Policy Research in 2015. He served from 2012-2014 as Assistant to Professor Dame Anne Glover, then the Chief Scientific Adviser to the President of the European Commission. Müller's research background is in geography; since earning his Ph.D. from the University of Marburg (Germany), he has worked in several prominent environmental research centers including the Helmholtz Centre for Environmental Research (UFZ) in Leipzig (Germany), the Centre for Ecology & Hydrology (CEH) in Wallingford (Oxfordshire), and the Institute for Environment and Sustainability in Ispra (Italy), which is one of the seven Institutes constituting the JRC, the European Commission's in-house science service. Müller helped found the Partnership for European Environmental Research (PEER), the network of Europe's largest environmental research centres, to which he served as Secretary in the first three years.



## SAM SCHRAMSKI

Dr. Sam Schramski is a visiting postdoctoral scholar from the Federal University of Amazonas in Manaus, Brazil, and is based out the Graduate Program in Amazonian Society and Culture. He has a Ph.D. in Interdisciplinary Ecology from the University of Florida. Sam has research interests in local and community-level climate change adaptation in the developing world, particularly in the Brazilian Amazon and southern Africa. He spent 2014 working on a field project that included perceptions of climate change amongst riverine populations living in Amazonian flooded forests. Sam is also a freelance journalist, having produced



radio stories for NPR and Radio France International, and written blog posts for Brasil Post, Brazil's Huffington Post affiliate. Sam was affiliated with CSTPR and the Center for Environmental Journalism in 2015 where he continued to collaborate with Desera Crow on a project assessing the impact of science controversies on public policy at state, federal, and international levels.

## GRADUATE STUDENT AND VISITOR ALUMNI

**Adam P.H. Amir** focuses on Environmental Philosophy. He is particularly interested in what makes a wild animal wild. He holds a B.A. in Studio Arts from Colgate University and a Masters of Science Communication from the University of Otago in Dunedin, New Zealand. Adam (aka At) moonlights as a filmmaker. At Films have featured in eleven festivals across eight countries. His work includes pieces on primates across Asia and Africa, wedge-tailed eagles in Australia, edible sea vegetables in the far South Pacific, kola nut trees in Cameroon, and American martens in the North Woods. Odd experiences during filming inspired his philosophical interests.



**Kevin Andrews** (M.S., ENVS, 2015) received his M.S. in the Environmental Studies program at the University of Colorado Boulder. He earned a B.S. in the Biological Sciences from Salisbury University in 2008 and transitioned into a career as a science educator and outdoor enthusiast. He is interested in the role of science and its ability to formulate effective environmental policy. More specifically, his research interests include climate change adaptation and communication, environmental law and policy, and natural resource management.



**Kelli Archie** (Ph.D., ENVS, 2012), received her Ph.D. in Environmental Studies in 2012. Her dissertation is titled "Climate Change Adaptation in the Western U.S.: Examining Barriers to Planning, Hurdles to Implementation, and Demand for Information by Federal Public Lands Managers and Colorado Mountain Communities." She was an assistant professor in Environmental & Public Affairs at the University of Nevada, Las Vegas and is now a Lecturer (Assistant Professor) of Climate Change, at the NZ Climate Change Research Institute, Victoria University of Wellington.



**Joanna Boehnert** (CIRES Visiting Fellow 2014) is a researcher and designer with expertise on the visual communicator of complex environment problems. She recently finished an ARHC funded PhD at the University of Brighton on the



visual communication of ecological literacy in design education. Joanna is now looking to bring her experience as a communicator, designer and educator to organizations and educational institutions concerned with learning processes for sustainability. She is currently employed as a Research Fellow in Design at the University of Westminster.



**Adam Briggie** (Ph.D., ENVS, 2006), is an Associate Professor at the University of North Texas. He holds a Ph.D. in Environmental Studies from the University of Colorado and served for three years as a postdoctoral fellow working on the philosophy of technology at the University of Twente in The Netherlands. His research and teaching interests focus on the intersections of ethics and policy with science and technology. He is author of *A Rich Bioethics: Public Policy, Biotechnology, and the Kass Council* (2010, University of Notre Dame Press), co-author of *Ethics and Science: An Introduction* (2012, Cambridge University Press), and co-editor of *The Good Life in a Technological Age* (2012, Routledge Press). For the past three years, he has served as a field philosopher working with a diverse range of stakeholders around the issue of natural gas drilling and hydraulic fracturing in the city limits of Denton, Texas. He has written about fracking in *Slate*, *Truthout*, *Science Progress*, and *The Guardian*, and he also recently published a book titled *A Field Philosopher's Guide to Fracking*. He has a forthcoming book titled *Socrates Tenured*. He is President of the grassroots Denton Drilling Awareness Group, which led the successful Frack Free Denton campaign to ban hydraulic fracturing in Denton's city limits.



**David Cherney** (Ph.D., ENVS, 2011), is a Consultant in PA Consulting Group's Energy Capital Markets Practice, with expertise in public policy analysis, electricity market dynamics, and program evaluation. His power market consulting experience spans merger and acquisition, litigation, and strategic guidance contexts. Cherney is experienced in electricity market regulations and policy (in both regulated and deregulated markets), expert testimony preparation, and bridging research and analytics to practice. His clients include retail electric service providers, private equity groups, independent power producers, global corporations, and investment banks. Cherney is well published having authored more than 20 publications in scholarly journals, technical book chapters, and popular outlets. In addition to his Ph.D. from the University of Colorado-Boulder, he holds a Master's degree from Yale University, and a B.A. from Claremont McKenna College. His dissertation is titled



"Environmental Saviors? The Effectiveness of Nonprofits in Greater Yellowstone."

**Brian Devine** (M.S., ENVS, 2015), received an M.S. in Environmental Studies at the University of Colorado Boulder. After undergraduate study in History and Political Science at Washington and Lee University, Brian went into the weird world of Western water, as a project manager restoring and protecting Colorado watersheds from the effects of legacy mining and wildland fire. His research investigated the economic and cultural impacts of water transfers from small agricultural communities to thriving municipalities. His thesis is titled "Moving Waters: The Legacy of Buy-and-Dry and the Challenge of Lease-Following in Colorado's Arkansas River Basin."



**Erik Fisher** (Ph.D., ENVS, 2006), is an Assistant Professor with a joint appointment in the School of Politics and Global Studies and the Consortium for Science, Policy and Outcomes at Arizona State University. He also serves as the Associate Director of Integration at CNS-ASU. His dissertation is titled "US Nanotechnology Policy and Midstream Modulation."



**Kristin Gangwer** (M.A., Geography, 2011), works with Our Harvest Cooperative.



**Joel Gratz** (M.S., Meteorology and Policy, M.B.A., 2006), really likes snow, so he started OpenSnow.com to help everyone who adores fresh powder. The business got its start as an email list in 2007 and has grown each year, now serving skiers and snowboarders across the U.S. with snow forecasts, reports, and travel recommendations. His thesis is titled "Unlocking the treasure chest: A study of technology transfer in the case of level-II radar data."



**Jimmy Hague** (M.A., ENVS 2007), received his master's in Environmental Studies with a focus on science and environment policy in 2007. Jimmy joined the Theodore Roosevelt Conservation Partnership (TRCP) in May 2013 as the initiative manager for water resources conservation and is now the Director of the Center for Water Resources for TRCP. In this capacity, he directs the TRCP's efforts to better manage the nation's



water supplies for the benefit of sportsmen. Prior to working for the TRCP, Jimmy previously worked for U.S. Senator Mark Udall of Colorado as his advisor for various conservation and natural resources issues, including water resources management and environmental regulation. He also worked for the U.S. House of Representatives Committee on Science.

**Rachel Hauser** (M.S., ENVS, 2012) works at the National Center for Atmospheric Research (NCAR).



**Christine Kirchhoff** (postdoc 2010), received her Ph.D. from the University of Michigan's School of Natural Resources and Environment in Resource Policy and Behavior. She has an undergraduate degree in civil engineering and a master's in environmental and water resources engineering both from the University of Texas at Austin. Prior to enrolling at the University of Michigan in 2004 she was a practicing professional engineer in Austin, Texas. She worked as a postdoc with Lisa Dilling on the SPARC project while at the Center.



