Ogmius

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Benjamin Hale and Alexander Lee in "The Shifting Frontier" trailer.

OGMIUS EXCHANGE

The Project Issue

Spring has arrived in Boulder and with it, a sense of possibility and excitement. At the Center for Science and Technology Policy Research we seem to have an abundance of good work going on.

For instance, along with the Environmental Studies Program, some of us have participated in the creation of a new Professional Masters' in the Environment, a newly approved professional degree kicking off in 2016. Now on the heels of that initiative we are moving to create a new Professional Masters' in Science and Technology Policy, also looking toward a 2016 start.

We have recently added a new faculty member to the Center, Steve Vanderheiden, (see news story below) who adds to our expertise in political theory and practice. We've had visitors come (and go) from around the world, and look forward to more coming this spring. In short, it is a good time to be at the Center!

With this issue of Ogmius, we highlight a number of projects that are either ongoing or in development at our Center, to share with our readers some of the emerging and innovative work conducted by our faculty.

Recently, I went to our faculty and asked them to send me their best projects -- those with the most potential for making a difference. Here is what they reported back to me, with more details on these projects appearing below:

- Max Boykoff directs a program in partnership with the Red Cross/Red Crescent that places student interns in Africa over the summer to improve climate change communication and adaptation decision-making.
- Deserai Crow is focusing on wildfire management and mitigation outreach in the Western US, a topic of central importance to those of us living in fire-prone regions.
- Also in the American West, Lisa Dilling is looking at community responses to extreme events, seeking to improve the usability of scientific information.
- Ben Hale is undertaking a major, innovative effort to bring ethics and values relating to climate change to film.

Read on for more details. Thanks for your support!

Roger Pielke, Jr.
Director, CSTPR

THIS ISSUE

Subscribers to Ogmius will be notified by email when a new edition is available, and may access it either in pdf or html format. The newsletter is also available online at:

http://sciencepolicy.colorado.edu/ogmius

Salt Lake City, Utah.

Selected Center Projects

Drivers of Adaptation in the American West
http://sciencepolicy.colorado.edu/research_areas/aml
Led by Professor Lisa Dilling

Despite gains in knowledge and improvements in responding to weather- and climate-related risks, communities continue to experience large economic losses from extreme events. Creating science that is more usable is one factor that can help to improve outcomes in this arena, but clearly other factors also constrain society's adaptive capacity (or the ability of a system to better manage these risks). While much effort has been put into examining the barriers to adaptation, less is known about why communities are proactive in taking steps to reduce their vulnerability to these extremes. Our research has examined why communities across the West prepare for and adapt to natural hazards, to understand the underlying drivers of adaptive behavior at the community level. Municipalities in the West do exhibit a wide variety of adaptive actions in the face of weather and climate risk, despite similar exposure. However, the reasons for taking proactive action in the face of the risks are complex, and not explainable for a single factor such as economic status or population size. Future research will begin to examine how risk tolerance, individual "champions" for community action, cultural worldviews, and other social factors affect decisions and allow communities to proactively shape their risk profiles.

