CSTPR
ANNUAL REPORT

Working to improve how science and technology policies
address societal needs, through research, education and service

January 1 - December 31, 2014

CENTER FOR SCIENCE AND TECHNOLOGY POLICY RESEARCH
Cooperative Institute for Research in Environmental Sciences
University of Colorado Boulder



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CIRES
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Annual Report
January 1 - December 31, 2014

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Top Cover photo: Moonlit panorama shot in October 2014 by astronauts on the International Space Station (ISS) as they looked west from a point over Nebraska. The wide-angle lens shows a huge swath of the western United States starting from Phoenix, Arizona. The largest string of lights in the foreground is the Ogden-Salt Lake City-Provo area of Utah. The Los Angeles and San Francisco metropolitan regions, as well as the cities of the central valley of California stretch across the horizon. A green airglow layer appears over the horizon in night images. Photo credit: NASA Astronaut photograph ISS041-E-67595.

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CIRES

University of Colorado Boulder

CSTPR ANNUAL REPORT

January 1 - December 31, 2014

INTRODUCTION

The Center for Science and Technology Policy Research (CSTPR) was established within CIRES in 2001 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

Every once in a while I'll experience a bit of serendipity that helps me to better understand the impact of the work that we do at the University of Colorado/CIRES Center for Science and Technology Policy Research. For instance, one day last winter my daughter came home from high school very excited to tell me that kids at the lunch table next to hers were raving about the awesome website OpenSnow, which provides specialized weather forecasts for skiers. Open Snow was founded by one of our alums, Joel Gratz, and is wildly successful among powder hounds. Not long after I was in Europe at a meeting, and a junior professor approached me to ask if I knew "the" Max Boykoff. Of course I did, I replied, Max is a part of our Center. The professor explained that Max's research was an inspiration to his own career.

It is anecdotes like these that provide some of the best insights to me on the impact and reach of the work at CSTPR. Sure we carefully measure our outputs (see some of these listed in the following pages), such as how many publications (we produce a peer-reviewed paper every three weeks), the courses we teach (12 total in 2014) and our presence in the major media (lots). The university likes these metrics and they are useful … up to a point.

CSTPR sits at that often messy and sometimes fraught intersection between research and action. So conventional academic measures of quality don't really tell the whole story of what we do. We study decision making, inform decision making and sometimes even participate in decision making. That means that by itself scholarly output, while important, can only paint a part of the picture that encompasses our work.

Some of our biggest impact results from the wonderful students who spend some time with us as undergraduate and graduate students. Some of our alums go into academia, but others presently work in international multi-lateral organizations, state, local and federal

governments, for non-profits and for businesses.

We also try to practice what we preach. For instance, Lisa Dilling, one of our faculty members, directs the NOAA Western Water Assessment, which seeks to better connect the research community with people who make decisions about water in the inter-mountain West. Simply publishing a lot of academic papers is not going to be enough for the WWA. Lisa is one of the nation's leaders in the concept of "usable science" and the challenges faced by decision makers and researchers in moving their work closer toward each other.

Another one of our faculty members, Ben Hale, who has expertise in philosophy and policy, sought in 2014 to explain some of the ethical complications that arose during the recent Ebola epidemic in western Africa and the associated challenges of regulating international travel. Ben's work is part of our long-time goal to help clarify, and sometimes expand thinking about challenging issues where science and technology meet up with broader society. The work of Deserai Crow, another of our faculty members, takes up this challenge in the context of hydrologic fracturing ("fracking") and recovery from the 2013 flood along the Front Range. Each of us tries to navigate the complexities of researching, informing and practicing.

As far as academic research units go, ours is certainly not large, but we have an out-sized impact. The work that we do is really global in scope, with projects in Africa and collaborations in Europe, Asia, South America and Australia. I'd wager that our faculty are among the most cited on campus in the major media, which might be expected since a lot of our work focuses on issues that

people care about, and sometimes argue about (trust me, I know a bit about that!).

In 2014, CSTPR initiated several activities to help expand our reach. We developed a proposal for a new Professional Master's degree in science and technology policy. We initiated a new fundraising strategy. And we are actively looking to secure bigger and better space on the central campus. In short, we are looking to stick around for a while, and maybe create a few more serendipitous anecdotes along the way.

This report summarizes our 2014 activities. I'm proud of what we accomplished and humbled by the passion, skill and expertise of the people that I get to work with every day. Have a look at the pages that follow, I'm sure that you'll agree.

Roger Pielke, Jr. , Director
pielke@colorado.edu

THE CENTER AT A GLANCE

FOR THE PERIOD JANUARY 1 - DECEMBER 31, 2014

27,544	Unique website visitors
3,757	Recipients of Center's Science Policy E Briefing
862	Subscribers to Ogmius, the Center newsletter
53	Media references to the Center and/or its personnel
51	Presentations by Center staff and students
16	Peer-reviewed publications (journal articles)
53	Other publications (non-peer reviewed)
69	Non- Center coauthors, collaborators and speakers
9	On-campus talks by non-Center personnel sponsored by the Center
12	University of Colorado courses taught by Center faculty (including 2 new courses)
20	Undergraduate and graduate students who worked with the Center (5 awarded degree)
22	Center graduate students who have graduated since 2001 (9 Ph.D.s, 11 master's, 1 master's/MBA, 1 Law)

Roger Pielke, Jr. being interviewed by Ann Curry on NBC's "Our Year of Extremes".

2014 HIGHLIGHTS

CENTER HIGHLIGHTS

- A journal article coauthored by Max Boykoff on the use of "hedging words" to describe climate change was featured in Aljazeera, the Star Tribune, and Mother Jones, among other media sources.
- Max Boykoff received the 2014 "green faculty" CU Campus Sustainability award.
- Deserai Anderson Crow and Max Boykoff edited a new book, Culture, Politics and Climate Change: How Information Shapes our Common Future.
- Deserai Crow conducted a study of the extreme flooding event that occurred in Colorado in September 2013. She examined the factors associated with variations in policy change in flood mitigation and prevention at the local level.
- Deserai Crow coauthored an article "Understanding a Period of Policy Change: The Case of Hydraulic Fracturing Disclosure Policy in Colorado" that was published in the journal Review of Policy Research.
- Lisa Dilling became the new director of the Western Water Assessment (WWA), an applied research program that addresses societal vulnerabilities related to climate, particularly in the area of water resources.
- Lisa Dilling, Joe Kasprzyk (Engineering) and several other collaborators were awarded a NOAA grant for a project titled "Balancing Severe Decision Conflicts under Climate Extremes in Water Resource Management." The project will work with water managers to create a tool to facilitate decision making in anticipation of future extreme events.
- Lisa Dilling, along with graduate student Meaghan Daly (ENVS) and Mara Goldman (Geography), received an NSF grant for a project titled "Examining Processes of Knowledge Co-production for Climate Adaptation in East Africa" that aims to understand how knowledge is produced and incorporated by actors across scales and with varying epistemologies, and to understand how power and the processes of co-production affect the salience, credibility and legitimacy of knowledge.
- Ben Hale coauthored a paper, "Clowning Around with Conservation: Adaptation, Reparation and the New Substitution Problem", that was published in the journal Environmental Values.
- Ben Hale also coauthored a paper, "Restoration, Obligation, and the Baseline Problem," in the journal Environmental Ethics.
- Ben Hale addressed the Ebola epidemic on WEAA and NPR radio and in Slate magazine.
- Roger Pielke, Jr.'s new book, The Rightful Place of Science: Disasters and Climate Change summarizes the latest science on disasters and climate change.

- Roger Pielke, Jr., wrote extensively about science advice in Bridges Magazine and The Guardian.

- Roger Pielke, Jr., spoke at a workshop titled, "Basic and Applied Research: Historical Semantics of a Key Distinction in 20th Century Science Policy" organized by the University of Bonn and Munich Centre for the History of Science and Technology.

- Roger Pielke, Jr., was featured in an NBC News special, "Our Year of Extremes: Did Climate Change Just Hit Home?"

- Roger Pielke, Jr., organized a public student debate, "Resolved: College Athletes Should Be Allowed to Unionize," held at the University of Colorado Dal Ward Athletic Center.

- The Media and Climate Change Observatory (MECCO), a project at the Center, was one of the winners of the 2014 Best Digital Data Management Plans and Practices Competition.

- The Center hosted a competition (supported by the CU Graduate School and Center for STEM Learning) to send two CU students to attend the AAAS "Catalyzing Advocacy in Science and Engineering" workshop in Washington, D.C. Emily Pugach, a Ph.D. student in Molecular, Cell and Developmental Biology, and Chris Schaefbauer, a Ph.D. student in Computer Science, were selected through a highly competitive process.

- The Red Cross/Red Crescent Climate Centre Internship Program, now in its second year, placed two interns – Leslie Dodson and Drew Zackary - in Zambia, South Africa and Uganda over the summer.

Chris Schaefbauer, Colorado Congressman Jared Polis, and Emily Pugach at the 2014 "Catalyzing Advocacy in Science and Engineering" workshop.

- Inside the Greenhouse – led by Rebecca Safran, Beth Osnes and Max Boykoff - featured a presentation by Winona LaDuke (along with Nani Chacon and Adrian Manygoats) titled "Indigenous Women Telling a New Story About Energy and Climate" at University Theater in December It also hosted "A Conversation with Andrew Revkin" at Macky Auditorium in April.

- Bobbie Klein participated in a 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.

Red Cross/Red Crescent Climate Centre Intern Drew Zackary in Karimoja.

CENTER FACULTY

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

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

LISA DILLING

Lisa Dilling is Assistant 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

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.