**Abby Kuranz** (M.S., ENVS, 2014), received an M.S. in the Environmental Studies Program. Her thesis is titled "Multi-level Governance of Colorado's Instream Flow Program." Abby is now working as a Communications Specialist at Milwaukee Riverkeeper, which is part of a larger network of the Waterkeeper Alliance.



**Björn-Ola Linnér** (CIRES Visiting Fellow 2013) is professor in Water and Environmental Studies and at the Centre for Climate Science and Policy Research at Linköping University, Sweden, where he was the previous director (2006-2010). His research focuses on international policy-making on climate change, food security and sustainable development. His recent publications analyze integration of policies on climate change, sustainable development and low-carbon energy technologies as well as climate visualization, transnational governance and utopian/dystopian thought in climate science and policy. Published books include among others *The Return of Malthus: Environmentalism and Postwar Population-Resource Crises*.



**Nat Logar** (Ph.D., ENVS, 2007), received his law degree from the University of Colorado Boulder and is now working in energy law in Alaska. Previously he was a research fellow at Harvard's Kennedy School of

Government, contributing to a larger project on energy technology and innovation by examining energy innovation institutions, such as national laboratories like the National Renewable Energy Laboratory and industry consortia such as the Electric Power Research Institute.



**Eva Lövbrand** (postdoc 2006), is an Associate Professor in the Department of Thematic Studies: Environmental Change, Linköping University, Norrköping, Sweden. Her research focuses on the interface of science, politics and democracy.



**Jessica Lowery** (M.S., ENVS, 2004; J.D., Law, 2012). From 2004 - 2009, Jessica worked for the NOAA/CU Western Water Assessment analyzing the annual and long-term policies, and the potential use of climate information forecasts of municipal water providers in the Intermountain West. She received her J.D. in 2012 is now employed as an attorney. Jessica received her M.S. in Environmental Studies in 2004 where she focused her research on environmental and water policy issues in the West.



**Genevieve Maricle** (Ph.D., ENVS, 2008), is Policy Adviser to the US Ambassador (ECOSOC) US Mission to the UN. Genevieve previously served as USAID's Environment and Climate Change Policy Advisor where she was responsible for coordinating climate change policy and strategic planning efforts across the agency, and for representing USAID in its work with the other U.S. government agencies responsible for the President's international Global Climate Change Initiative. Her dissertation is titled "Shaping Science: How to Turn Science Studies into Science Action."



**Elizabeth McNie** (Ph.D, ENVS, 2008), is a Research Scientist at the Western Water Assessment in the Cooperative Institute for Research in Environmental Sciences, University of Colorado where she is also a Research Affiliate at its Center for Science and Technology Policy Research. She is an expert in science policy and the design and implementation of use-inspired research, particularly in the field of climate-change adaptation. Her research also focuses on understanding the effectiveness of actionable research and boundary organizations. Previously she was an Assistant Professor at Purdue University in the departments of Political Science and Earth & Atmospheric Sciences. Dr. McNie received her Ph.D. from the University





of Colorado, Boulder in Environmental Studies with a concentration in Science and Technology Policy Research.

**Shali Mohleji** (Ph.D., ENVS, 2011) recently took a position as Senior Advisor to the Under Secretary with the National Oceanic and Atmospheric Administration. Previously she was a Senior Policy Fellow with the American Meteorological Society Policy Program. Her interest areas focus on science policy, including how scientists engage in the policy process and the culture of science, and natural disaster policy related to socioeconomic impacts, institutional dynamics, and governance. She received a Ph.D. degree in ENVS from the University of Colorado at Boulder. Her dissertation is titled "Gaining from Losses: Using Disaster Loss Data as a Tool for Appraising Natural Disaster Policy."



**Shawn Olson** (M.S., ENVS, 2013) received a BA in Environmental Studies and Social Movements from The Evergreen State College. Since then, she spent several seasons as an environmental educator in Alaska's Wrangell Mountains and as a wilderness therapy field leader in the deserts of south-central Utah. At CU, she studied the politics, history, and ideological polarizations that lead to conflicts over public lands in the American West. Her thesis is titled "Power Politics: The Political Ecology of Wind Energy Opposition in Wyoming." Shawn is the co-author of two books: *Defending Wild Washington: A Citizen's Action Guide* (Mountaineers Books, 2004) and *Community and Copper in a Wild Land* (Wrangell Mountains Center & National Park Service, 2005).



**Ursula Rick** (postdoc 2009), recently took a position as Program Manager and Research Scientist for the Western Water Assessment (WWA) where she is responsible for WWA's overall program administration and management, coordinating the research agenda and other outreach activities. She also conducts interdisciplinary, stakeholder-driven research for WWA on climate vulnerability and the adaptive capacity of municipalities, states and the West. Prior to joining WWA, Ursula managed regulatory policy for the oil and natural gas industry at Western Energy Alliance. Prior to that she was an AGI/AAAS Congressional Science Fellow in the office of former Senator Mark Udall, serving as an energy and natural resource policy aide on Capitol Hill. Ursula previously worked at CIRES as a postdoctoral researcher at both the Earth Science and Observation Center, where she researched the seasonal timing of melt on the Greenland Ice Sheet, and the Center for Science and Technology Policy Research, where she focused on how the media presented the science and uncertainty of



sea level rise. In 2008, Ursula completed her Ph.D. on the hydrology of meltwater in large ice sheets at the Institute for Arctic and Alpine Research (INSTAAR) at the University of Colorado. She also has a MS in Engineering Sciences from Dartmouth College and a BS in Material Science & Metallurgical Engineering from Michigan Technological University.

**Melanie Roberts** (CIRES Visiting Fellow 2009), is the Founder and Director at Emerging Leaders in Science & Society (ELSS) which she founded in 2012. As a graduate student, she co-founded two organizations – one to introduce graduate students to multiple career options and another to promote dialogue among scholars, the public, and policy makers about issues at the intersection of science and society. Since finishing her Ph.D. in neurobiology in 2005 she has worked as an AAAS S&T Policy Fellow in the U.S. Senate, at the National Science Foundation, at the Center for Science and Technology Policy Research and as Assistant Director of the Colorado Biofrontiers Institute at the University of Colorado. Melanie also consults on graduate education and professional development, interdisciplinary research, and university-industry-government collaborations.



**Shep Ryen** (M.S., ENVS, 2005), worked for several years for the House Committee on Science and Technology before transitioning to his present position at the Government Accountability Office (GAO) on the Natural Resources and Environment team.



**Suzanne Tegen** (Ph.D., ENVS, 2006), is a Senior Energy Analyst at NREL's Strategic Energy Analysis Center. Her main focus is on wind energy economics, including employment impacts and the quantification of wind deployment barriers. She also researches state, federal and local renewable energy policy, and reports on the costs of renewable power to the Department of Energy.



**Kanmani Venkateswaran** (M.S., ENVS, 2014) graduated from Kenyon College in May 2011 with a Bachelors in Biology and a concentration in Environmental Studies. She completed an internship at the Ashoka Trust for Research in Ecology and the Environment in Bangalore, India in 2012. She has been working with Dr. Siddhartha Krishnan and Dr. Gladwin Joseph on human adaptation to climate change in agricultural communities in Natham taluk, Tamil Nadu. Earlier in the internship, Kanmani was also a part of Indian policy-making,



collating the report on sustainability, biodiversity and rural livelihoods for the Planning Commission's Five Year Plan. Kanmani also spent time in 2012 in Ooty, Tamil Nadu mapping self-identified settlements and areas of cultural/religious importance in Toda communities. Her thesis is titled "The Vulnerability of Zambian Communities Living Along the Zambezi River Basin to Floods."

**Kevin Vranes** (CIRES Visiting Fellow 2006-08), is currently a Platform Architect, Principal Solution Engineer at Salesforce. Kevin has more than a decade of experience working on greenhouse gas (GHG) and climate-change issues. He has worked with numerous corporations and utilities on GHG management (inventories, auditing, and reporting), carbon risk, supply chain emissions and life-cycle assessments, and project analysis. Kevin was a senior legislative staffer in the Washington, D.C., office of Senator Ron Wyden, where he worked on energy and environmental legislation, including the Energy Policy Act of 2005. He holds a Ph.D. in geophysics (physical oceanography, climatology, and atmospheric sciences) from Columbia University, and he was a Public Policy Fellow of Columbia's School of International and Public Affairs.