Shifting Frontier
https://vimeo.com/71087807
Led by Professor Ben Hale

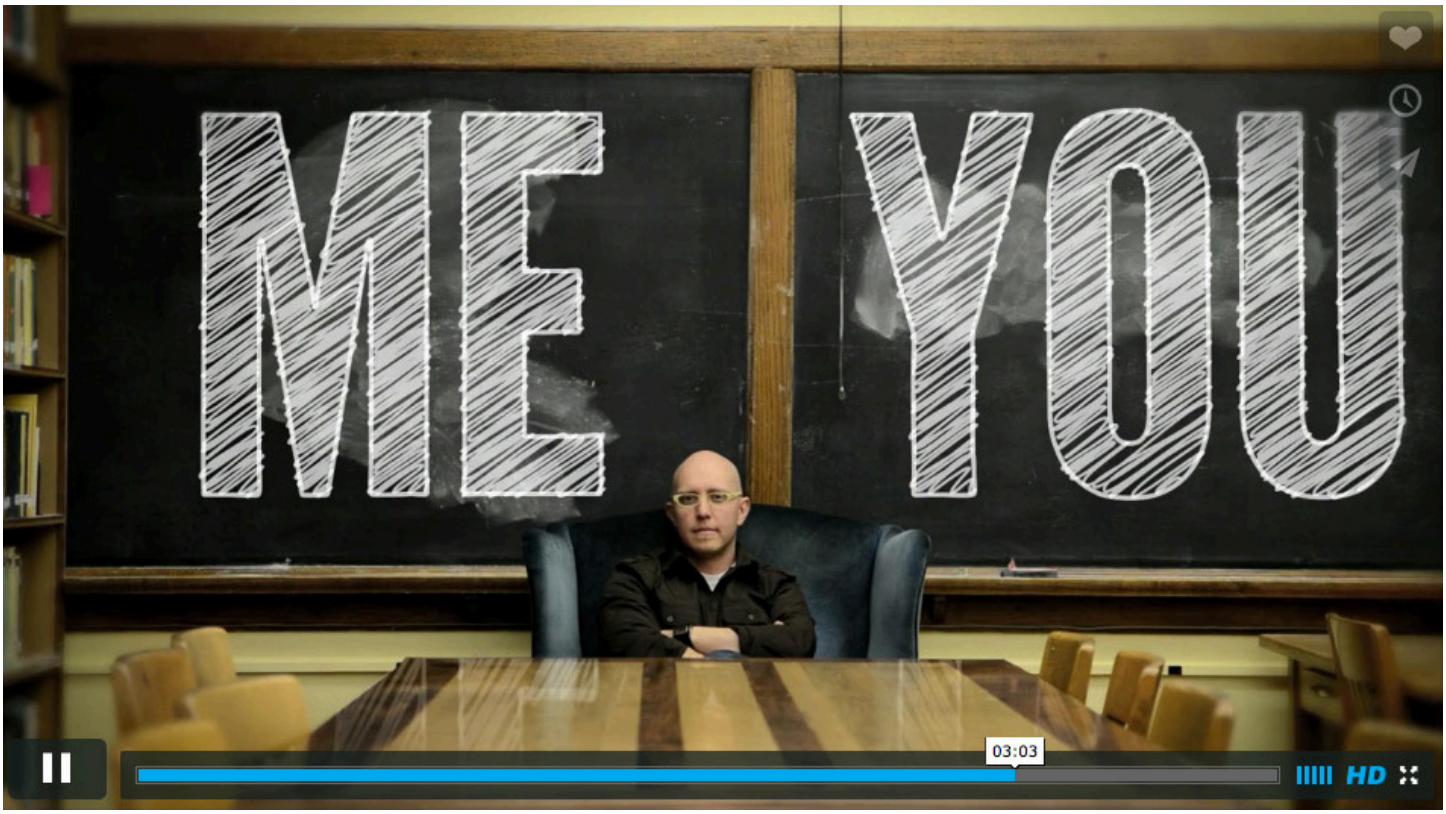
The Shifting Frontier is a series of twelve short video episodes aimed to highlight the scientific, policy, and human dimensions of regionally important environmental issues, each with a connection to climate change. Rather than focusing on the forecasts and projections of climate science, however, the episodes are structured to introduce tricky ethical questions in an approachable manner.

By presenting ethical questions through relevant scenarios and concrete cases -- including stories from people on the ground, the testimony of scientists and scholars, and visual animations of the theoretical factors in play -- Prof. Benjamin Hale and grad student Alex Lee guide students and others into the complex terrain of philosophy. In so doing, ComET hopes to inspire deliberative engagement with friends and family and/or instructors and classmates that will enrich the wider public debate about how to address climate change.