Home page: http://sciencepolicy.colorado.edu/about_us/meet_us/ben_hale

Twitter: @BenjaminHale3

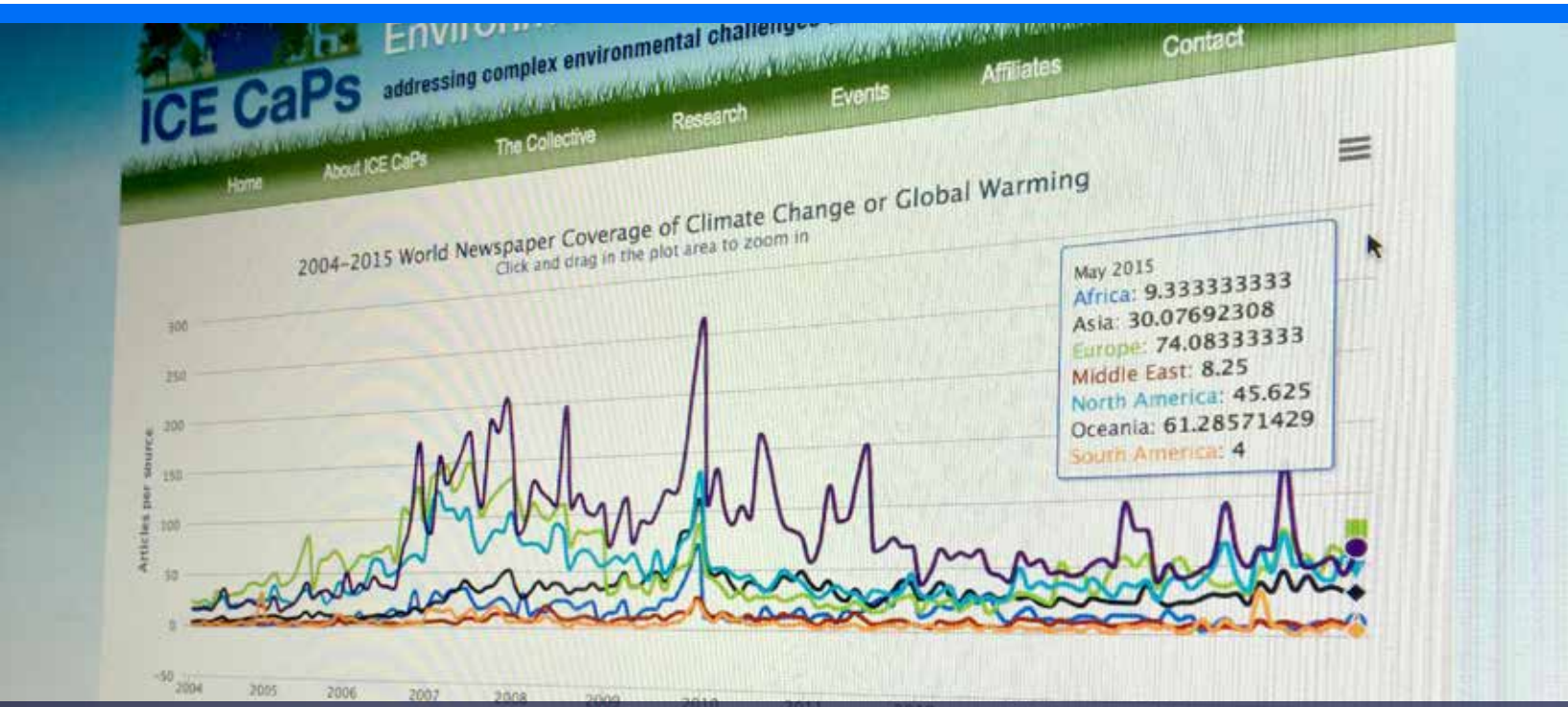
ROGER PIELKE, JR.

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 T*he 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

Twitter: @RogerPielkeJr

Blog: http://rogerpielkejr.com



RESEARCH

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 2014 research projects are described below.

MAX BOYKOFF

Max Boykoff's research and creative work has two focal areas. One focus is on the 'cultural politics of climate change' which refers to how the attitudes, intentions, beliefs and behaviors of individuals and groups shape (and are shaped by) the perceived spectrum of possible action in the context of climate change. A second focus is on the transformations of carbon-based economies and societies, with a particular emphasis on the interface of science and practical action, including policies. Through many connected projects and collaborations, his research commitments have sought to examine 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 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, Xi Wang, Lucy McAllister, Kevin Andrews, Joanna Boehnert, 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).

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. An example of this is a project examining outlier perspectives in climate discussions often called climate 'contrarians', from which Max published two peer-reviewed papers in 2013 (in *American Behavioral Scientist*, and *Celebrity Studies*, the second co-authored with Shawn Olson).

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. We 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, we seek 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 (Assistant 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. Produce and distribute the 'Inside the Greenhouse' program

DESERAI ANDERSON CROW

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

Winona LaDuke presenting to CU Boulder students on "Indigenous Women Telling a New Story About Energy and Climate".

Damage to Lefthand Canyon near Boulder, Colorado from September 2013 floods. Photo: Jeremy Papasso/AP.

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.

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. Researchers are using Colorado water and energy case studies to compare the use of narratives by advocates across time and subject areas.

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

With Elizabeth Albright, a colleague at Duke University, this 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's research examines how humans behave in the face of environmental risks.

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

Collaborators: Hannah Brenkert-Smith (CU-IBS), Nicholas Flores (CU-Economics & IBS), Patricia Champ (USFS)

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

Homes destroyed in the 2012 Waldo Canyon Fire in Colorado Springs, Colorado. Photo: Rick Wilking/Reuters.

(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. This motivates an in-progress study employing 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.

COOKING UP CLEAN AIR: DEMAND FOR IMPROVED COOKSTOVES AND IMPLICATIONS FOR AIR QUALITY AND HEALTH IN GHANA

Collaborators: Christine Wiedinmyer (NCAR), Andy Monaghan (NCAR), Mike Hannigan (CU-Eng), Ricardo Piedrahita (CU-Eng), Evan Coffey (CU-Eng), Didier Muvandimwe (CU-Eng), Isaac Rivera (CU-Geog), Vanya Dukic (CU-Applied Math), Yolanda Hagar (CU-Eng), Ernest Kanyomse (Navrongo Health Research Centre)

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. Two hundred households in the Kassena-Nankana district of Northern Ghana were randomly selected to participate in a randomized field trial of two types of improved biomass-burning cookstoves. Social surveys have been deployed to measure cooking behaviors and willingness to pay for these technologies. Personal exposure to pollutants, in-home air quality measurements, and health outcomes will be monitored over two years to assess the stoves' impacts. Results will be used to generate coupled natural-human system models of the impacts of scaled-up stove use on social, health, and air quality outcomes. These projects are funded by the NSF (Coupled Natural and Human Systems) and the US EPA.

LISA DILLING

Lisa's research seeks to understand how we can improve societal outcomes with respect to climate-related risks. It is commonly assumed that more or better information will improve decision making, but there is often a disconnect between the actual context of decision making and the process of producing scientific knowledge. Her research has identified some of the reasons that current science policies lead to research that is less usable for decision making. Her research has also illuminated factors beyond the use of information that drive decision making and affect adaptive capacity, or the ability to effectively respond and adjust to climate-related risks. Lisa's research program has evolved over time to ask questions under three, inter-related themes with respect to climate and societal outcomes: 1) How can information be more usable in resource management and climate adaptation decision making?; 2) How does decision context affect policy options and demand for information?; and 3) What factors shape the adaptive capacity of organizations managing resources at the local level? She considers herself a problem-oriented scholar

A woman in Ghana cooks over a traditional, open fire. Photo: Global Alliance for Clean Cookstoves.

utilizing mainly social and policy science mixed-method approaches. Her research is also interdisciplinary and collaborative, combining disciplines such as geography, political science, and the natural sciences.

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), Laurna 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 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.

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

Lisa Dilling 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.

CLIMATE CHANGE ADAPTATION IN U.S. PUBLIC LANDS: PROGRESS, BARRIERS AND THE ROLE OF INFORMATION

With NSF and Western Water Assessment (WWA) funding, Lisa Dilling and graduate student Kelli Archie (along with Jana Milford and Fred Pampel) examined the status of decision making on climate change and adaptation by U.S. federal land managers in several western states. The project focused on opportunities and barriers to action, as well as the role of information in supporting decision making on adaptation. Over 600 public lands officials in three western states were surveyed and results were published and included in Kelli's dissertation.

THE COLORADO BASIN RIVER FORECAST CENTER AND THE DECISION MAKING PROCESS

(with Bobbie Klein)

This WWA-funded project is aimed at developing a comprehensive understanding of the use of information

Graduate student Meaghan Daly and research assistant Shiyo Alakara talk with Maasai villagers as part of a research project on improving information for climate adaptation in Tanzania funded by USAID.

by stakeholders of the NOAA/NWS Colorado Basin River Forecast Center (CBRFC). Through surveys and interviews the researchers will assess the climate information needs of CBRFC stakeholders and how they do or do not use quantitative streamflow forecasts. This will provide 1) a better understanding of how water managers and others who use CBRFC forecasts deal with variability and 2) a context through which to view and understand the potential utility of the results of the "Snowmelt Perturbations in the Upper Colorado River Basin" project.

EVALUATING STAKEHOLDER NEEDS IN SUPPORT OF A NEW ONGOING NATIONAL ASSESSMENT

This WWA-funded project has developed a database of stakeholder needs across the upper and lower Colorado Basin. Together with the Great Lakes and Carolinas RISAs, we have developed a database from past and current stakeholder reports, meetings, and studies, coding the information for variables of interest (such as understanding how climate information needs change across time and sectors, levels of interaction with scientists, participation in networks, characterization of needs across scale and sectors, accuracy/level of uncertainty, spatial distribution, complementarities and synergies, patterns of knowledge uptake, etc.), and developed a comprehensive framework that can be accessed and tested by other RISAs and assessment groups.

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 Dilling and post-doc 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.