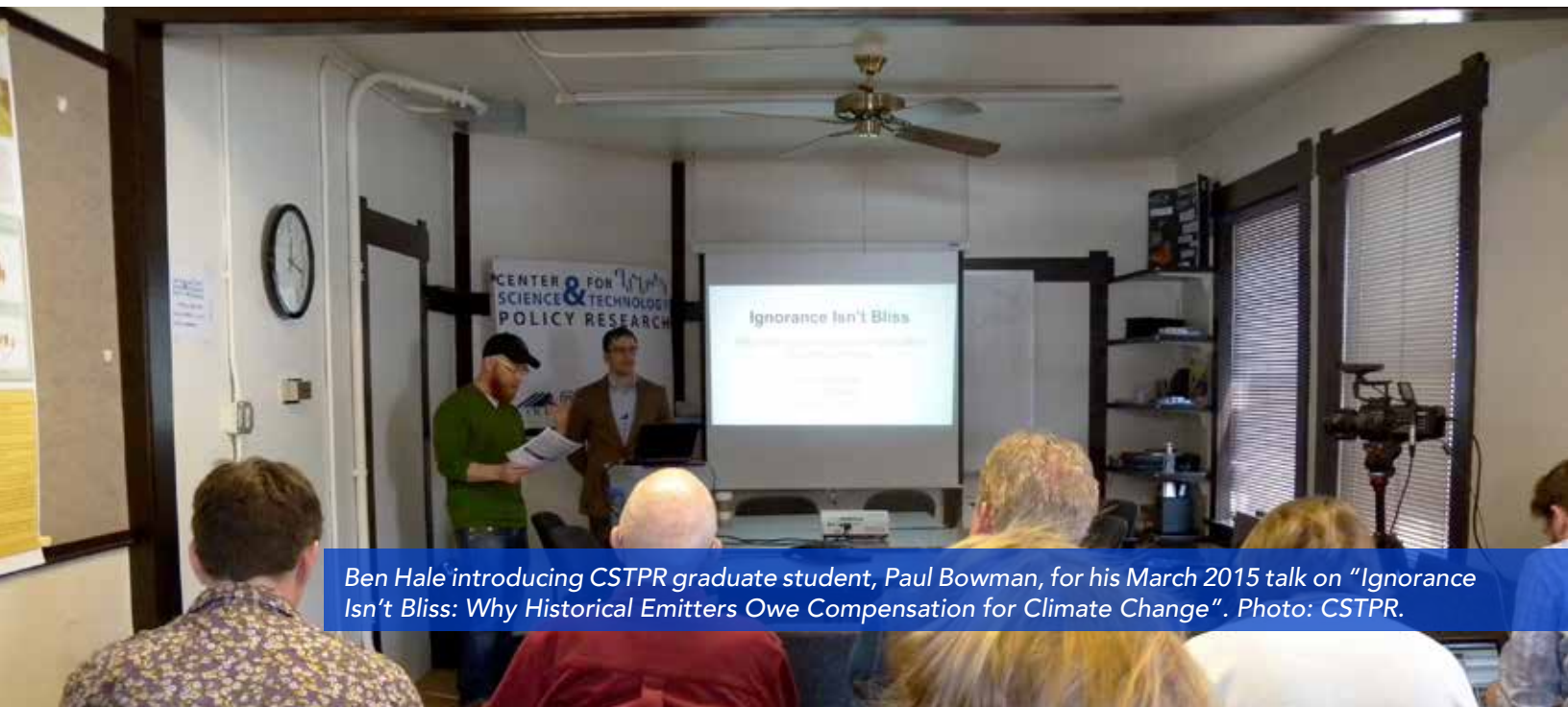


**Xi Wang** (M.S., ENVS, 2014), is a doctoral student in the Department of Geography at University of Colorado-Boulder. She is broadly interested in energy transitions to a low-carbon economy, particularly in the electricity sector. She is interested in understanding the role of policy in facilitating such transitions, as well as how different stakeholders negotiate the policy making process. Her Masters thesis is titled



"The Emergence of the Renewable Portfolio Standard as the Renewables Policy of Choice: A Case Study of Negotiating Power in California."

**Jessica Weinkle** (Ph.D., ENVS, 2013), received a Ph.D. from the Environmental Studies Program at the University of Colorado with a secondary core in Policy. While working on her MA in Climate and Society at Columbia University she became interested in natural hazards, risk perception and the use of climate and weather forecasts in policy and society. Jessica worked as a postdoc with the Center in partnership with the catastrophic insurance company and Lloyd's syndicate, ICAT, studying the science and politics of insurance with special attention given to public insurance programs used to manage catastrophic risk. She is currently an assistant professor in the Department of Public and International Affairs at the University of North Carolina-Wilmington.



Ben Hale introducing CSTPR graduate student, Paul Bowman, for his March 2015 talk on "Ignorance Isn't Bliss: Why Historical Emitters Owe Compensation for Climate Change". Photo: CSTPR.





2015 CIRES Rendezvous.  
Photo: Robin Strelow.

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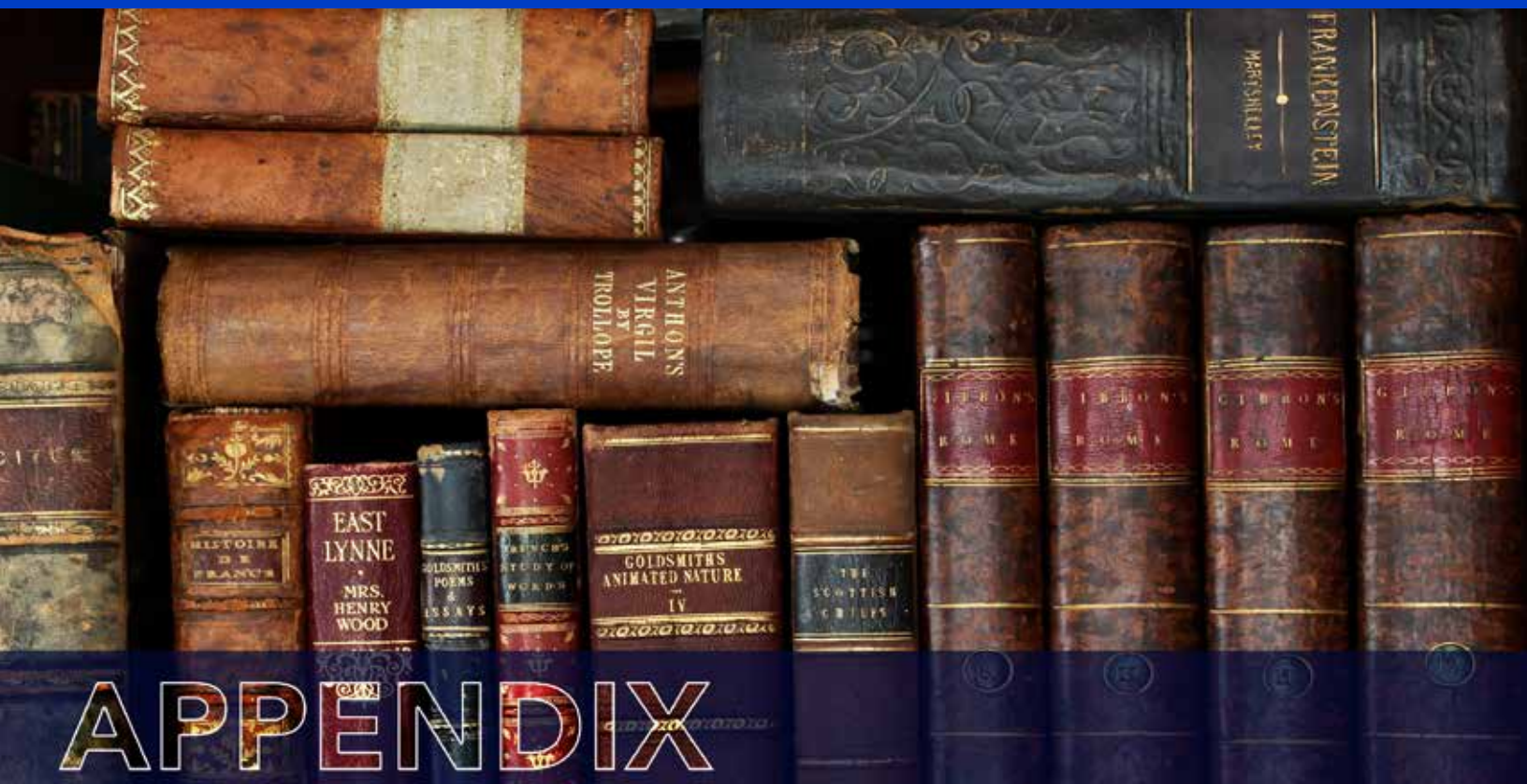
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- Jack Stilgoe, University College London (Speaker)
- Susan Sullivan, University of Colorado (Coauthor)
- Atsu Titiati, Relief International (Coauthor)
- William Travis, University of Colorado (Coauthor)
- Christine Wiedinmyer, National Center for Atmospheric Research (Coauthor)
- Bouke Wiersma, University of Exeter (Coauthor)
- Olga Wilhelmi, National Center for Atmospheric Research (Coauthor)
- Hywell Williams, University of Exeter (Coauthor)