Please visit our Vimeo page to view our Trailer. More information is forthcoming: https://vimeo.com/71087807

Table of Contents/Episode List:

1. Introduction (3 minutes)
2. Failing Snow: The Ski Industry and the Problem of Change



Video clip from "Shifting Frontier" trailer.

3. Buried in Bedrock: The Question of Value in Conventional and Alternative Energy
4. Water Woes: The Colorado River and the True Tragedy of the Commons
5. Money for Nothing: Need and Excess in Las Vegas
6. Borderline Crazy: Responsibility for Climate Refugees at the US/Mexico Border
7. Snow from Sewage: Arizona Snow Bowl and the Traditional Diné
8. Moving the Pieces: The Plight of the Pika and Assisted Colonization
9. Our Children Have Brilliant Ideas: Planning for a No-Analog Future
10. The World that Would Have Been: Non-identity and Future Generations
11. What We Know and What We Do: Pine Beetles, Epistemic Uncertainty, and Moral Indeterminacy
12. Walking a Razor's Edge: Precaution and Risk
13. Undoing the Damage: Geoengineering and Moral Trespass
14. Short synopsis overview (3 minutes)

Audience: 18-30 year olds

Distribution: Vimeo, YouTube; also through integration into classroom curricula.

Shooting will span the West, and include stories from Arizona, Utah, Colorado, and New Mexico, as well as footage from California, Wyoming, Oregon, Idaho, and Washington.

To date, few have sought to carefully address the ethics of climate change in a public and accessible venue. If done well, our hope is that these discussions about fairness, rights, justice, and values can help facilitate a more robust dialogue as we face down serious change.

Our objectives in the short term are to finish the Shifting Frontier project, but our longer term objectives are to bring a suite of environmental and ethical questions to a wider audience through this short video format.

Inside the Greenhouse (ITG): Building Capacity for Creative Climate Communications
http://sciencepolicy.colorado.edu/itg
Led by Professor Max Boykoff

Creative framing and storytelling of issues surrounding climate change through video, theatre, dance, and writing can connect a wider audience to the deep and pressing need to address climate change. Project leaders Max Boykoff (CIRES Fellow) in collaboration with Professors Rebecca Safran (Associate Professor, Ecology and Evolutionary Biology) and Beth Osnes (Assistant Professor, Department of Theater and

Inside the Greenhouse sponsored a multimedia presentation by James Balog in April 2013.

Dance) have been producing events and classes over the past four years under the banner of the 'Inside the Greenhouse'. Our efforts to engage our students and the public alike seek to help concerned citizens to grasp the challenges of making climate change meaningful for everyday people. Students are involved directly and collaboratively connecting work in the classroom to 'real world' applied contexts.

Wildfire Management and Mitigation Outreach in the Wildland-Urban Interface: Case Study and Survey Research in the western United States
http://sciencepolicy.colorado.edu/research_areas/rps
Led by Professor Deserai Crow