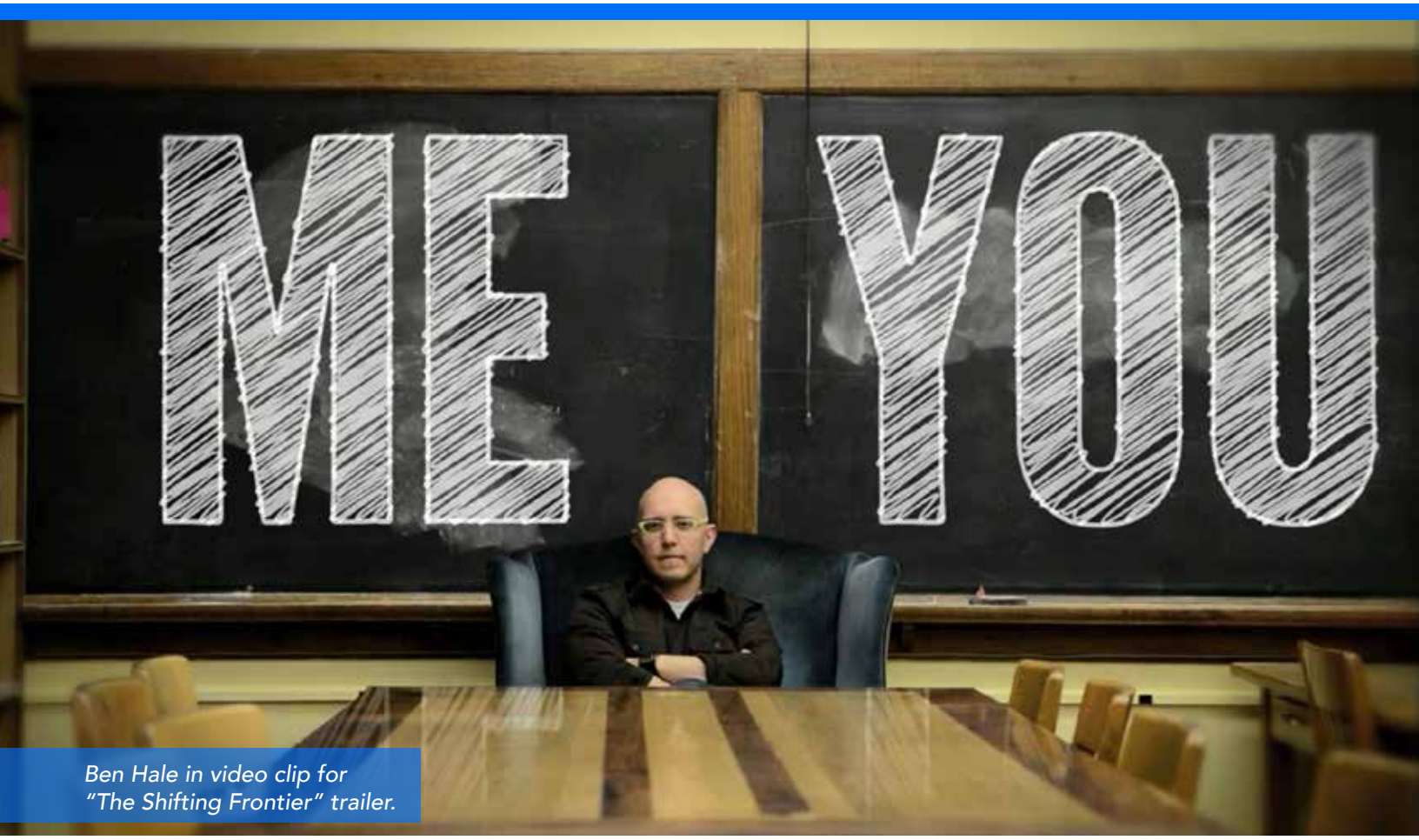
UNDERSTANDING THE DRIVERS OF ADAPTATION AT THE MUNICIPAL LEVEL IN CO, WY AND UT

Lisa Dilling 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.

1933 Cherry Creek Colorado flood. Photo: www.waterarchives.org



Ben Hale in video clip for "The Shifting Frontier" trailer.

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 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 Pielke, Jr.'s research focuses on the governance of science and technology. He has taken a particular focus on the role of expert advisors to decision makers. He has also written widely on the issues surrounding climate change science and politics. He has a longstanding interest in the use and misuse of predictions and the economics of disasters. In recent years he has developed a new research theme focused on the governance of sports.

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.

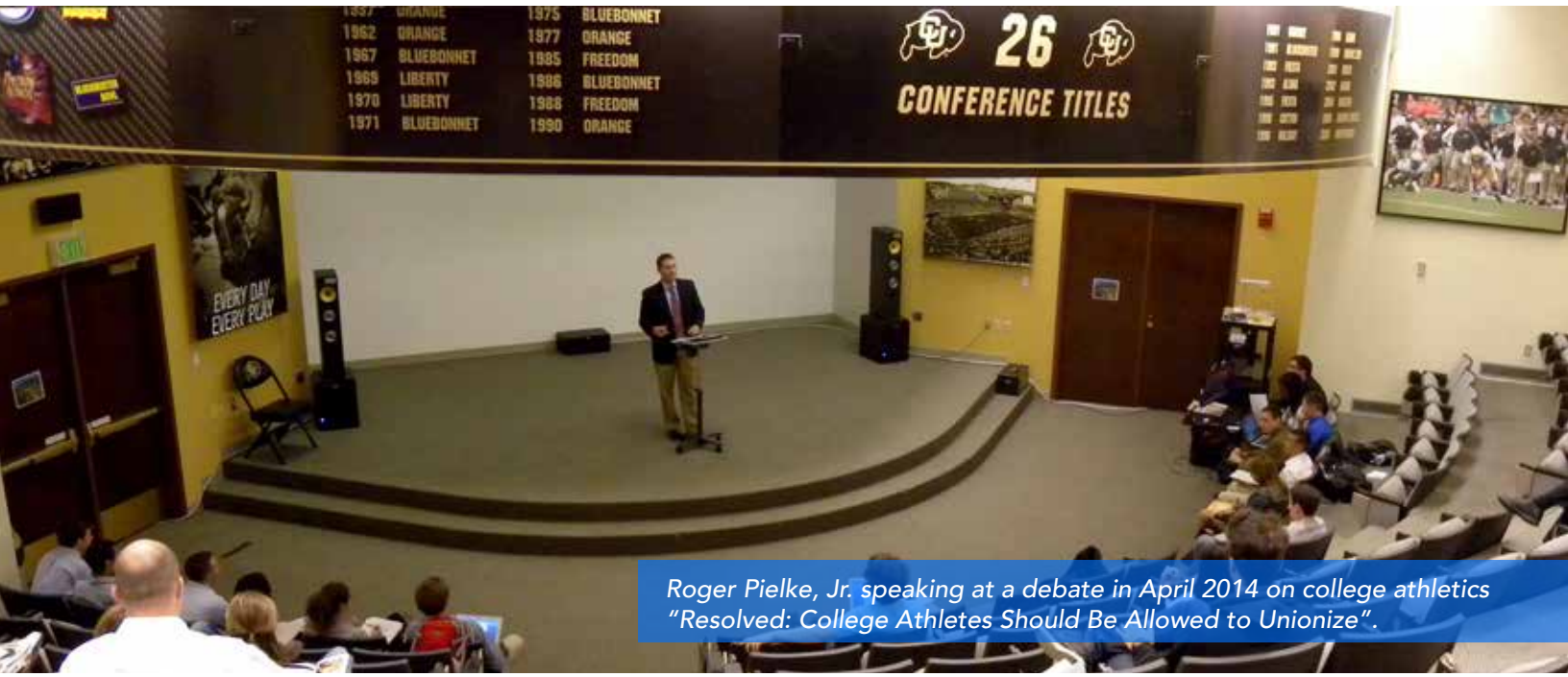
SCIENCE, TECHNOLOGY, POLICY AND POLITICS OF SPORT (STEPPS)

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.

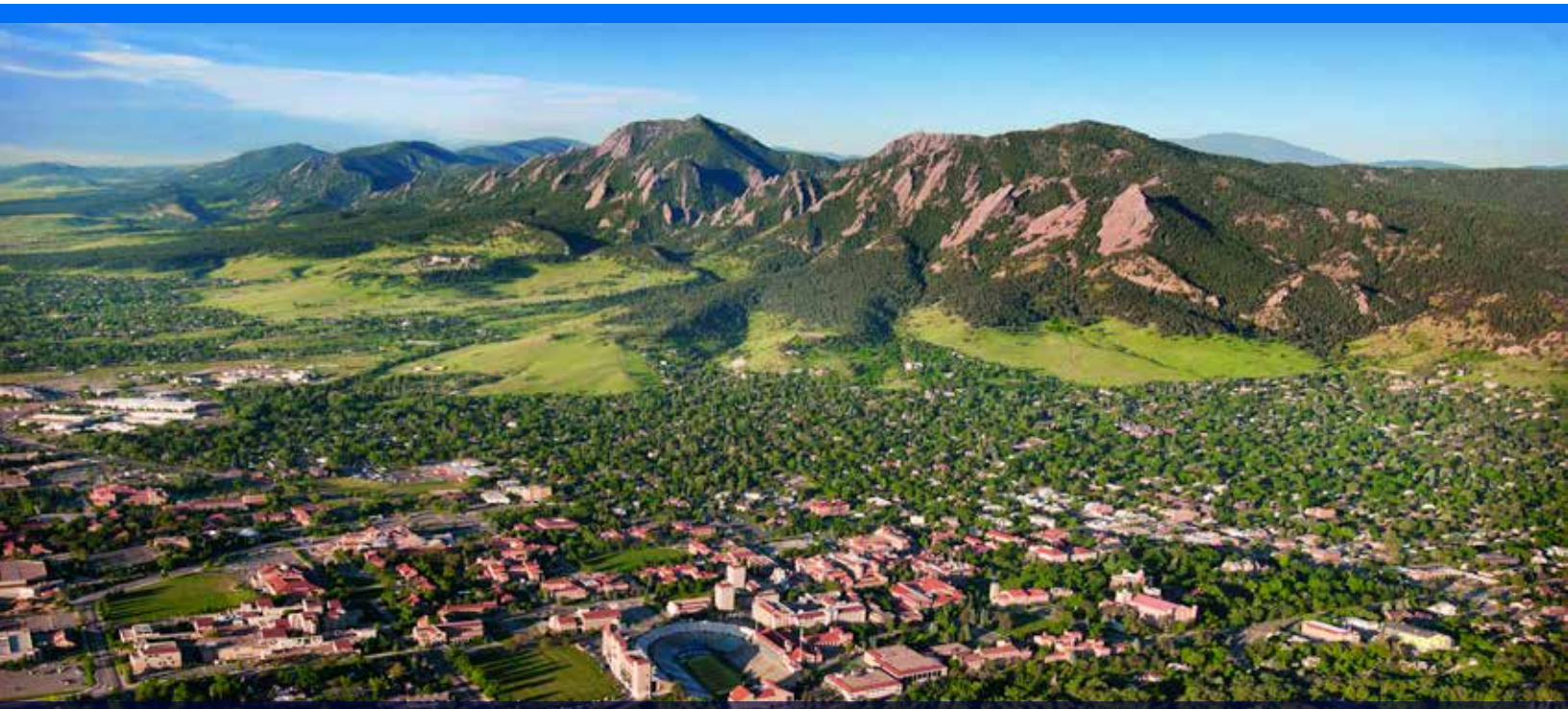
OTHER PROJECTS

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.



Roger Pielke, Jr. speaking at a debate in April 2014 on college athletics "Resolved: College Athletes Should Be Allowed to Unionize".



EDUCATION

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 internship for graduate students is now in its second year. New in 2014, the Center hosted 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 tenth 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 24 students from a variety of CU departments and institutes. Twenty-six students have received certificates from the program and have found careers in government, academia and non-profits. The Center is in the process of transitioning the STP Certificate Program to a Professional Master's program in 2015.