Jan Marco Müller giving a talk on September 29, 2015 on "Chief Scientific Adviser in the European Commission: Results of an Experiment". Photo: CSTPR.





# APPENDIX

## PUBLICATIONS

(Center personnel bolded)

### JOURNAL ARTICLES

- Albright, E.A. and **D.A. Crow** (2015). Learning processes, public and stakeholder engagement: Analyzing responses to Colorado's extreme flood events of 2013. *Urban Climate*, doi: 10.1016/j.uclim.2015.06.008, July 14.
- Boykoff, M.T.** (2015). Consensus and contrarianism on climate change: How the USA case informs dynamics elsewhere. *Mètode*, 85(1), 81-87, April.
- Crow, D.A.**, E.A. Albright, and **E. Koebele** (2015). Environmental Rulemaking Across States: Process, Procedural Access, and Regulatory Influence. *Environment and Planning C: Government and Policy*, doi: 10.1177/0263774X15606922, September 30.
- Crow, D.A.**, E.A. Albright, and **E. Koebele** (2015). Evaluating Informational Inputs in Rulemaking Processes: A Cross-Case Analysis. *Administration & Society* doi: 10.1177/0095399715581040, April.
- Crow, D.A.**, **L.A. Lawhon**, **E. Koebele**, A. Kroepsch, **R. Schild**, and **J. Huda** (2015). Information, Resources, and Management Priorities: Agency Outreach and Mitigation of Wildfire Risk in the Western United States. *Risk, Hazards & Crisis in Public Policy* 6 (1) 69-90, August.
- Dickinson, K.**, H. Brenkert-Smith, P. Champ, and N. Flores (2015). Catching Fire? Social Interactions, Beliefs, and Wildfire Risk Mitigation Behaviors. *Soc. Nat. Resour.* 28 (8) 807-824, issn: 0894-1920, ids: CP3JF, doi: 10.1080/08941920.2015.1037034, August 3.
- Dickinson, K.L.**, E. Kanyomse, R. Piedrahita, E. Coffey, I.J. Rivera, J. Adoctor, R. Alirigia, D. Muvandimwe, M. Dove, V. Dukic, M.H. Hayden, D. Diaz-Sanchez, A.V. Abisiba, D. Anaseba, Y. Hagar, N. Masson, A. Monaghan, A. Titiati, D.F. Steinhoff, Y. Hsu, R. Kaspar, B. Brooks, A. Hodgson, M. Hannigan, A.R. Oduro, and C. Wiedinmyer (2015). Research on Emissions, Air quality, Climate, and Cooking Technologies in Northern Ghana (REACCTING): Study rationale and protocol. *BMC Public Health* 15, doi: 10.1186/s12889-015-1414-1, February 12.
- Dickinson, K.L.**, S.P. Pattanayak, J.-C. Yang, S.R. Patil, and C. Poulos (2015). Nature's Call: Health and welfare impacts of sanitation choices in Orissa, India. *Economic Development and Cultural Change* 64 (1):1-29. doi: 10.1086/682958.
- Dilling, L.** and J. Berggren (2015). What do stakeholders need to manage for climate change and variability? A document-based analysis from three mountain states in the Western USA. *Reg. Envir. Chang.* 15 (4) 657-667, issn: 1436-3798, ids: CD8VK, doi: 10.1007/s10113-014-0668-y, April.

- **Dilling, L.**, K. Lackstrom, B. Haywood, K. Dow, M.C. Lemos, J. Berggren, and S. Kalafatis (2015). What Stakeholder Needs Tell Us about Enabling Adaptive Capacity: The Intersection of Context and Information Provision across Regions in the United States. *Weather Clim Soc* 7 (1) 5-17, issn: 1948-8327, ids: CA5UN, doi: 10.1175/WCAS-D-14-00001.1, January.
- **Dilling, L., M.E. Daly**, W.R. Travis, O.V. Wilhelmi, and **R.A. Klein** (2015). The dynamics of vulnerability: why adapting to climate variability will not always prepare us for climate change. *Wiley Interdiscip. Rev.-Clim. Chang.* 6 (4) 413-425, issn: 1757-7780, ids: CK1SK, doi: 10.1002/wcc.341, July-August.
- Ernst, K., S. Haenchen, **K.L. Dickinson**, M. Doyle, K. Walker, and M. Hayden (2015). Community awareness and support of the controversial release of OX513A Ae. aegypti in Key West, FL. *Emerging Infectious Diseases* 21(2): 320-324.
- Fischhendler, I., G. Cohen-Blankshtain, Y. Shuali, and **M. Boykoff** (2015). Communicating mega-projects in the face of uncertainties: Israeli mass media treatment of the Dead Sea Water Canal. *Public Underst. Sci.* 24 (7) 794-810, issn: 0963-6625, ids: CQ5EE, doi: 10.1177/0963662513512440, October.
- Gold, A.U., D.J. Oonk, L. Smith, **M.T. Boykoff**, B. Osnes, and S.B. Sullivan (2015). Lens on Climate Change: Making Climate Meaningful Through Student-Produced Videos. *Journal of Geography* 1-12, doi: 10.1080/00221341.2015.1013974, March 24.
- Goldman, M.J., **M. Daly**, and E.J. Lovell (2015). Exploring multiple ontologies of drought in agro-pastoral regions of Northern Tanzania: A topological approach. *Area*, doi: 10.1111/area.12212, July 24.
- Hayden, M.H., J.L. Cavanaugh, C. Tittel, M. Butterworth, S. Haenchen, **K.L. Dickinson**, A. Monaghan, and K. Ernst (2015). Post Outbreak Review: Dengue Preparedness and Response in Key West, Florida. *American Journal of Tropical Medicine and Hygiene* 93(2): 397-400. doi:10.4269/ajtmh.15-0128
- **Koebele, E. A.** (2015). Assessing Outputs, Outcomes, and Barriers in Collaborative Water Governance: A Case Study. *Journal of Contemporary Water Research & Education* (155) 63-72, July.
- **Koebele, E., D.A. Crow, L.A. Lawhon, A. Kroepsch, R. Schild**, and K. Clifford (2015). Wildfire Outreach and Citizen Entrepreneurs in the Wildland–Urban Interface: A Cross-Case Analysis in Colorado. *Society & Natural Resources*, doi: 10.1080/08941920.2015.1054975, July 13.
- O’Neill, S., H.T.P. Williams, T. Kurz, B. Wiersma, and **M. Boykoff** (2015). Dominant frames in legacy and social media coverage of the IPCC Fifth Assessment Report. *Nat. Clim. Chang.* 5 (4) 380-+, issn: 1758-678X, ids: CE5AM, April.
- Paul, C., R. Kramer, A. Lesser, C. Mutero, M.L. Miranda, and **K.L. Dickinson** (2015). Identifying barriers in the malaria control policymaking process in East Africa: insights from stakeholders and a structured literature review. *BMC Public Health* 15: 862. doi:10.1186/s12889-015-2183-6.
- **Pielke, Jr., R.A.** (2015). Gather data to reveal true extent of doping in sport. *Nature* 517 (7536) 529-529, Nature Publishing Group, London, issn: 0028-0836, ids: CA2ZL, January 29.
- **Pielke, Jr., R. A.** (2015). Anti-Doping Agencies Are Failing in Assessing the Scale of the Drugs Problem. *Sporting Intelligence*, January 28 (online companion to Nature article).
- **Pielke, Jr., R. A.** (2015). Obstacles to Accountability in International Sports Governance. *Global Corruption Report: Sport*, April.
- **Vanderheiden S.** (2015). Justice and Climate Finance: Differentiating Responsibility in the Green Climate Fund (2015). *The International Spectator* 50(1):31-45. January 2.
- **Vanderheiden, S.** (2015). The Obligation to Know: Information and the Burdens of Citizenship. *Ethical Theory and Moral Practice*. DOI: 10.1007/s106777-015-9618-0.