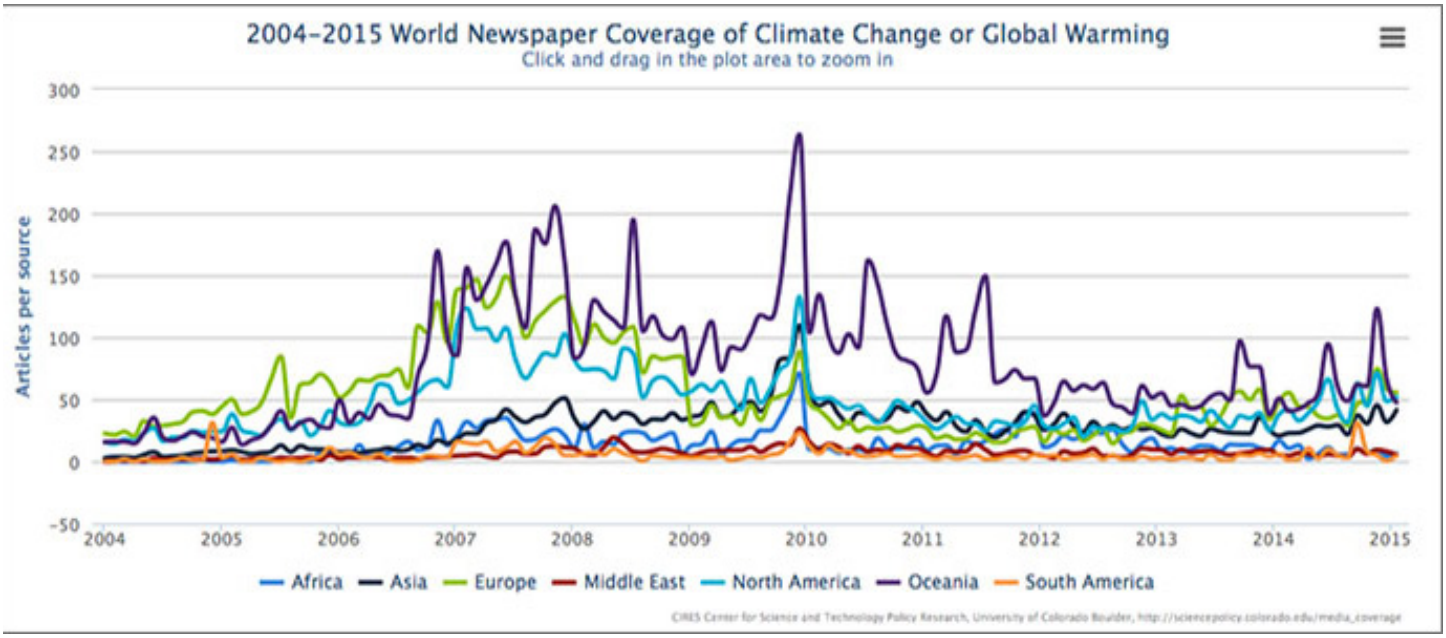
Due to rapid growth in the wildland-urban interface (WUI), the risk to lives and property from wildfires is increasing. While previous studies have identified factors that influence residents' perceptions of wildfire risk and responsibility for mitigation, less research has been conducted on how risk mitigation information is disseminated to residents and its effect on their mitigation decisions. Using data from interviews with wildfire professionals, focus groups with residents, and surveys with wildfire professionals in the West, the Western Policy and Narratives Research Group is working to examine what types of risk mitigation information are used by fire managers to encourage wildfire mitigation on private property in the WUI, the perceived influence of such information, and the various types of programmatic decisions made by wildfire management agencies at the interface of outreach, mitigation, and regulation.

The Western Policy and Narratives Research Group is working with graduate students from Environmental Studies and Geography to examine the links between environmental policy actors, strategic use of information by stakeholders, and eventual policy and management decision outcomes. We pay particular attention to issues of importance to the American West such as water, public lands, natural hazards, among others.

Recent products include:

Crow, D.A., Dixon, L., Koebele, E., Kroepsch, A., Schild, R., & Huda, J. Information, Resources, and Management Priorities: Agency Outreach and Mitigation of Wildfire Risk in the West. Under Review, *Risk, Hazards & Crisis in Public Policy*. This paper was presented at: Sustaining Colorado Watersheds conference, October 2014; *The Politics and Economics of Wildfire Conference*, University of California Santa Barbara Bren School of Environmental Science & Management, October 2014; and Western Political Science Association conference, April 2015.

Koebele, E., Crow, D.A., Dixon, L., Schild, R., Kroepsch, A., & Clifford, K. Mitigation Information Dissemination and Citizen Entrepreneurs in the Wildland-Urban Interface: A Cross-Case



This figure tracks newspaper coverage of climate change or global warming in 50 newspapers across 25 countries and 6 continents. Updated through March 2015.

Analysis in Colorado. Under Review, *Society and Natural Resources*. This paper was presented at: Western Political Science Association conference, April 2014.