COURSES TAUGHT BY CENTER FACULTY IN 2014

- ENVS 1000: Introduction to Environmental Studies (Max Boykoff)
- ENVS 3030: Social Surveys for Environmental Studies: Methods and Case Studies (Katie Dickinson)
- ENVS 3032: Environment, Media and Society (Deserai Crow – new course)
- ENVS 3173/THTR 4173: Creative Climate Communications (Max Boykoff)
- ENVS 3525 Natural Resource Management in Colorado and the West (Deserai Crow)
- ENVS 3621: Energy Policy and Society (Lisa Dilling)
- ENVS 4800: Skepticism, Denialism and Scientism: The Philosophy of Climate Science (Ben Hale)

- ENVS 5100: Science and Technology Policy (Lisa Dilling)
- ENVS 5100: Theory and Methods in Environmental Studies (Ben Hale)
- ENVS 5100: Climate Politics and Science Policy (Max Boykoff)
- ENVS 5120: Quantitative Methods of Policy Analysis (Katie Dicksinson)
- ETHN 3104: The Governance of Sport (Roger Pielke, Jr. – new course)

2014 CENTER GRADUATES

KANMANI VENKATESWARAN

Kanmani Venkateswaran who was advised by Max Boykoff received an MS in Environmental Studies. Her thesis was titled "The Vulnerability of Zambian Communities Living Along the Zambezi River Basin to Floods."

XI WANG

Xi Wang who was advised by Max Boykoff also was awarded an MS in Environmental Studies. Her thesis was titled "The Emergence of the Renewable Portfolio Standard in the U.S.: A Case Study of Negotiating Power in California".

LISA CARUANA

Lisa Caruana who was advised by Max Boykoff was awarded an MS in Environmental Studies. Her thesis was titled "Going Beyond Organic: The Connection between Food, Culture, and Biodiversity, and the impact on Environmental Health".

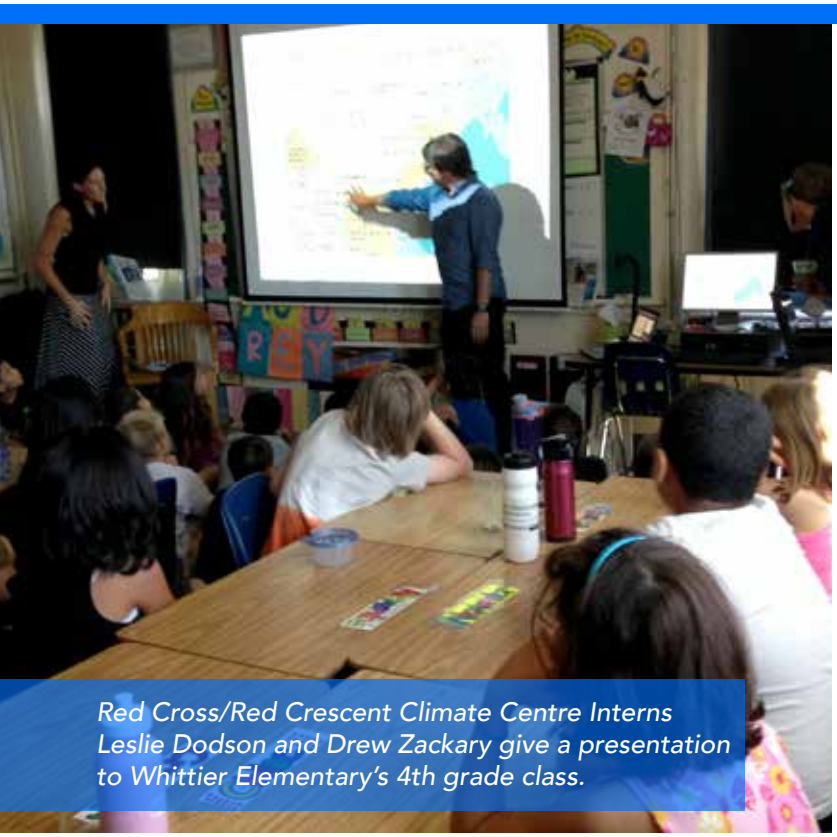
ABBY KURANZ

Abby Kuranz who was advised by Deserai Crow was awarded an MS in Environmental Studies. Her thesis was titled "Multi-Level Governance of Colorado's Instream Flow Program."

ELIZABETH KOEBELE

Elizabeth Koebele who was advised by Deserai Crow defended her thesis titled "Investigating Stakeholder Values, Interactions, and Outcomes in Colorado's IBCC Process: An Advocacy Coalition Analysis". She was awarded an MS in Environmental Studies and is continuing into the ENVS Ph.D. program.

CSTPR graduates Kanmani Venkateswaran, Lisa Caruana, and Xi Wang.



Red Cross/Red Crescent Climate Centre Interns Leslie Dodson and Drew Zackary give a presentation to Whittier Elementary's 4th grade class.

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

Playing climate games at the Future Climate for Africa workshop in Lusaka. Photo: B. Koelle.

The program placed Leslie Dodson in Lusaka, Zambia and Capetown, South Africa and Drew Zackary in Lira, Apac, Karamoja and Otuke, Uganda during the summer of 2014.

AAAS CASE WORKSHOP COMPETITION

The Center launched a new competition in 2014 that sent two University of Colorado graduate students, Emily Pugach (Molecular, Cell and Development Biology) and Chris Schaefbauer (Computer Science) to the American Association for the Advancement of Science "Catalyzing Advocacy in Science and Engineering" Workshop in Washington, D.C. At the workshop students learned about Congress, the federal budget process, and effective science communication, and met with Members of Congress. Emily provided this report:

"The workshop truly exceeded my expectations, and those of all the participants. As a graduate student who relies on federal dollars with little knowledge of the process and mechanisms by which these dollars are allocated, it was eye opening to learn more about these procedures and what I can do to advocate for my own research and that of the University. Truly I cannot say enough good things about the specific workshops, the people I met from AAAS, and the individuals we met within our congressmen's offices. I sincerely hope AAAS makes the CASE workshop an annual event and that CU can continue to participate."

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

Students in Max Boykoff's Creative Climate Communications course playing the 'Paying for Predictions' game with Dr. Pablo Suarez of the Red Cross Red Crescent Climate Centre.

OUTREACH

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:

MEDIA AND CLIMATE CHANGE OBSERVATORY (MECCO)

CSTPR's Media and Climate Change Observatory (MECCO) was one of the winners of the "2014 Best Digital Data Management Plans and Practices" competition sponsored by University of Colorado's Office of the Vice Chancellor for Research. MECCO systematically monitors media coverage of climate change in fifty sources across twenty-five countries around seven regions of the world. Members include Maxwell Boykoff (CIRES and Environmental Studies), a postdoctoral scholar (Joanna Boehnert [CIRES]), four PhD students (Lucy McAllister [Environmental Studies], Meaghan Daly [Environmental Studies], Lauren Gifford [Geography], and Xi Wang [Environmental Studies]) and one Masters student (Kevin Andrews [Environmental Studies]). This work is a continuation of ongoing media monitoring collaborations with colleagues in Japan (Midori Aoyagi-Usui), the United Kingdom (Maria Mansfield) and Spain (Rogelio Fernandez Reyes).

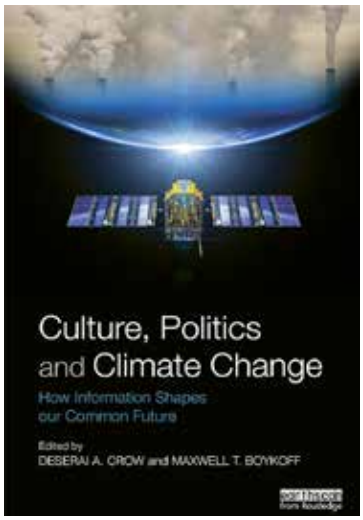
NEW BOOKS

DISASTERS AND CLIMATE CHANGE

Rightful Place of Science Series
Consortium for Science, Policy & Outcomes
by Roger Pielke, Jr.
November 2014

In recent years the media, politicians, and activists have popularized the notion that climate change has made disasters worse. But what does the science actually say? Roger Pielke, Jr. takes a close look at the work of the Intergovernmental Panel on Climate Change, the underlying scientific research, and the data to give you the latest science on disasters and climate change.

CULTURE, POLITICS AND CLIMATE CHANGE



How Information Shapes our Common Future
Edited by Deserai A. Crow and Maxwell Boykoff
Routledge
March 2014

This book draws from multiple disciplinary perspectives to present an overview of the knowledge related to our current understanding of climate change politics and culture. It illustrates the translation of values into political outcomes through the use, production, and consumption of information. Focusing on cultural values and norms as they are translated into politics and policy outcomes, the book presents a unique contribution in combining research from varied disciplines and from both the developed and developing world.

FACULTY AND STUDENT PRESENTATIONS

Center faculty and students gave 51 presentations over the past year on a wide variety of topics. A complete list can be found in the Appendix.

NOONTIME SEMINAR SERIES

Every semester during the academic year the Center sponsors a noontime seminar series, bringing researchers and students from across campus and elsewhere to discuss their work. See the Appendix for a complete list of talks in the series. The Center now provides live webcasts of our noontime seminar talks to allow remote viewing. The webcasts are also available on our website after the event.

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, Ogmius (http://sciencepolicy.colorado.edu/ogmius)
- Briefing sent to over 3,700 Washington, D.C. decision makers (http://sciencepolicy.colorado.edu/outreach/cstpr_briefings.html)
- Roger Pielke, Jr.'s science policy and sports policy blogs
- Frequent media references (see Appendix)
- Twitter (https://twitter.com/cu_cstpr) and Facebook (https://www.facebook.com/pages/Center-for-Science-and-Technology-Policy-Research/279714958827043) presence

CSTPR alum, Adam Briggle, giving a talk in March 2014 on "Guinea Pigs of the Shale: Informed Consent and the Politics of Fracking".

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 now writes on science policy and serves on various committees. At the Center he works with students to offer his perspective as a practitioner and with faculty on various projects.

KATIE DICKINSON

Katie 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 is excited about the prospect of working more closely with natural and physical scientists on projects that build an integrated understanding of the ways that human actions and environmental processes interact. A newly funded project on clean cookstoves and

their air quality and health impacts in Ghana is a prime example of this kind of interdisciplinary research. 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 provides invaluable administrative, web and graphics support at the Center. 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.

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, Ogmius, and as the program coordinator 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

KEVIN ANDREWS

Kevin Andrews is an M.S. student 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.

MARILYN AVERILL

Marilyn Averill is a doctoral student in Environmental Studies with interests in international environmental governance, environmental justice, the politics of science, and science and technology policy, particularly in the context of global climate change. Her research focuses on the role that litigation plays in shaping climate-related policy.

Marilyn was formerly an attorney with the Department of the Interior, where she provided legal advice to the U.S. Fish and Wildlife Service and the National Park Service. She graduated from Wellesley College and holds Master's

degrees in Public Administration from the Kennedy School of Government and in Educational Research and Evaluation Methodology from the University of Colorado, and a J.D. from the University of Colorado School of Law. She is on the Steering Committee for the Research and Independent Non-Governmental Organizations (RINGOs), one of the nine constituencies of the UNFCCC secretariat, as well as a senior fellow with the Getches-Wilkinson Center for Natural Resources, Energy and the Environment at the University of Colorado Law School.

JOHN BERGGREN

John is a Ph.D. student 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.