## OTHER PUBLICATIONS

### REFEREED BOOKS

- **Vanderheiden S.** (2015). *Environmental Justice*. Ashgate ISBN-13:978-1-4724-3929-1.

### REFEREED BOOK CHAPTERS

- Boyd, E., A. Ghosh, and **M.T. Boykoff** (2015). Climate Change Adaptation in Mumbai, India. *The Urban Climate Challenge: Rethinking the Role of Cities in the Global Climate Regime*, Ed. C. Johnson, N. Toly, and H. Schroeder, Routledge, March 24.
- **Boykoff, M.T.** and M.K. Goodman (2015). Science (and Policy) Friction: How Mass Media Shape US American Climate Discourses. *Cultural Dynamics of Climate Change and the Environment in North America*, Ed. B. Sommer 189-205, BRILL, July.



- **Boykoff, M.T., M.M. McNatt**, and M.K. Goodman (2015). Communicating in the anthropocene: The cultural politics of climate change news coverage around the world. *The Routledge Handbook of Environment and Communication*, Ed. A. Hansen and R. Cox, Routledge Press, March.
- **Dilling, L.** (2015). Adaptation. Invited Contribution to: *Research Handbook on Climate Governance*. Bäckstrand, K., and Lövbrand E., Eds., Edward Elgar Publishing, Sweden.
- **Hale, B.** (2015). Rights, Rules, and Respect for Nature In *The Oxford Handbook of Environmental Ethics*, Eds. Stephen Gardiner and Allen Thompson. Oxford University Press.
- **Hale, B.** (2015), What We Have Done is not What They Can Do In *Climate Change and Justice*, Ed Jeremy Moss. Cambridge University Press. 201-218. November.
- **Hermans, A. P.** (2015), 'If You Wander in Winter, They Will Eat You': Local Knowledge, Wolves and Justice in Central Asia. *A Fairytale in Question: Historical Interactions between Humans and Wolves*, Ed. P. Masius and J. Sprenger, White Horse Press.
- **Vanderheiden, S.** (2015). Informational Approaches to Climate Justice. In *The Ethics of Climate Governance*. 111-132. Rowman & Littlefield.

#### OTHER BOOKS

- **Pielke, Jr., R.A.** (2015). *Pielke's Perspective: A Collection of Articles from Bridges*, OST's Publication on Science & Technology Policy, 93 pp., Center for Science and Technology Policy Research, July.

#### OTHER CHAPTERS IN A BOOK

- **Dixon, L.A.** (2015). Alaska Wild? Wolves in America's Last Frontier. *A Fairytale in Question: Historical Interactions between Humans and Wolves*, Ed. P. Masius and J. Sprenger, White Horse Press, February.

#### LETTER/REPORT/NOTE/MEMO/

- Gordon, E. and **R. Klein** (2015). Moving Toward Preparedness. Chapter 11 in *Colorado Climate Change Vulnerability Study*, A report submitted to the Colorado Energy Office, February.
- Gordon, E., **R. Klein**, V. Deheza, and S. McNeeley (2015). Water Sector. Chapter 5 in *Colorado Climate Change Vulnerability Study*, A report submitted to the Colorado Energy Office, February.

- Gordon, E., **R. Klein**, W. Travis, and A. Seidl (2015), *Demography, Land Use, and Economics*. Chapter 3 in *Colorado Climate Change Vulnerability Study*, A report submitted to the Colorado Energy Office, February.
- **Klein, R.** and **L. Dilling** (2015). The Colorado Basin River Forecast Center and the Decision Making Process. *Western Water Assessment White Paper*, 56 pp., October.
- **Klein, R.**, P. Chinowsky, and L. Bohren (2015). Transportation Sector. Chapter 8 in *Colorado Climate Change Vulnerability Study*, A report submitted to the Colorado Energy Office, February.
- **Pielke, Jr., R.A.** (2015). What makes a 'super club'? ... And are these the world's biggest?. *Sporting Intelligence Global Sports Salaries Survey*, 61 pp., May.
- Stevenson, S. and **R.A. Pielke, Jr.** (2015), *Assumptions of Spontaneous Decarbonization in the IPCC AR5 Baseline Scenarios*. Written in 2012, July 2015.

#### NEWSPAPER/MAGAZINE ARTICLES

- **Boykoff, M.** (2015). Do the mainstream media tell the full story? A critical account of coverage at COP21, *Climate Matters* blog, December 3.
- **Boykoff, M.T.** (2015). Leveraging media, social sciences, humanities in climate change debate. *Daily Camera*, May 3.
- **Dilling, L.** (2015). Community involvement critical to adaptation, managing climate change risks. *Daily Camera*, May 3.
- **Hale, B.** (2015). Think of pollution as trespassing. *High Country News*, January 19.
- **Pielke, Jr., R.A.** (2015). Analysis: U.S. Soccer raises more questions than answers in Senate hearing. *USA Today*, July 17.
- **Pielke, Jr., R.A.** (2015). EPO in cycling, HGH in the NFL – The complicated truths of cheating. *Sporting Intelligence*, March 12.
- **Pielke, Jr., R.A.** (2015). FIFA paid \$88.6m in salaries in 2014. We can guesstimate Blatter's take at \$6m+. *Sporting Intelligence*, March 20.
- **Pielke, Jr., R.A.** (2015). FIFA presidential candidate seeking true reform? Here's your checklist. *Sporting Intelligence*, August 3.
- **Pielke, Jr., R.A.** (2015). Fooling ourselves with science: Hoaxes, retractions and the public. *The Guardian*, June 2.



Roger Pielke, Jr. presenting at the 2015 Play the Game Conference: Good governance in sport: Setting standards, raising bars. Photo: Play the Game.

- **Pielke, Jr., R.A.** (2015). How do organisations clean up after corruption scandals? Transparency International, July 24.
- **Pielke, Jr., R.A.** (2015). I am Under 'Investigation'. Financial Post, February 25.
- **Pielke, Jr., R.A.** (2015). If we discover extraterrestrial life, what happens next? The Guardian, July 23.
- **Pielke, Jr., R.A.** (2015). Is science policy a theological matter? The Guardian, June 23.
- **Pielke, Jr., R.A.** (2015). Keeping score at FIFA. Transparency International, August 10.
- **Pielke, Jr., R.A.** (2015). Presidential Race Profile: Gianni Infantino, Sporting Intelligence, November 16
- **Pielke, Jr., R.A.** (2015). Presidential Race Profile: Michel Platini, Sporting Intelligence, November 16
- **Pielke, Jr., R.A.** (2015). Psephological Pseudoscience. The Guardian, May 9.
- **Pielke, Jr., R.A.** (2015). 'Sprinters don't improve after 30. Gatlin's feats are ... incredible'. Sporting Intelligence, July 20.
- **Pielke, Jr., R.A.** (2015). U.S. anti-doping agency is falling down on the job. Denver Post, September 19.
- **Pielke, Jr., R.A.** (2015). What is wrong with US universities producing millionaire sportsmen for the NFL? Sporting Intelligence, September 15.