Media and Climate Change Observatory (MeCCO)
http://sciencepolicy.colorado.edu/icecaps/research/media_coverage
Led by Professor Max Boykoff

This observatory analyzes traditional/legacy media representations of climate change. The group of CU-Boulder graduate student and postdoctoral researchers (along with CU-Boulder Professor Max Boykoff and collaborators in Japan and Spain) endeavor to comprehensively aggregate, monitor, appraise and critically examine media coverage – from newspapers, tv and radio to new, social and digital media – that influence the spectrum of possibility for effective responses to ongoing climate challenges. At present, the MeCCO team monitors coverage monthly in fifty selected sources globally, and eight country profiles (Australia, Canada, India, Japan, New Zealand, Spain, UK, US). In the future the MECCO team plans to scale analyses out to provide resonant and useful information for a range of consumers, from local practitioners to elected officials and academic researchers.

Through ongoing discussions with colleagues in intersecting research communities, as well as through interactions with practitioners (e.g. political actors, resource managers) about areas of research need, the absence of a central hub (or observatory) where methodologically-consistent and high-quality monitoring, aggregation and assessment of media communications on climate change in the social sciences has been a striking shortfall amidst comprehensive monitoring of dimensions of climate change from the natural sciences.

Red Cross/Red Crescent Climate Centre Internship
http://sciencepolicy.colorado.edu/students/redcross
Led by Professor Max Boykoff

Through collaborations between CIRES CSTPR and the Environmental Studies Program, CU-Boulder has partnered with the Red Cross/Red Crescent Climate Centre (RCRCCC) to place graduate students in locations in eastern and southern Africa for approximately three months each summer. This collaborative program targets improvements in environmental communication and adaptation decision-making as well as disaster prevention and preparedness in the humanitarian sector. It connects humanitarian practitioners from the Red Cross/Red Crescent Climate Centre – an affiliate of the International Federation of Red Cross and Red Crescent Societies – with graduate student researchers at the University of Colorado who are interested in science-policy issues. Through this program we strive to accomplish three key objectives:

1. To improve the capacity of humanitarian practitioners within International Federation of Red Cross and Red Crescent Societies network at the interface of science, policy and practice;

2. to help meet needs and gaps as well as work as a research clearing house in environmental communication and adaptation decision-making in response to climate

Red Cross/Red Crescent intern, Drew Zackary, working with community members in Uganda.

variability and change, as identified through Red Cross/ Red Crescent Climate Centre priorities and projects;

3. to benefit graduate students by complementing the classes and research that they undertake in their graduate program with real-world experience in climate applications and development work.

Students design their own program of work in conjunction with CU-Boulder Director Max Boykoff and RCRCCC supervisors. The RCRCCC supervisors liaise with specific IFRC field offices to identify potential projects and placements. Placements in the field address specific needs identified by IFRC field staff related to challenges of science communication and adaptation decision-making.

Selected interns are provided with round-trip airfare to their field site, with travel to be organized through the University of Colorado. Interns also receive a stipend to offset costs of in-country housing, food, and transportation. The internship is unpaid.

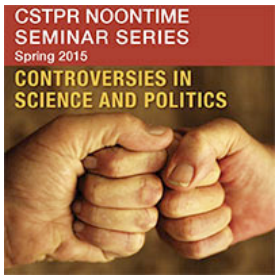
This CU-Boulder program has now worked for two summers in locations of eastern and southern Africa, and has placed these students:

- 2014 – Drew Zackary (Anthropology PhD), Apac and Otuke, Uganda
- 2014 – Leslie Dodson (ATLAS PhD), Lusaka, Zambia and Capetown, South Africa
- 2013 – Amy Quandt (ENVS PhD), Isiolo, Kenya
- 2013 – Arielle Tozier de la Poterie (ENVS PhD), Soroti, Uganda
- 2013 – Kanmani Venkateswaran (ENVS, MS), Lusaka, Zambia

Projects have involved topics such as analysis of uses of regional climate forecasts to trigger anticipatory humanitarian action, and examinations of ways to improve the linking of science-based forecasts with humanitarian decisions. More information on the specifics of all these placements and activities can be found here: http://sciencepolicy.colorado.edu/students/redcross.