MEAGHAN DALY

Meaghan Daly is a Ph.D. student in the Environmental Studies Program and 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 will focus 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.

BRIAN DEVINE

Brian is an M.S. student in the Environmental Studies Program 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 current research investigates the economic and cultural impacts of water transfers from small agricultural communities to thriving municipalities.

LYDIA DIXON

Lydia Dixon is a doctoral candidate in the ENVS 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.

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.

ADAM HERMANS

Adam 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 Master of Science Communication from the University of Otago in Dunedin, New Zealand. Adam (aka At) moonlights as a filmmaker. At Films have been 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.

JUHI HUDA

Juhi Huda is a doctoral student in the Environmental Studies Program (policy core). She completed her bachelor's degree in English from University of Pune, India, and came to the US in 2011 to pursue a Masters in English with an emphasis in Literature and Environment at the University of Nevada, Reno. 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. She is now interested in investigating the role of narratives in the policymaking process, with specific focus on using the Narrative Policy Framework. She has worked as an English as a Second Language (ESL) Instructor for three years in India, taught English Composition courses at University of Nevada, Reno, and was a Teaching Assistant for ENVS 1000.

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 student in the Environmental Studies program, a research affiliate with the Center for Science and Technology Policy (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 current 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. Elizabeth currently serves as the lead graduate teacher for the Environmental Studies program.

ALEXANDER LEE

Alex is a Ph.D. student in the Environmental Studies Program and member of the Committee on Environmental Thought (ComET). He focuses 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 recently completed his M.S. working on the ethics of environmental restoration, work he now continues with

ComET. His dissertation will focus 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. This past summer 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. student 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. student 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.

ARIELLE TOZIER DE LA POTERIE

Arielle 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.

KANMANI VENKATESWARAN

Kanmani Venkateswaran 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. Kanmani was awarded an MS in Environmental Studies in 2014.

XI WANG

Xi Wang is a doctoral student in the Environmental Studies (ENVS) program at University of Colorado-Boulder. She is also a group member at the Center for Science & Technology Policy Research (CSTPR), which is part of the Cooperative Institute for Research in Environmental Sciences (CIRES).

Xi 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.

Xi received her Master of Science degree in May 2014. Her thesis, The Emergence of the Renewable Portfolio Standard in the U.S.: A Case Study of Negotiating Power in California, traces the origins of the popular renewable portfolio standard (RPS). It shows how the RPS was not an imminent policy outcome in the U.S., and initially emerged during electricity restructuring as a radical policy instrument that went against the grain of dominant thinking.

Xi has also served as an intern at the National Renewable Energy Laboratory (NREL) and as a Breakthrough Generation Fellow at The Breakthrough Institute. Prior to graduate school, Xi worked as a strategy and technology consultant at Booz Allen Hamilton in Washington, D.C. While there, she also engaged in social, food, and environmental justice activism. Xi earned a bachelor's of Arts in English literature from Cornell University.

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.

POSTDOCTORAL ASSOCIATE

JESSICA WEINKLE

Jessica Weinkle received her Ph.D. in Environmental Studies in 2013. While working on her M.A. in Climate and Society at Columbia University she became interested in natural hazards and risk perception and communication. She came to Colorado to continue to pursue those interests. Jessica did her undergraduate work in zoology at the University of Texas at Austin. Jessica was awarded the highly competitive CIRES Graduate Research Fellowship for fall 2012. She worked as a postdoctoral associate with ICAT Managers in 2014.

VISITORS

JOANNA BOEHNERT

Joanna Boehnert completed an ARHC funded Ph.D. at the University of Brighton in 2012 on the visual communication of ecological literacy. She is founding director of EcoLabs, an environmental communication design studio formerly based in London. She has recently started work on a

book titled *Design, Ecology, Politics* under contract with Bloomsbury Academic. She was a CIRES Visiting Research Fellow at the CSTPR in 2014 working on visualizing climate change discourses and the green economy. In the summer of 2014 she presented a series of posters and a paper at the Changing Climate Communication conference in Amsterdam and two papers at the Design Research Society's conference in Umea, Sweden. Her theoretical work describes how images function to communicate environmental information; explores other issues of environmental communication; and examines the ways in which the design industry engages with issues of sustainability. Her practical work uses design methods to make new communication resources on the environment, especially on issues of political contestation.

GESA LÜDECKE

Gesa Lüdecke studied Environmental Sciences at the University of Lueneburg, Germany with 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.

SAMUEL TANG

Samuel Tang studied BSc Geography at the University of Exeter (UK) and was awarded a first class with honours. Following his first degree he continued his studies at the University of Exeter (UK) where he graduated with an MSc in Sustainable Development. In September 2011, Samuel joined the Department of Geography at King's College London after being awarded an ESRC studentship by the King's Interdisciplinary Social Science Doctoral Training Centre (KISS-DTC). Samuel is also an affiliated PhD student to Project ICAD at the University of Leeds. The project aims to significantly advance knowledge systems to enable society to adapt effectively to an uncertain climate. His research interests include: institutional governance of climate change; the science-policy interface, its interactions and implications for mitigating and adapting to climate change; how science is communicated in society, between stakeholders from multiple-spheres; and the public perception of risk and climate change.

ALUMNI

Kelli Archie (Ph.D., ENVS, 2012), received her Ph.D. in Environmental Studies in 2012. 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.

Adam Briggle (Ph.D., ENVS, 2006), is an assistant professor in the Department of Philosophy and Religion Studies and a faculty fellow in the Center for the Study of Interdisciplinarity at the University of North Texas. He is author of *A Rich Bioethics: Public Policy, Biotechnology, and the Kass Council* (University of Notre Dame Press, 2010) and co-author with Carl Mitcham of *Science and Ethics: An Introduction* (Cambridge University Press, 2012). His latest work is on the ethics and politics of shale gas drilling.

David Cherney is a Consultant in PA Consulting Group's Energy Capital Markets Practice, with expertise in public policy analysis, electricity market dynamics, and program evaluation. He holds a Ph.D. from the University of Colorado-Boulder, a Master's degree from Yale University, and a B.A. from Claremont McKenna College.

Kelsey Cody earned his MS from the Environmental Studies Program at CU Boulder in 2011 on the Water and Society track under Doug Kenney. His thesis investigated the phenomenon of watershed-level municipal water utility integration in the West and its relevance to climate change adaptation. He is in the Ph.D. program in ENVS (dissertation is related to adaptation).

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.

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.

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 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).

Nat Logar (Ph.D., ENVS, 2007), is a law student at the University of Colorado Boulder. 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.

Elizabeth McNie (Ph.D., ENVS, 2008), is the evaluation coordinator for Western Water Assessment and conducts research on the effectiveness of regional climate services, among other topics. Previously Elizabeth was an Assistant Professor of Political Science and Earth & Atmospheric Sciences at Purdue University. Her primary area of research is climate services and how to improve the utility of climate science information for decision makers.

Shali Mohleji (Ph.D., ENVS, 2011) is 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.

Ursula Rick (postdoc 2009), completed a Congressional Geoscience Fellowship with Senator Mark Udall of Colorado and is currently working as a regulatory affairs analyst with the Western Energy Alliance.

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.

Kevin Vranes (CIRES Visiting Fellow 2006-08), is currently Vice President, Carbon Markets at Tact, L3C. 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.

CSTPR graduate student, Lucy McAllister, giving a talk in November 2014 on "Blind Spots: Electronics Firms, and the Social and Environmental Harms of the Electronics Commodity Chain".

CSTPR members at the 2014 CIRES Rendezvous.

AFFILIATES

- Krister Andersson
- Jason Delborne
- Erik Fisher
- Doug Kenney
- Lisa Keranen
- Paul Komor
- Frank Laird
- Juan Lucena
- Diane McKnight
- Elizabeth McNie
- Jana Milford
- Carl Mitcham
- Jerry Peterson
- Balaji Rajagopalan
- Daniel Sarewitz
- Mark Squillace
- Kathleen Tierney
- Brad Udall
- Jason Vogel
- James Wilsdon
- Tom Yulsman
- Michael Zimmerman

EXTERNAL COAUTHORS, COLLABORATORS, SPEAKERS

- Elizabeth Albright (Coauthor, collaborator)
- William Anderegg (Coauthor)
- Jens Sejer Andersen (Speaker)
- Kristen Averyt (Speaker)
- Heather Bailey (Speaker)
- A. Bailey (Coauthor)
- Morgan Bazillian (Coauthor)
- D. Boymel (Coauthor)
- Adam Briggle (Speaker)
- M. Caine (Coauthor)
- E.S. Callaway (Coauthor)
- Amanda Carrico (Speaker)
- Nani Chacon (Speaker)
- Evan Coffey (Collaborator)
- J.M. de Suarez (Coauthor)
- G. Dirks (Coauthor)
- Leslie Dodson (Speaker)
- Vanya Dukic (Collaborator)
- I. Fischhendler (Coauthor)
- S. Gallaher (Coauthor)
- L. Giangola (Coauthor)