- **Pielke, Jr., R.A.** (2015). Who Should Be Allowed to Compete as a Female Athlete? New York Times, July 29.
- **Pielke, Jr., R.A.** (2015). Why Discrediting Controversial Academics Such as Bjørn Lomborg Damages Science. The Guardian, April 23.

## REVIEWS

- **Lawhon, L. and B. Hale** (2015). The Carnivore Way: Coexisting with and Conserving North America's Predators. Ecological Restoration. 33(2): 224-225
- **Pielke, Jr., R.A.** (2015). Malthusians v. Cornucopians. Book review of The End of Doom by Ronald Bailey. Real Clear Books, August 9.
- **Pielke, Jr., R.A.** (2015). Neither Doom Nor Optimism Will End. Book review of The End of Doom: Environmental Renewal in the Twenty-first Century by Ronald Bailey. The Federalist, September 7.
- **Pielke, Jr., R.A.** (2015). Science Under the Political Steamroller, Book review of 'Galileo's Middle Finger: Heretics, Activists, and the Search for Justice in Science' by Alice Dreger. Nature 519, March 19.
- **Vanderheiden S.** (2015). Review of Climate Change and the Moral Agent: Individual Duties in an Interdependent World. Perspectives On Politics 13(2):552-553, June 1.
- **Vanderheiden S.** (2015). Review of Sustainability. Perspectives On Politics 13(4): 1143-44 1 Dec.



## TALKS AND EVENTS SPONSORED BY THE CENTER

(Center personnel bolded)

### CSTPR NOONTIME SEMINAR SERIES (BOULDER, CO)

#### Spring

January 26

Sugar, Spice and Everything Nice: Science and Policy of "Sex Testing" in Sport

by **Roger Pielke, Jr.**, Center for Science and Technology Policy Research and Environmental Studies, CU Boulder

February 23

When Basic or Applied is not enough: Utilizing a Typology of Research Activities and Attributes to Inform Usable Science

by Elizabeth McNie, Western Water Assessment, CU Boulder

March 2

Mystery of the Sea: A Study of Why the U.S. Has Yet to Construct an Offshore Wind Farm

by **Marisa McNatt**, Center for Science and Technology Policy Research and Environmental Studies, CU Boulder

March 9

Ignorance Isn't Bliss: Why Historical Emitters Owe Compensation for Climate Change

by **Paul Bowman**, Center for Science and Technology Policy Research and Environmental Studies, CU Boulder

April 6

Fracking in Denton, Texas: Who Benefits and Why Was it Banned?

by **Jordan Kincaid**, Center for Science and Technology Policy Research and Environmental Studies, CU Boulder

April 13

Mobilizing Individual Responsibility through Personal Carbon Budgeting

by **Steven Vanderheiden**, Center for Science and Technology Policy Research, Political Science, and Environmental Studies, CU Boulder

#### Fall

September 29

Chief Scientific Adviser in the European Commission: Results of an Experiment

by Dr. Jan Marco Müller, Policy Officer for International Relations, European Commission's Joint Research Centre

December 1

Climate Change in an Amazon Town: Media and Environmental Perceptions in Ever-Rising Waters

by Sam Schramski, Visiting Postdoctoral Scholar, Federal University of Amazonas in Manaus, Brazil



Jordan Kincaid giving a talk in April 2015 on "Fracking In Denton, Texas: Who Benefits and Why Was it Banned?". Photo: CSTPR.

## OTHER TALKS AND PRESENTATIONS BY CENTER PERSONNEL

### Max Boykoff

- January 28-29, Invited Participant, 'IPCC Expert Meeting on studies of the IPCC process', Geneva, Switzerland
- February 1-4, Invited Participant, Navigating the International Conservation/Sustainability Agenda, Aldo Leopold Leadership Program Advanced Training Workshop
- February 10-13, Invited Participant, Disaster Risk Reduction – Climate Change Adaptation Expert Forum, Antalya, Turkey
- April 15, World Bank Roundtable Communication for Climate Change 2.0, invited speaker, Washington, DC
- May 2-9, New Generation of Polar Researchers, USC Wrigley Marine Science Center, Catalina Island, California, invited workshop seminars/talks
- June 11-14, Presentation (with Rebecca Safran and Beth Osnes), Conference on Communication and the Environment, University of Colorado-Boulder
- September 29, Invited Participant, Taller D'audiovisuals, Universitat de València, Valencia, Spain
- November 5, Universidad de Navarra, School of Communication, invited seminar lecturer
- November 10, Universitat Pompeu Fabra, Departament de Comunicació, Barcelona, Spain, invited talk
- November 11, International Festival of Environmental Communication – Festival Internacional de Cine de Medio Ambiente (FICMA), Barcelona, Spain, invited speaker
- November 23, Communicating Climate Science: Challenges and Opportunities conference, Basque Centre for Climate Change, invited keynote lecture
- November 24, Cultures of Sustainability, Social and Digital/Virtual Media, University of Reading, invited lecture
- December 3, United Nations Conference of Parties meeting on climate change, Paris, France, invited speaker at side event hosted by Center for International Climate and Environmental Research (CICERO)

- December 16, International Lecture Series of the Centre for Globalisation and Governance at the University of Hamburg, invited speaker

### Deserai Crow

- April, Albright, E.A., Crow, D.A., & Koebele, E. Environmental Rulemaking Across States: Information, Stakeholder Behavior, and Regulatory Outcomes. Midwest Political Science Association Annual Conference, Chicago, IL
- April, Crow, D.A. & Albright, E.A. Learning in the Aftermath of Extreme Floods: Colorado Community Recovery One-Year Later. Midwest Political Science Association Annual Conference, Chicago, IL
- April, Crow, D.A., Dixon, L., Koebele, E., Kroepsch, A., Schild, R., & Huda, J. Information, Resources, and Management Priorities: Agency Outreach and Mitigation of Wildfire Risk in the West. Western Political Science Association Annual Conference, Las Vegas, NV
- June, Crow, D.A. & Stevens, J.R. Reliance on Generalists as Environment and Science Reporters in Today's Newsrooms, and the Implications of this Trend. Conference on Communication and the Environment, Boulder, CO
- June, Crow, D.A., Huda, J., Dixon, L., Koebele, E., Kroepsch, A., & Berggren, J. Risk, Failure, and Hazard Narratives in Local Media Coverage of Natural Disasters: Can We Learn from our Mistakes? Conference on Communication and the Environment, Boulder, CO
- July, Crow, D.A. Panelist: Issues in Disaster Recovery I. Natural Hazards Research and Applications Workshop, Broomfield, CO
- September, Albright, E.A. & Crow, D.A. Extreme Events and Policy Learning: How Communities Recover, Adapt, and Learn. American Political Science Association Annual Meeting, San Francisco, CA
- November, Community Recovery and Colorado's Extreme Floods of 2013: Policy Learning in the Context of Resources, Coalitions, and Political Conditions, Environmental Studies Colloquium Series
- November 18, Colorado's Floods and Fires: Risk Mitigation and Disaster Recovery Through a Policy Lens



## Lisa Dilling

- January 4-8, Dilling, L., Morss, R. and O. Wilhelmi. Colorado's September 2013 Floods: What does surprise teach us about vulnerability in high adaptive capacity systems? American Meteorological Society Annual Meeting, Phoenix, AZ
- May 20-22, Dilling, L. What have we learned about stakeholder needs and enabling adaptive capacity? A synthesis of selected WWA research related to the North Central region. North Central Climate Science Center Open Science Conference, Fort Collins, CO
- May, Smith, R., J.R. Kasprzyk, L. Dilling. Co-Producing a Many Objective Problem Formulation to Support Water Management in the Front Range. American Society of Civil Engineers' World Environmental & Water Resources Congress, Austin, TX
- October 14, Daly, M. and Dilling, L. A problem-oriented analysis of the Global Framework for Climate Services. Policy Sciences Annual Institute, Washington, DC
- October 28, Dilling, L. The dynamics of vulnerability: Why adapting to climate variability won't always prepare us for climate change. Upper Colorado River Basin Water Forum
- November, Smith, R., J.R. Kasprzyk, L. Dilling. Co-Producing a Many Objective Problem Formulation to Support Water Management in the Front Range. American Water Resources Association Annual Water Resources Conference, Denver, CO
- December, Smith, R., J.R. Kasprzyk, L. Dilling. Co-Production with Water Managers to Improve Applicability and Adoption of an Emerging Decision Support Tool. Fall Meeting of the American Geophysical Union, San Francisco, CA