CENTER EVENTS

CSTPR Noontime Seminar Series Kicked Off January 26



The Center was excited to continue with its Noontime Seminar Series beginning January 26 with a talk by Roger Pielke, Jr. entitled "Sugar, Spice And Everything Nice: Science and Policy of 'Sex Testing' in Sport." The Noontime Seminar Series is held in the CSTPR Conference Room, located at 1333 Grandview Avenue one street north of University Avenue on the CU-Boulder campus. All talks are free and open to public and are available via webcast!

Other talks in the Spring 2015 series include:

February 23 at 12:15PM
When Basic or Applied is not enough: Utilizing a Typology of Research Activities and Attributes to Inform Usable Science
by Elizabeth McNie, Western Water Assessment, CU Boulder

March 2 at 12:15PM
Mystery of the Sea: A Study of Why the U.S. Has Yet to Construct an Offshore Wind Farm
by Marisa McNatt, Center for Science and Technology Policy Research and Environmental Studies, CU Boulder

March 9 at 12:15PM
Ignorance Isn't Bliss: Why Historical Emitters Owe Compensation for Climate Change
by Paul Bowman, Center for Science and Technology Policy Research and Environmental Studies, CU Boulder

April 6 at 12:15PM
Fracking in Denton, Texas: Who Benefits and Why Was it Banned?
by Jordan Kincaid, Center for Science and Technology Policy Research and Environmental Studies, CU Boulder

April 13 at 12:15PM
Mobilizing Individual Responsibility Through Personal Carbon Budgeting
by Steven Vanderheiden, Center for Science and Technology Policy Research, Political Science, and Environmental Studies, CU Boulder

Can't make the talk? Then check out our webcasts! http://sciencepolicy.colorado.edu/news/webinars.

CSTPR Special Seminar:
Geoengineering as a Collective Experiment

On April 14, the Center will be hosting a talk by Dr. Jack Stilgoe University College London's Science and Technology Studies Department. Dr. Stilgoe will give a talk entitled "Geoengineering as a Collective Experiment". This talk will be held in the CSTPR Conference Room (1333 Grandview Avenue) at 12:00 pm. The talk will also be available via webcast at: http://cirescolorado.adobeconnect.com/cstpr-stilgoe/.

Abstract: Geoengineering is defined as the 'deliberate and large-scale intervention in the Earth's climatic system with the aim of reducing global warming'. The technological proposals for doing this are highly speculative. Research is at an early stage, but there is a strong consensus that technologies would, if realisable, have profound and surprising ramifications. Geoengineering would seem to be an archetype of technology as social experiment, blurring lines that separate research from deployment and scientific knowledge from technological artefacts. Looking into the experimental systems of geoengineering, we can see the negotiation of what is known and unknown. In renegotiating such systems, we can approach a new mode of governance – collective experimentation.

Biography: Dr Jack Stilgoe is a Lecturer in Science and Technology Studies at University College London. He has spent his professional life in the overlap between science policy research and science policy practice, at the think tank Demos, the Royal Society and at UCL, where he teaches courses on science policy, responsible science and innovation and the governance of emerging technologies.

Colorado Collaborative Leadership Institute, Collaboration for Community Flood Response & Resilience Planning

NCAR & University of Colorado Boulder
April 10-11, 2015

Over the last decade, communities have been called upon to respond to disasters and manage resources as never before. Collaboration is essential to effective community planning and preparedness, and often leads to new approaches and solutions. This Leadership Workshop will provide participants with tools to effectively engage their communities in discussion and debate that leads to collaborative problem-solving.