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- Eric Gordon (Collaborator)
- Yolanda Hagar (Collaborator)
- Mike Hannigan (Collaborator)
- Tanya Heikkila (Speaker, coauthor)
- J. Kagan (Coauthor)
- Ernest Kanyomse (Collaborator)
- Doug Kenney (Collaborator)
- L. King (Coauthor)
- B. Koelle (Coauthor)
- Kritee Kritee (Speaker)
- Adriannae Kroepsch (Speaker)
- Winona LaDuke (Speaker)
- Frank Laird (Coauthor)
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- Eric Lovell (Speaker)
- J. Lovering (Coauthor)
- M. Luke (Coauthor)
- A. Magee (Coauthor)
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- T. Moss (Coauthor)
- Didier Muvandimwe (Collaborator)
- Ted Nordhaus (Coauthor)
- Saffron O'Neill (Speaker)
- Beth Osnes (Collaborator)
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- Andrea Ray (Collaborator)
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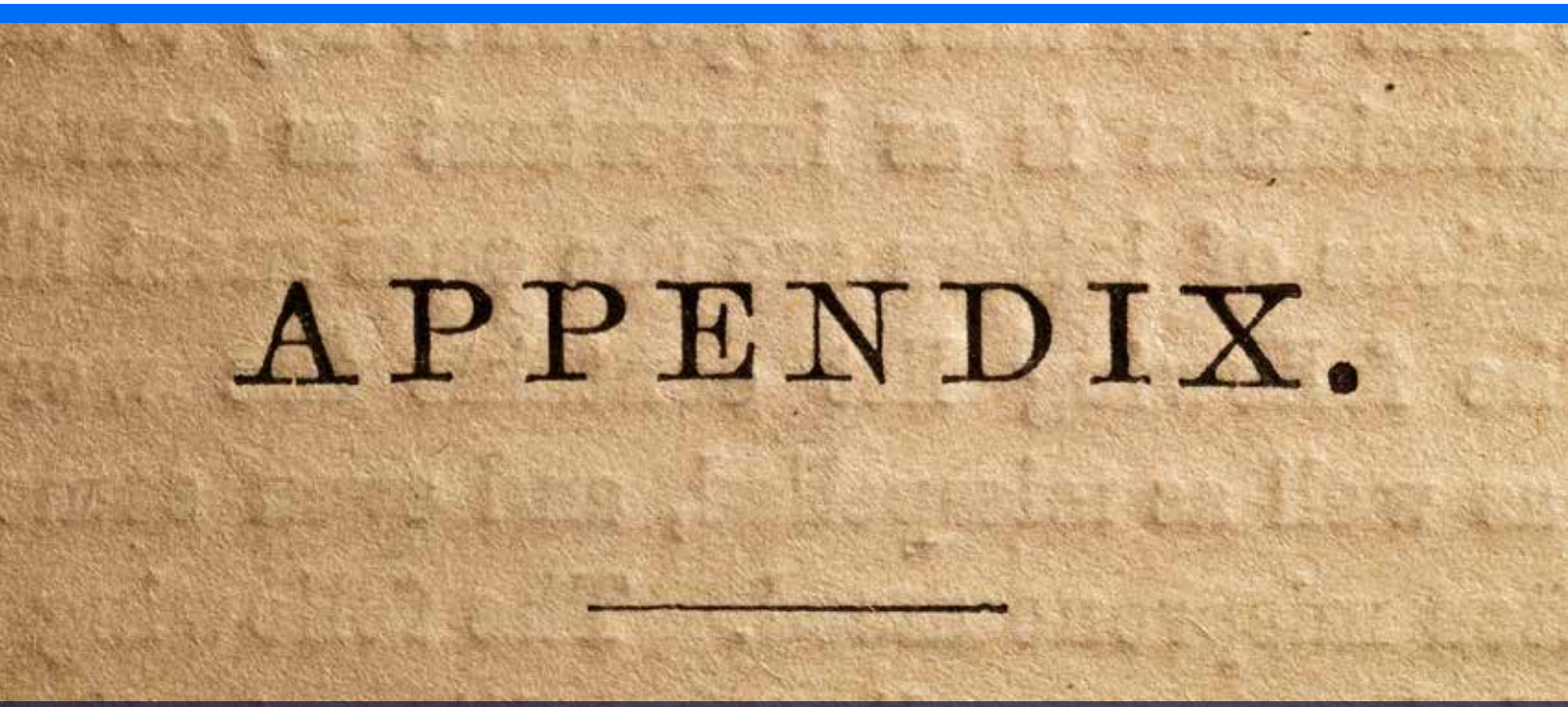
- Isaac Rivera (Collaborator)
- M. Roman (Coauthor)
- T.L. Root (Coauthor)
- J. Roy (Coauthor)
- Michael Shellenberger (Coauthor)
- K. Singh (Coauthor)
- P. Suarez (Coauthor)
- Sam Tang (Speaker)
- Bill Travis (Collaborator)
- A. Trembath (Coauthor)
- Chris Weible (Speaker, coauthor)
- Christine Wiedinmyer (Collaborator)
- Olga Wilhelmi (Collaborator)
- G. Yohe (Coauthor)
- Drew Zackary (Speaker)

Saffron O'Neill giving a talk in January 2014 on "Place Attachment, Performance and Climate Change Adaptation".



APPENDIX

PUBLICATIONS

(Center personnel bolded)

JOURNAL ARTICLES

- Anderegg, W.R.L, E.S. Callaway, **M.T. Boykoff**, G. Yohe and T.L. Root (2014). Awareness of Both Type 1 And 2 Errors in Climate Science and Assessment. Bull. Amer. Meteorol. Soc. 95 (9) 1445-1451, September.

- **Archie, K.M.** (2014). Mountain communities and climate change adaptation: barriers to planning and hurdles to implementation in the Southern Rocky Mountain Region of North America. Mitig. Adapt. Strateg. Glob. Chang. 19 (5) 569-587, June.

- Archie, K.M., **L. Dilling**, J.B. Milford, and F.C. Pampel (2014). Unpacking the 'information barrier': Comparing perspectives on information as a barrier to climate change adaptation in the interior mountain West. Journal of Environmental Management 133:397-410, January 15.

- Bailey, A., L. Giangola, and **M.T. Boykoff** (2014). How Grammatical Choice Shapes Media Representations of Climate (Un)certainty. Environ. Commun. 8 (2) 197-215, April.

- **Dilling, L.** and **J. Berggren** (2014). What do stakeholders need to manage for climate change and variability? A document-based analysis from three mountain states in the Western USA. Regional Environmental Change 10113, August 14.

- Doak, D.F., V.J. Baker, B.E. Goldstein, and **B. Hale** (2014). Moving forward with effective goals and methods to conservation: a reply to Marvier and Kareiva. Trends in Ecology and Evolution 29(3), 132-133, March.

- Doak, D.F., V.J. Bakker, B.E. Goldstein, and **B. Hale** (2014). What is the future of conservation? Trends in Ecology and Evolution 29(2), 77-81, February.

- Fischhendler, I., D. Boymel, and **M. T. Boykoff** (2014). How Competing Securitized Discourses over Land Appropriation Are Constructed: The Promotion of Solar Energy in the Israeli Desert. Environmental Communication, November 17.

- **Hale, B.**, **A. Lee**, and **A. Hermans** (2014). Clowning Around with Conservation: Adaptation, Reparation and the New Substitution Problem. Environmental Values 23 (2) 181-198, April.

- **Hale, B.**, **A. Hermans**, **A. Lee**, and **L. Dixon** (2014). Wolf Reintroduction: Ecological Management and the Substitution Problem. Ecological Restoration 32 No 3 221-228, September 1.

- Heikkila, T., J.J. Pierce, S. Gallaher, J. Kagan, **D. A. Crow**, and C.M. Weible (2014). Understanding

a Period of Policy Change: The Case of Hydraulic Fracturing Disclosure Policy in Colorado. Review of Policy Research 31 (2) 65-87, March.

- **Lee, A.**, **A.P. Hermans**, and **B. Hale** (2014). Restoration, Obligation, and the Baseline Problem. Environ. Ethics 36 (2) 171-186, Summer.

- **McAllister, L.**, A. Magee, and **B. Hale** (2014). Women, E-Waste, and Technological Solutions to Climate Change. Health Hum. Rights 16 (1) 166-178, June.

- Mohleji, S. and **R.A. Pielke, Jr.** (2014). Reconciliation of Trends in Global and Regional Economic Losses from Weather Events: 1980-2008. Nat. Hazards Rev. 15 (4), November.

- **Pielke, Jr., R.A.** (2014). In Retrospect: The Social Function of Science. Nature 507 427-428, March 27.

- **Pielke, Jr., R.A.** (2014). US immigration policy negatively impacts US Soccer. Law in Sport, January 12.

OTHER PUBLICATIONS

BOOKS

- **Crow, D.A.** and **M.T. Boykoff** (2014). Culture, Politics and Climate Change: How Information Shapes our Common Future, 252 pp., Routledge, March.

- **Pielke, Jr., R.A.** (2014). The Rightful Place of Science: Disasters and Climate Change, Consortium for Science, Policy & Outcomes, November 1.

BOOK CHAPTERS

- Bailey, A., L. Giangola, L., and **M. Boykoff** (2014). ¿Eludir el cambio climático? Comparativa de las preferencias de uso lingüísticas en la cobertura mediática en Estados Unidos y España. Periodistas, medios de comunicación y cambio climático Comunicación Social , Ed. B. Leon, 137-153, Comunicación Social, December.

- **Crow, D.A.** and **J. Berggren** (2014). Using the Narrative Policy Framework to Understand Stakeholder Strategy and Effectiveness: A Multi-Case Analysis. In The Science of Stories: Applications of the Narrative Policy Framework in Public Policy Analysis , Ed. M. Jones, E. Shanahan, and M. McBeth, Palgrave Macmillan, December.

- **Hale, B.** (2014). Pollution: Harm, Vice or "Trespass"? In Moellendorf, D and Widdows, H. (eds.), Routledge Handbooks in Applied Ethics, October.

- **Pielke, R.A., Jr.**, S. Rayner, M. Caine (2014). Climate of Failure. In The Hartwell Approach to Climate Policy (The Earthscan Science in Society Series, S. Rayner and M. Caine, eds.), Routledge, London.

- **Pielke, R.A., Jr.**, S. Rayner, S. Prims, M. Caine, S. Rayner and D. Sarewitz (2014). Lifting the taboo on adaptation. In The Hartwell Approach to Climate Policy (The Earthscan Science in Society Series, S. Rayner and M. Caine, eds.), Routledge, London.

- **Pielke, R.A., Jr.**, T. Wigley, M. Caine, and C. Green (2014). Dangerous assumptions. In The Hartwell Approach to Climate Policy (The Earthscan Science in Society Series, S. Rayner and M. Caine, eds.), Routledge, London.

- Sarewitz, D., S. Rayner, **R.A. Pielke, Jr.**, and M. Caine (2014). Disasters, death and destruction: Making sense of recent calamities. In The Hartwell Approach to Climate Policy (The Earthscan Science in Society Series, S. Rayner and M. Caine, eds.), Routledge, London.

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- Suarez, P., J.M. de Suarez, B. Koelle, and **M. Boykoff** (2014). Serious fun: Scaling up community-based adaptation through experiential learning. In Community-based Adaptation to Climate Change, Schipper, ELF; Ayers, J; Reid, H; Huq, S; Rahman (eds.), A136-151, Routledge, London.

LETTERS/REPORTS/NOTES/MEMOS

- Caine, M., J. Lloyd, M. Luke, L. Margonelli, T. Moss, T. Nordhaus, **R. Pielke, Jr.**, M., Roman, J. Roy, D. Sarewitz, M. Shellenberger, K. Singh, and A. Trembath (2014). Our High Energy Planet: A Climate Pragmatism Project. Breakthrough Institute and Consortium for Science, Policy & Outcomes at Arizona State University, 28 pp., April.

- **Crow, D. A.** and E. A. Albright (2014). Policy Learning and Community Recovery: Analyzing Responses to Colorado's Extreme Flood Events of 2013. Natural Hazards Center, Quick Response Research Report 248, December.

- Dirks, G, L. King, F. Laird, J. Lloyd, J. Lovering, T. Nordhaus, **R. Pielke, Jr.**, M. Román, D. Sarewitz, M. Shellenberger, K. Singh, and A. Trembath (2014). High-Energy Innovation: A Climate Pragmatism

Project. The Breakthrough Institute, 44 pp., December.