## Ben Hale

- April 9, Invited Speaker: The Lingering Value of Technological Artifacts. Minnesota State University. Mankato, MN
- April 28, Invited Speaker: Moral Friction. Goethe Universität - Frankfurt am Main, Normative Orders Group weekly colloquium. Frankfurt, Germany
- May 7, Invited Speaker: The Anthropocene. George Mason University
- May 8-9, Invited Speaker: Damage to Nature,

Second Workshop on Ethics and Adaptation: Loss, Damage, and Harm. University of Buffalo

- June 12-14. Invited Speaker: Environmental Sustainability as Intergenerational Justice. University of Calgary, CA
- August, Comment on Marcus Hedahl's "Owing It to Us." RoME VIII
- August 18-19, Invited Presenter: Scripps Oceanographic Institute, two-day workshop leader on Environmental Ethics
- October 2-3, Invited Speaker: Intervention in Novel Ecosystems. Beyond Two Degrees Workshop. Frankfurt Universät. Normative Orders Group. Frankfurt, Germany
- October 10, Invited Speaker: Comments on Darrel Moellendorf's "Intergenerational Equality," Graduate Workshop. University of Arizona, Tucson
- November 13-14, Invited Contributor. Extinction, Intervention, and Resurrection. Environmental Ethics Workshop. University of Arizona. Tucson

## Roger Pielke, Jr.

- January 15-16, The Roles Of Scientists In Policy And Politics, When Science and Citizens Connect: Public Engagement on Genetically Modified Organisms, A Workshop of the NAS Roundtable on Public Interfaces of the Life Sciences
- February 11, Dos and Don'ts for Science in Decision Making, Joint Research Centre European Commission, Brussels, Belgium
- February 26, Technology Assessment as Political Myth? Keynote speech, PACITA Conference on Technology Assessment, Berlin
- April 21, On Witch Burning and Other Incendiary Topics, Forum on Science, Ethics and Policy, University of Colorado Boulder
- October 15, When Science Meets Politics: Symphony or Slugfest? Keynote speech, Senator George J. Mitchell Lecture On Sustainability, University of Maine, Orono, Maine
- November 20, You Can't Say That! Journalism, Science and Politics VWN – de Vereniging voor Wetenschapsjournalistiek en -communicatie, the Dutch Association of Science Journalists, Delft, Netherlands



Marilyn Averill appears on 9News in December 2015 on 21st annual Conference of Parties, known as COP-21. Photo: 9News.

## WORLD LEADERS IN PARIS FOR CLIMATE SUMMIT

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- December 7 – 8, Institutional Integrity for Effective Science Advice, Anniversary Conference, 10 years of science studies at the Institute for Research Information and Quality Assurance, Berlin, Germany

### Steve Vanderheiden

- January 16-17, Mobilizing Individual Responsibility through Personal Carbon Budgeting, workshop on Interdisciplinary Perspectives on the Global Carbon Supply Chain, UBC Liu Institute for Global Issues (organized by Kathryn Harrison), Vancouver BC
- April 2-4, Mobilizing Individual Responsibility through Personal Carbon Budgeting, presented at the Western Political Science Association annual meeting, Las Vegas, NV
- May 1, Personal Carbon Allowances: Implementing National Climate Equity and Responsibility. Poster for CIRES (CU Cooperative Institute for Research in Environmental Sciences) Rendezvous
- May 4-8, Justice and Democracy in Climate Change Governance, series of three lectures at Soochow University Center for Human Rights (organized by Shioh-duan Hawang), Taipei, Taiwan
- June 11-12, Access to Carbon Sinks: Resource Sovereignty and Global Justice, University of Tromsø conference on “Climate Change: Political and Ethical Strategies” (organized by Øyvind Stokke), Tromsø, Norway

- June 29, Access to Carbon Sinks: Resource Sovereignty and Global Justice, ANU Social and Political Theory lecture series (organized by Seth Lazar), the Australian National University, Canberra, Australia
- October 14, Territorial Rights and Carbon Sinks, ENVS/SEEC Colloquium Series lecture
- November 30, Panel member, presentation of Oslo Principles for Justice in Climate Change (side event for COP-21 in Paris), Delft, Netherlands
- December 1, Territorial Rights and Carbon Sinks, invited talk for TU-Delft Philosophy Colloquium series (organized by Behnam Taebi), Delft, Netherlands
- December 1, Personal Carbon Trading and Responsibility for Climate Change, invited paper in TU-Delft seminar series (organized by Behnam Taebi), Delft, Netherlands
- December 2, Territorial Rights and Carbon Sinks, invited talk for TU-Delft Philosophy Colloquium series (organized by Behnam Taebi), Delft, Netherlands

### GRADUATE STUDENT PRESENTATIONS

- February, Averill, M., Decision Rules in Negotiating a New Climate Treaty. International Studies Association Annual Meeting. New Orleans.
- May, Lawhon, L.A. Finding Harmony in the Howling: The Politics and Policy of Wolf Management



in Wyoming. The Front Range Conference on Environmental Governance Research, Fort Collins, CO.

- May, Koebele, E. Collaborative Water Governance in the Colorado River Basin: Assessing Organizational and Environmental Outcomes. The Front Range Conference on Environmental Governance Research, Fort Collins, CO.
- June, Lawhon, L.A., & J.C. Neff. Assessing Student Attitudes toward Environmental Science & Environmental Problems: Is there a Gender Gap? Association for Environmental Studies & Sciences 2015 Conference: Confronting Frontiers, Borders, & Boundaries, San Diego, CA.
- June, Lawhon, L.A. Howling over Wolves: The Role of Local Media in Understanding Persistent Conservation Policy Conflict. Conference on Communication & Environment, Boulder, CO.

#### OTHER TALKS COSPONSORED BY THE CENTER

- April 14, Dr. Jack Stilgoe, Lecturer in Science and Technology Studies at University College London, Geoengineering as a Collective Experiment
- October 9 CIRES Distinguished Lecture Series, The Quest for Evidence: An insider's View on Science

and Politics in Europe, Dr. Jan Marco Müller, Policy Officer for International Relations, European Commission's Joint Research Centre

- November 29, Forum on Science Ethics and Policy, The Institute of Arctic and Alpine Research, and Center for Science and Technology Policy Research, The Art of Communicating Science to Decision-Makers, Dr. Jan Marco Müller, Policy Officer for International Relations, European Commission's Joint Research Centre

#### MEDIA REFERENCES

Center personnel and alumni were quoted, cited, interviewed or referred to 115 times in numerous media including USA Today, LA Times, New York Times, The Guardian, Slate, Nature Climate Change, Science, Financial Times, BBC News, Grist, Washington Times, Wall St. Journal, Christian Science Monitor, and NPR. A complete list with links to articles is located at <http://sciencepolicy.colorado.edu/news/in-the-news.html>.



Jamestown, Colorado. Photo: Federal Emergency Management Agency.