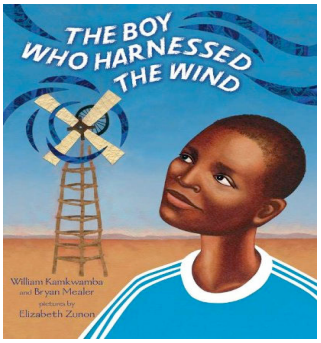
Workshop Components

- Stakeholder panel on Issues Facing Communities in Flood Response/Mitigation
- Skills training in organizing collaboration and communication
- Skills training in public meeting facilitation
- Field trip to site of Lyons Flood
- Stakeholder panel on Collaborative Flood Response Planning Success Stories

Online registration: http://alumni.du.edu/ccli-2015

PAST CENTER EVENTS

Author William Kamkwamba Speaks In Boulder



What began as a book tie-in with a unit on Africa turned into something much more profound for a seventh grade class at Casey Middle School.

Written by William Kamkwamba (co-authored by Bryan Mealer), *The Boy Who Harnessed the Wind*, is the true story of Malawian-born Kamkwamba and his dream of building a windmill to provide electricity and running water for his village. With nothing more than some old science books, scrap parts, a bicycle, and blue gum trees, Kamkwamba's dream became a reality. Inspired by the story, students at Casey Middle School started a crowdfunding campaign and raised enough money to bring the author, who now resides in San Francisco, to speak in Boulder. Thanks to a collaboration between Casey Middle School and Inside the Greenhouse, Mr. Kamkwamba spoke in Boulder on February 27. Please see the Inside the Greenhouse website at http://sciencepolicy.colorado.edu/itg for photos of the event.

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

Winona LaDuke, an internationally acclaimed author, orator and activist who has devoted her life to protecting the lands and life ways of Native communities, joined Nani Chacon and Adrian Manygoats on December 9 to speak about indigenous women, energy and climate. The event was sponsored by Inside the Greenhouse, the Center for Science and Technology Policy Research, the CU Department of Theatre and Dance, and the International Collective on Environment, Culture and Politics. View recording of event here (http://www.livestream.com/indiancountrytv/video?clipId=pla_16ecb9d1-08ed-431e-92ad-5e937a675a6c&utm_source=lslibrary&utm_medium=ui-thumb). *This recording has been made possible through a collaboration with Indian Country TV and the Cooperative Institute for Research in Environmental Sciences (CIRES).*

Beth Osnes, Becca Safran, Nani Chacon, Winona LaDuke, and Max Boykoff.

Global Challenges and Good Governance: Can Sport Deliver?

Journalist Jens Sejer Andersen of the Danish Institute for Sports Studies and founder of Play the Game gave a talk on November 12 about current corruption cases in international sport and some attempts to remedy the situation, among others the Sports Governance Observer, a benchmarking tool developed in cooperation with six European universities.

CENTER NEWS

New CSTPR Donations Page

CSTPR has a new page through which donors can make gifts to individual Center projects as well as to general Center operations. All gifts are processed through the CU Foundation and are tax deductible to the extent allowed by law (see http://www.cufund.org/about-us/foundation-q-a/#tax-deductible for details). Please consider supporting new and innovative Center initiatives by visiting http://sciencepolicy.colorado.edu/about_us/donate.html.

CU Political Scientist Steve Vanderheiden Joins CSTPR Faculty

The Center for Science and Technology Policy Research is pleased to welcome Steve Vanderheiden as a new faculty member. Currently an Associate Professor in the Department of Political Science here at the University of Colorado, Boulder and a Professorial Fellow with the Centre for Applied Philosophy and Public Ethics (CAPPE) in Canberra, Australia, Steve is very excited to join CSTPR. "Although I have known and worked with most of its faculty over the past few years through our affiliations with ENVS, I have not played any kind of role in the Center during that time," Steve states. "Given my relevant research interests, I'm keen to contribute."