- Moss, T., **R. Pielke, Jr.**, and M. Bazilian (2014). Balancing Energy Access and Environmental Goals in Development Finance: The Case of the OPIC Carbon Cap. Center for Global Development Policy Paper 038, Published April.

NEWSPAPER/MAGAZINE ARTICLES/POPULAR PRESS

- **Boykoff, M.** (2014). Fostering Creative Climate Communications "Inside the Greenhouse." Leopold Leadership 3.0.
- **Hale, B.** (2014). The Most Terrifying Thing About Ebola. Slate, September 19.
- **Hale, B.** (2014). Would You Lie to Airport Screeners? The terrible, "lesser evil" choice facing travelers asked about Ebola. Slate, October 14.
- **Pielke, Jr., R.A.** (2014). A doping conundrum: Just $6m a year on developing new tests, $350m on testing. Sporting Intelligence, July 21.
- **Pielke, Jr., R.A.** (2014). A Lack of Reliable Doping Data Puts the Spirit of Sport in Peril. Sporting Intelligence, September 30.
- **Pielke, Jr., R.A.** (2014). An Obama Advisor Is Attacking Me for Testifying That Climate Change Hasn't Increased Extreme Weather. The New Republic, March 5.
- **Pielke, Jr., R.A.** (2014). Bankers and bookies oust FIFA as best bets for World Cup forecasts. Sporting Intelligence, June 24.
- **Pielke, Jr., R.A.** (2014). Can FIFA's Corruption Be Stopped? Foreign Policy, November 16.
- **Pielke, Jr., R.A.** (2014). Disasters Cost More Than Ever - But Not Because of Climate Change. FiveThirtyEight.com, March 19.
- **Pielke, Jr., R.A.** (2014). Dutee Chand, science and the spirit of sport: Why IAAF policy is deeply flawed. Sporting Intelligence, October 20.
- **Pielke, Jr., R.A.** (2014). FIFA has bigger problems than corruption alone. Soccer Economics, May 7.
- **Pielke, Jr., R.A.** (2014), FIFA Has New Problems, But It Hasn't Addressed Its Old Ones. FiveThirtyEight.com, June 3.
- **Pielke, Jr., R.A.** (2014). FIFA must not be allowed to remain impervious to change. Financial Times, July 12.
- **Pielke, Jr., R.A.** (2014). Following Up on Disasters and Climate Change. FiveThirtyEight.com, March 21.
- **Pielke, Jr., R.A.** (2014). Germany: Deserving, obvious World Cup winners (almost nobody predicted). Sporting Intelligence, July 16.
- **Pielke, Jr., R.A.** (2014). Government Science Advice: Where are the Honest Brokers? The Guardian, August 26.
- **Pielke, Jr., R.A.** (2014). Hurricane luck will run out. Protect America with structural integrity. USA Today, June 9.
- **Pielke, Jr., R.A.** (2014). Measuring the 'Tiger effect' – doubling of Tour prizes, billions into players' pockets. Sporting Intelligence, August 6.
- **Pielke, Jr., R.A.** (2014). Pielke's Perspective: Pure Science Ideal and Science Policy. Bridges, Vol. 39, May.
- **Pielke, Jr., R.A.** (2014). Science Advice to Governments. Bridges 41, October.
- **Pielke, Jr., R.A.** (2014). Science advisors should be supported, not sacked. The Guardian, July 24.
- **Pielke, Jr., R.A.** (2014). Sport does not exist in a vacuum. FIFA has a responsibility to act on Russia. Sporting Intelligence, July 29.
- **Pielke, Jr., R.A.** (2014). Technology, not carbon caps, will reduce emissions. Financial Times, June 5.
- **Pielke, Jr., R.A.** (2014). The data's clear: Soccer is becoming more significant in the US sporting landscape. Sporting Intelligence, September 12.
- **Pielke, Jr., R.A.** (2014). The Decline of Tornado Devastation. Wall Street Journal, April 24.
- **Pielke, Jr., R.A.** (2014). The Future of Science Advice in Europe. Bridges, Vol. 42, December.
- **Pielke, Jr., R.A.** (2014). The top 20 teams in England pay $2.9BN in wages a year. All of MLS pays $129.5m. Sporting Intelligence, October 30.
- **Pielke, Jr., R.A.** (2014). There's Income Inequality in Golf, Too. FiveThirtyEight.com, April 13.
- **Pielke, Jr., R.A.** (2014). Thoroughbreds Are Running as Fast as They Can. FiveThirtyEight.com, May 3.

Poster session at the CIRES Rendezvous in May 2014.

- **Pielke, Jr., R.A.** (2014). Upsets, giant-killings, adios, bye-bye: FIFA rankings STILL ahead in predicting results. Sporting Intelligence, June 20.
- **Pielke, Jr., R.A.** (2014). What Does It Mean to be Anti-Growth? Earth Island Journal Spring, March.
- **Pielke, Jr., R.A.** (2014). When Picking a Bracket, It's Easier to Be Accurate Than Skillful. FiveThirtyEight.com, March 24.
- **Pielke, Jr., R.A.** and D. Sarewitz (2014). Climate policy robs the world's poor of their hopes. Financial Times March 26.
- **Weinkle, J.** (2014). An Average Perspective on Insurance Profitability Cycles. Insurance Journal, October 6.
- **Weinkle, J.** (2014). Understanding and managing model risk for reinsurance and ILS. Artemis, September 25.
- **Weinkle, J.** (2014). Universities do more than just prepare students for jobs. Daily Camera, April 13.

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- **Boykoff, M.T.** (2014). Media discourse on the climate slowdown. Nature Climate Change 4 (3) 156-158, Nature Publishing Group, London, March.

REVIEWS

- **Pielke, Jr., R.A.** (2014). Wheelmen: A Book Review. The Least Thing, January 5.

TALKS AND EVENTS SPONSORED BY THE CENTER

(Center personnel bolded)

CSTPR NOONTIME SEMINAR SERIES (BOULDER, CO)

Spring: "Adapting to Change: Promise, Pitfalls and Politics"

January 29
Place Attachment, Performance and Climate Change Adaptation
by Saffron O'Neill, Human Geography, University of Exeter

February 5
Knowledge Production, Access, and Use for Climate Adaptation at Local Scales in Northern Tanzania
by **Meaghan Daly**, Eric Lovell, Mara J. Goldman, and **Lisa Dilling**

February 12
The Energy-Water Nexus: Where Climate Adaptation and Greenhouse Gas Mitigation Policies Collide
co-sponsored with Western Water Assessment
by Kristen Averyt, Cooperative Institute for Research in Environmental Sciences and Western Water Assessment

March 5
Psychological and Community Correlates of Adaptation to Water Stress Among Smallholding Farmers in Sri Lanka
by Amanda Carrico, Environmental Studies Program, University of Colorado

March 12
Guinea Pigs of the Shale: Informed Consent and the Politics of Fracking
by Adam Briggle, Department of Philosophy and Religion, University of North Texas

April 2
Reporting, Regulation, and the Governance of Climate Change in the U.K.
by **Samuel Tang**, Department of Geography, King's College London

April 16
Visualising the Environment and the Politics of Representation
by **Joanna Boehnert**, Center for Science & Technology Policy Research, University of Colorado

April 23
Playing with Fire: Social Interactions and Wildfire Mitigation Behaviors in Colorado
by **Katie Dickinson**, Climate Science & Applications Program, National Center for Atmospheric Research, and Center for Science and Technology Policy Research, University of Colorado

Fall

September 29
Assessing Wildfire Mitigation Outreach Strategies in the Wildland-Urban Interface
by **Deserai Crow**, Center for Science and Technology Policy Research and Environmental Studies, University of Colorado Boulder
Adrianne Kroepsch, Elizabeth Koebele, and Lydia Dixon, Environmental Studies, University of Colorado Boulder

October 6
Red Cross/Red Crescent Climate Centre Internship Program Summer 2014 panel discussion
by Leslie Dodson, ATLAS Institute, College of Engineering and Applied Science, University of Colorado Boulder and Drew Zackary, Anthropology, University of Colorado Boulder

October 13
Mapping the Political Landscape of Hydraulic Fracturing in Colorado
by Tanya Heikkila and Chris Weible, School of Public Affairs, University of Colorado Denver

October 22
The Argument for Changing the Electric Utility Business Model
by Heather Bailey, Energy Strategy and Electric Utility Development, City of Boulder

October 27
Is This (Our) Risk? The Science and Politics of Catastrophe Insurance
by **Jessica Weinkle**, Center for Science and Technology Policy Research, University of Colorado Boulder

November 3
Blind Spots: Electronics Firms, and the Social and Environmental Harms of the Electronics Commodity Chain
by **Lucy McAllister**, Environmental Studies, University of Colorado Boulder

Deserai Crow giving a talk in September 2014 on "Assessing Wildfire Mitigation Outreach Strategies in the Wildland-Urban Interface".

November 10
Let's Hear from the People: A Study on Media Impact on Climate Protection and Climate Adaptation
by **Gesa Luedecke**, Sustainability Sciences, Leuphana University, Lueneburg Germany

OTHER TALKS AND PRESENTATIONS BY CENTER PERSONNEL

Max Boykoff

- January 20, Stanford University Department of Communication
- February 18, University of California Santa Cruz, Environmental Studies Department
- March 14, Wellesley College, Environmental Studies Department
- March 24-26, University of Idaho School of Journalism
- May 12-16, Paper presenter, Third International Climate Adaptation Conference, Fortaleza, Brazil
- June 10, American Meteorological Society 21st Conference on Applied Climatology
- September 13, Teaching Controversial Science Topics, University of Colorado Boulder
- October 25, Sustainability Science Congress, International Alliance of Research Universities, Copenhagen, Denmark

Deserai Crow

- April, Paper presentations (2), Midwest Political Science Annual Conference, Chicago, IL
- April, Paper presentation, Western Political Science Association Annual Conference, Seattle, WA
- June, Poster presentation, Natural Hazards Research and Applications Workshop, Broomfield, CO
- August, Paper presentations (2), American Political Science Association Annual Meeting, Washington, DC
- October, Paper presentation, Sustaining Colorado's Watersheds: Come Hell or High Water, Avon, CO
- October, Paper presentation, The Politics and Economics of Wildfire Conference, University of California, Santa Barbara, CA
- October, "Culture, Politics and Climate Change: How Information Shapes our Common Future," Department of Journalism and Media Studies, Oslo and Akershus University College of Applied Sciences, Oslo, Norway
- November, Paper presentation, Association for Public Policy Analysis and Management Fall Research Conference, Albuquerque, NM

Lisa Dilling

- May 7-9, invited presentation, Climate Governance Handbook workshop, Linkoping, Sweden
- May 12-16, paper presentation, Climate Adaptation Futures: Third International Climate Change Adaptation Conference, Fortaleza, Brazil
- December 9, paper presentation, Society for Risk Analysis, Denver, CO

Ben Hale

- January 4-6, invited participant, Principles of Environment Ethics, CILE Seminar on Ethics and the Environment, Doha, Qatar
- February 4, Geoengineering webinar, Security and Sustainability Forum, Elliot School of International Affairs at GWU
- July 10-11, invited participant, Warwick University geoengineering workshop, Warwick, UK
- July 17, invited participant, Goethe Universitat – Frankfurt am Main, workshop on Geoengineering, Frankfurt, Germany
- August, Comment on David Morrow and Toby Svoboda, Geoengineering and Non-Deal Theory, RoME VII
- October 30-November 3, participant, International Conference in Applied Ethics, Hokkaido University, Sapporo, Japan
- November 1-7, invited speaker, UNEP and UN University StEP (Solving the E-Waste Problem) Initiative, E-Waste Academy, Shanghai, China
- "The Shifting Frontier: Ethics in a Changing Climate," multimedia presentation, NOAA, Boulder, CO

Roger Pielke, Jr.