## SERVICE ACTIVITIES 2015

### MAX BOYKOFF

- Royal Geographical Society of the Institute for British Geographers
- Association for Environmental Studies and Sciences (AESS)
- Association of American Geographers
- The Society for the Social Studies of Science
- International Studies Association member
- National Communication Association
- International Environmental Communications Association member
- CU-Boulder Red Cross/Red Crescent Climate Centre Internship program Director
- University of Colorado Environmental Studies peer teaching evaluation committee (chair)
- CIRES Center for Science and Technology Policy Research Executive Committee
- CIRES Distinguished Lecture Series Committee Chair
- CIRES Center for Science and Technology Policy Research associate director
- Boulder Faculty Assembly ENVS representative
- University of Colorado co-organizer of UN observer credentialing (with Prof Jim White)
- University of Colorado Forum on Science, Ethics and Policy (FOSEP) Faculty Advisor
- University of Colorado Sustainability committee advisory member
- BFA Intercollegiate Athletics Committee Coalition for Intercollegiate Athletics (COIA) representative
- Associate Editor, Ethics, Policy & Environment
- Editorial Board, Environmental Communication: A Journal of Nature and Culture
- Contributing Editor, Los Angeles Review of Books
- Deputy Editor, journal of Climatic Change

### DESERAI CROW

- American Political Science Association, Science, Technology & Environmental Politics Section:

Section Chair for upcoming American Political Science Association Annual Meeting

- Midwest Political Science Association Annual Conference, Conference Panel Chair and Discussant
- Western Political Science Association Annual Conference, Conference Panel Discussant
- Center for Environmental Journalism: Associate Director
- Executive Committee, Center for Science & Technology Policy Research
- Member, Graduate Committee, ENVS
- Member, Professional Education Committee, Environmental Studies Program
- Faculty affiliate, Center of the American West
- Reappointment committee, Dale Miller, Senior Instructor, Environmental Studies Program
- Environment and Society Working Group, School of Environment and Sustainability planning, University of Colorado Boulder
- Digital Learning Work Group, School of Environment and Sustainability planning, University of Colorado Boulder
- Editorial Board Member, Journal of Applied Environmental Education and Communication

### LISA DILLING

- CIRES Fellow (governance meetings)
- Executive Committee, ENVS
- Affiliate, Renewable and Sustainable Energy Institute (RASEI)
- Affiliate, Center of the American West
- CIRES Executive Committee
- ENVS Undergraduate Committee
- Hydrologist Search Committee, CIRES
- Natural Hazards Center Director Search Committee
- Advisory Board, Decision Center for a Desert City, Arizona State University, Tempe AZ
- Member of Board of Scientific Counselors, Office of Research and Development, U.S. EPA
- Advisory Board, Advancing Knowledge Systems



to Inform Climate Adaptation Decisions (ICAD), European Research Council project based at University of Exeter, UK

- Western Water Assessment Director

## BEN HALE

- Vice-President, International Society of Environmental Ethics (ISEE). Elected Office
- Coordinator with Alastair Norcross (Philosophy) of RoME VII: the Seventh Annual Rocky Mountain Ethics Conference
- Executive Committee, Center for Science and Technology Policy Research
- Executive Steering Committee: Center for Values and Social Policy
- Chair, Search Committee, Environmental Justice Search, ENVIS
- Co-editor, Ethics, Place, and Environment

## ROGER PIELKE, JR.

- Senior Visiting Scholar, Arizona State University, Consortium for Science, Policy and Outcomes
- Senior Fellow, The Breakthrough Institute (a San Francisco-based think tank focused on progressive solutions to environmental issues)
- Member, Science Advisory Board, CliSAP, University of Hamburg, Germany
- Member, Advisory Committee, Pacific ENSO Applications Center Research Fellow, Risk Frontiers, Macquarie University, Sydney, Australia
- NRC Committee on Responsible Science
- Member, Advisory Board, Ethnic Studies Undergraduate Certificate Program in Critical Sports Studies
- Director, Graduate Certificate Program in Science and Technology Policy
- Developed a new Sports Governance Center within the Department of Athletics
- Member, Promotion & Tenure Committee, CU-System
- Associate Editor, Natural Hazards Review, American Society of Civil Engineers
- Member, Editorial Board, Policy Sciences

- Member, Editorial Board, Environmental Science and Policy
- Member, Editorial Board, Water Resources Research
- Member, Editorial Board, Environmental Hazards

## STEVE VANDERHEIDEN

- Senior Research Fellow, Earth Systems Governance Project
- Professorial Fellow, Centre for Applied Philosophy and Public Ethics (CAPPE)
- Local co-organizer (with Michael Ferguson), 2015 Association for Political Theory annual meeting (held in Boulder in October 2015)
- Head, PSCI subfield (for course planning purposes), Spring 2015 (subfield heads abolished by Director of Undergraduate Study in Fall 2015)
- Non-rostered core faculty member, ENVIS program (weekly faculty meetings throughout 2015)
- Comprehensive exam committee member, political theory subfield, September 2015 (Anna Daily exam)
- Member, Environmental Justice Steering Committee (tasked with overseeing the teaching of undergraduate courses in PSCI, PHIL, and ENVIS).
- Faculty Fellow, CU Center for Values and Social Policy
- Member, ENVIS search committee (for new faculty position in environmental justice), spring 2015
- Member, CU PSCI Graduate Committee (Fall 2015)
- Member, CU ENVIS Professional Education Committee (Fall 2015)
- Member, ENVIS Primary Unit Evaluation Committee (review and reappointment of Dale Miller)
- Member, MENV program (new professional Masters program, approved by Regents in 2015, launching in 2016) steering committee, core faculty member (weekly meetings throughout 2015)
- PSCI representative, Boulder Faculty Assembly (full year)
- Member, BFA Student Affairs committee (full year)
- Associate Editor, Ethics, Policy & Environment (journal)
- Editorial Board Member, Environmental Politics (journal)

## GRANT ACTIVITY

**PROJECT TITLE:** Collaborative Research: Community Recovery and Colorado's Extreme Floods of 2013: Policy Learning in the Context of Resources, Coalitions, and Political Conditions (Crow, PI)

**SOURCE:** National Science Foundation

**AMOUNT:** \$216,344 (CU portion), \$401,856 (total budget)

**PERIOD OF GRANT:** 2015-2018

**PROJECT TITLE:** Collaborative Research: Prices, Peers, and Perceptions: Field Experiments on Technology Adoption in the Context of Improved Cookstoves (Dickinson, PI)

**SOURCE:** National Science Foundation

**AMOUNT:** \$456,282 (CU portion)

**PERIOD OF GRANT:** 2015-2018

**PROJECT TITLE:** Balancing Severe Decision Conflicts under Climate Extremes in Water Resource Management (Dilling)

**SOURCE:** National Oceanic and Atmospheric Administration

**AMOUNT:** \$261,689

**PERIOD OF GRANT:** 2014-2016

**PROJECT TITLE:** Processes of Knowledge Co-production for Climate Adaptation Decision-Making in Semi-Arid Regions (Dilling)

**SOURCE:** National Science Foundation

**AMOUNT:** \$221,542

**PERIOD OF GRANT:** 2014-2015

**PROJECT TITLE:** Western Water Assessment: Building Climate Resilience by Design (Dilling, PI)

**SOURCE:** National Oceanic and Atmospheric Administration

**AMOUNT:** \$4,048,818

**PERIOD OF GRANT:** 2015-2020

**PROJECT TITLE:** Collaborative Research: Deliberation and Communication--Building Practical Skills in the Next Generation of Environmental Scientists (Hale)

**SOURCE:** National Science Foundation

**AMOUNT:** \$99,967 (CU portion), \$399,949 (total budget)

**PERIOD OF GRANT:** 2012-2015

**PROJECT TITLE:** Conference funding grant in support of the Association for Political Theory meeting (Vanderheiden)

**SOURCE:** University of Colorado Boulder Vice Chancellor for Research

**AMOUNT:** \$3,000

**PERIOD OF GRANT:** 2015

**PROJECT TITLE:** Special Event grant in support of Association for Political Theory meeting (Vanderheiden)

**SOURCE:** University of Colorado Boulder Graduate Committee on Arts and Humanities

**AMOUNT:** \$3,000

**PERIOD OF GRANT:** Fall 2015

**PROJECT TITLE:** Special event grant in support of Association for Political Theory meeting (Vanderheiden)

**SOURCE:** University of Colorado Boulder Committee for Western Civilization

**AMOUNT:** \$3,000

**PERIOD OF GRANT:** Fall 2015



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POLICY RESEARCH

Center for Science and Technology Policy Research  
Cooperative Institute for Research in Environmental Sciences  
University of Colorado Boulder  
<http://sciencepolicy.colorado.edu>