- February 21, "Basic Research as a Political Symbol", Basic and Applied Research: Historical Semantics of a Key Distinction in 20th Century Science Policy, Bonner Universitätsforum, Bonn, Germany

- June 23, "Enlarging Our Conversation About a High Energy Planet", 2014 Breakthrough Dialogue, Sausalito, California

- July 2, "Cosmetic versus Clinical Use of Risk Estimation", Understanding Risk 2014, London, United Kingdom

- August 28, "Science advice in the context of opposing political/ideological positions", Inaugural Conference on Science Advice for Governments, Auckland, NZ

- October 9-10, "Origins and Significance of the Basic-Applied Distinction", Science and Technology in the Service of the State: Mission-oriented S&T Systems in transition, Manchester Institute of Innovation Research, The University of Manchester

- October 16, "Stealth Advocacy", Annenberg Science of Science Communication Conference, University of Pennsylvania, Philadelphia, PA

GRADUATE STUDENT PRESENTATIONS

Averill, M. (Sept. 2014). Barriers to Framing Claims as Rights Violations in U.S. Climate Litigation. 3rd UNITAR-Yale Conference on Environmental Governance and Democracy. New Haven.

Averill, M. (July 2014). Protecting Rights through Climate Litigation. International Political Science Association Annual Meeting. Montreal.

Crow, D., Kroespch, A., Koebele, E., Dixon, L., Schild, R., Huda, J., & Clifford, K. (October 2014). Assessing Wildfire Mitigation Outreach Strategies in the Wildland-Urban Interface. Colorado Watershed Assembly's 2014 Sustaining Colorado Watersheds Conference, Avon, CO.

Crow, D., Kroespch, A., Koebele, E., Dixon, L., Schild, R., Huda, J., & Clifford, K. (September 2014). Assessing Wildfire Mitigation Outreach Strategies in the Wildland-Urban Interface. Center for Science and Technology Policy Noontime Seminar, Boulder, CO.

Crow, D., Albright, E., & Koebele, E. (Aug. 2014). Public Information and Regulatory Processes: What the Public Knows and Regulators Decide. American Political Science Association (APSA) Annual Meeting, Washington D.C.

Koebele, E. (June 2014). Investigating Stakeholder Interactions & Outcomes in Colorado's Roundtables. University Council on Water Resources Conference, Boston, MA.

Koebele, E., Crow, D., Dixon, L., Schild, R., Kroepsch, A., & Clifford, K. (June 2014). Risk Perceptions, Management Regimes, and Mitigation Behavior in Wildland-Urban Interface Zones: A Cross-Case Analysis. University of Colorado Boulder Natural Hazards Center Annual Workshop Poster Session, Broomfield, CO.

Koebele, E., Crow, D., Dixon, L., Schild, R., Kroepsch, A., & Clifford, K. (April 2014). Risk Perceptions, Management Regimes, and Mitigation Behavior in Wildland-Urban Interface Zones: A Cross-Case Analysis. CIRES Rendezvous Poster Session, Boulder, CO.

Koebele, E., Crow, D., Dixon, L., Schild, R., Kroepsch, A., & Clifford, K. (April 2014). Risk Perceptions, Management Regimes, and Mitigation Behavior in Wildland-Urban Interface Zones: A Cross-Case Analysis. Western Political Science Association (WPSA) Annual Meeting, Seattle, WA.

Crow, D., Albright, E., & Koebele, E. (April 2014). Evaluating Informational Inputs in Rulemaking Processes: A Cross-Case Analysis. Midwest Political Science Association (MPSA) Conference, Chicago, IL.

OTHER TALKS COSPONSORED BY THE CENTER

ENVS Speaker Series

During spring semester CSTPR cosponsored the ENVS Speaker Series, a graduate student initiative aimed at providing students and faculty with the opportunity to network with a variety of professionals and researchers from outside the CU-Boulder community. These speakers discussed a wide variety of topics through an interdisciplinary lens following the three pillars of Environmental Studies Program: science, policy, and values and theory.

Winona LaDuke: Indigenous Women Telling a New Story about Energy and Climate

Inside the Greenhouse hosted this presentation by internationally acclaimed author, orator and activist Winona LaDuke, along with Nani Chacon and Adrian Manygoats' presentation about "Indigenous Women Telling a New Story about Energy and Climate."

An Evening of Conversation and Music with 'Climate Communicator' Andrew Revkin

Inside the Greenhouse also hosted an event with noted environmental writer (and former New York Times science writer) Andrew Revkin.

Max Boykoff being interviewed for "Learn More About Climate" video.

MEDIA REFERENCES

Center personnel and alumni were quoted, cited, interviewed or referred to 53 times in numerous media including Aljazeera, Discover Magazine, The Guardian, NPR, Science Magazine, and the Washington Post. A complete list with links to articles is located at http://sciencepolicy.colorado.edu/news/in-the-news.html.

SERVICE ACTIVITIES 2014

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
- PUEC Committee (Lisa Dilling)
- 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
- Editorial Board, Environmental Communication: A Journal of Nature and Culture
- Contributing Editor, Los Angeles Review of Books

DESERAI CROW

- Center for Environmental Journalism: Associate Director. As part of my role with the CEJ, I develop research projects (see works in progress) with my graduate research group "Western Policy and Narratives graduate research group" and assist in planning the weekly seminar series.
- Executive Committee, Center for Science & Technology Policy Research. I participate in governance decisions in CSTPR and help with various initiatives such as an emerging internship program that I will likely oversee.
- Member, Graduate Committee, ENVS. Service includes regular meetings and routine business, revision of the preliminary exam structure for Ph.D.

students, and review/acceptance of incoming graduate students.

- Member, Professional Education Committee, Environmental Studies Program.
- Editorial Board Member, Journal of Applied Environmental Education and Communication, 2013- Present.

LISA DILLING

- US Global Change Research Program planning committee for workshop to evaluate the National Climate Assessment
- Associate Director, CSTPR
- CIRES Fellow (governance meetings)
- Executive Committee, ENVS
- CIRES Distinguished Lecture Committee
- Co-Director Red Cross/Red Crescent Climate Centre Internship Program
- Affiliate, Renewable and Sustainable Energy Institute (RASEI)
- Affiliate, Center of the American West
- CIRES Executive Committee
- Hydrologist search committee, CIRES
- ENVS Professional masters development committee
- FTEP Building Effective Relationships with Students
- Member, Boulder County POSAC
- Advisory Board, Decision Center for a Desert City, Arizona State University, Tempe AZ
- Advisory Board, Advancing Knowledge Systems to Inform Climate Adaptation Decisions (ICAD), European Research Council project based at University of Exeter, UK
- Associate Director and Director, Western Water Assessment
- Board of Scientific Counselors (BOSC), Office of Research and Development, U.S. EPA

BEN HALE

- Vice-President, International Society of Environmental Ethics (ISEE) (elected office)
- Coordinator with Alastair Norcross (Philosophy) of RoME VI: the Seventh Annual Rocky Mountain Ethics Conference
- Executive Committee, Center for Science and Technology Policy Research
- Environmental Studies Program, Director of Graduate Studies
- Chair, Search Committee, Environmental Justice search, ENVS
- Search committee member, food systems search, ENVS
- Executive Committee, Critical Theory Certificate
- Committee member, Visiting Scholar in Conservative Thought search committee
- 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
- Member, CIRES Career Track Committee
- Member, CIRES ESOC Director Search Committee
- Member, ENVS PUEC Committee (Max Boykoff)
- Director, Graduate Certificate Program in Science and Technology Policy
- 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

GRANT ACTIVITY

PROJECT TITLE: Curbing Meat Using Media: The cultural politics of meat consumption in Brazil, China and the United States (Boykoff, co-PI)

SOURCE: International Social Science Council

AMOUNT: $40,455

START DATE: 2014

END DATE: 2014

PROJECT TITLE: Lens on Climate Change in Colorado: Video Contest for Secondary Students (Boykoff, co-PI)

SOURCE: University of Colorado Boulder -Outreach and Engagement Program

AMOUNT: $13,625

START DATE: 2013

END DATE: 2014

PROJECT TITLE: Evaluating Informational Inputs in Rulemaking Processes: A Multi-State Regulatory Analysis (Crow)

SOURCE: University of Colorado Center to Advance Research and Teaching in the Social Sciences

AMOUNT: $3,000

START DATE: 2013

END DATE: 2014

PROJECT TITLE: Policy Learning and Political Context: Analyzing Responses to Colorado's Extreme Flood Events of 2013 (Crow)

SOURCE: University of Colorado Natural Hazards Center

AMOUNT: $2,000

START DATE: 2013

END DATE: 2014

PROJECT TITLE: Carbon management on public lands in the Intermountain West: Multi-scale analysis of carbon stock responses to human and natural disturbances (Dilling, co-PI)

SOURCE: USDA

AMOUNT: $717,927

START DATE: 2011

END DATE: 2014

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

SOURCE: NOAA

AMOUNT: $261,289

START DATE: 2014

END DATE: 2016

PROJECT TITLE: Identifying Constraints to and Opportunities for Co-production of Climate Information for Improved Food Security Among Agro-pastoral Populations in Tanzania (Dilling)

SOURCE: USAID

AMOUNT: $50,625

START DATE: 2013

END DATE: 2014

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

SOURCE: NSF

AMOUNT: $221,542

START DATE: 2014

END DATE: 2015

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

SOURCE: National Science Foundation (NSF)

AMOUNT: $99,967

START DATE: 2012

END DATE: 2015

PROJECT TITLE: How Philanthropy can Improve its Effectiveness in Policy and Politics (Pielke)

SOURCE: Nathan Cummings Foundation

AMOUNT: $100,000

START DATE: 2012

END DATE: 2014

CIRES Center for Science and Technology Policy Research
http://sciencepolicy.colorado.edu