After graduating with his Ph.D. in Political Science from the University of Wisconsin, Madison, Steve spent time as a professor at the University of Minnesota, Duluth before joining CU Boulder in 2007. Since joining CU, Steve describes his research as working at "the intersection of the social sciences and humanities," with a focus on issues related to international climate politics and a specific interest in how values affect the governance process, "whether as constraints

or criteria for the evaluation of policies or institutions." His book *Atmospheric Justice: A Political Theory of Climate Change* (Oxford, 2009; winner of the 2009 International Studies Association's Harold and Margaret Sprout award for best book in international environmental politics) addresses such issues and provides a framework in which the idea of environmental justice can enter into global climate policy.

Steve's current research projects focus on equity and accountability in adaptation governance, as well as in carbon accounting and informational governance that will allow him to "utilize more of my social science training (as opposed to the more normative analysis of most of my past work), including some fieldwork and interviews, that should help me expand my research acumen and really work on some interesting projects."

For more information visit Steve's CSTPR webpage (http://sciencepolicy.colorado.edu/about_us/meet_us/steven_vanderheiden). Welcome Steve!

2013 CSTPR Annual Report Now Available

The Center's 2013 annual report is now available: http://sciencepolicy.colorado.edu/about_us/annual_report2013.pdf. It highlights 2013 research, education and outreach activities at the Center.

Roger Pielke's New Book on Disasters and Climate Change

Roger Pielke, Jr.'s new book, *The Rightful Place of Science: Disasters and Climate Change* (http://sciencepolicy.colorado.edu/publications/special/dcc), Consortium for Science, Policy & Outcomes, November 1 2014, takes a close look at the work of the Intergovernmental Panel on Climate Change, the underlying scientific research, and the data to provide the latest science on disasters and climate change. What he finds may surprise the reader and raise questions about the role of science in political debates.

The book has been described as:

"informative, lucidly written, and has some very good insights", by Professor Judith Curry, School of Earth and Atmospheric Sciences, Georgia Tech

"better than most at approaching [the topic] with a clear head", by Sean Sublette, Chief Meteorologist, ABC 13 News, Lynchburg, VA

"a valuable and timely contribution", by Prof. John McAneney, Managing Director, Risk Frontiers, Macquarie University

"highly informative, engaging, and thought provoking", by Prof. John Michael Wallace, Department of Atmospheric Sciences, University of Washington

"a welcome beacon of light on the science of climate change and extreme weather events", by Dr. Peter J. Webster, Former President, Atmospheric Section: American Geophysical Union and Professor, School of Earth and Atmospheric Sciences, Georgia Institute of Technology

"I would urge anyone interested in the climate debate, skeptic or advocate alike, to read this book", by Dr. Doug Hoffman, The Resilient Earth blog

"compelling", by William Hooke, American Meteorological Society

"brief, powerful, and timely", by Fabius Maximus Blog

Lisa Dilling to Lead New NOAA Sectoral Applications Research Program Project, "Balancing Severe Decision Conflicts under Climate Extremes in Water Resource Management"

Over the past several years there have been increasing calls for decision support tools in the area of climate and acknowledgement that changing extremes add to an already challenging decision environment for water managers. Recurring droughts, flood events, and concerns over extreme events in the future have created a strong interest among water managers in the Front Range of Colorado about how to plan in the face of these extremes. Traditional methods of identifying alternatives for water supply management may not fully capture the range of existing preferred alternatives, meaning that utilities may miss some of the solutions that appropriately balance among tradeoffs. Lisa Dilling will lead an interdisciplinary team (policy, social science, engineering, operations research, climatology) of academics and water utility practitioners from 6 water providers in Colorado's Front Range to co-produce and test a newly developed multi-objective decision tool as a testbed to aid this process, balancing conflicting management objectives for water planning under climate extremes and determining how policy alternatives perform under severe climate uncertainty. By combining innovative search algorithms, simulation models, and interactive visualizations, the proposed decision tool helps generate and evaluate new alternatives, as well as promotes managers' learning about the tradeoffs and vulnerabilities of their systems. Learn more at the project website (http://sciencepolicy.colorado.edu/research_areas/bsdc).

GRADUATE STUDENT & ALUMNI NEWS

AAAS "Catalyzing Advocacy in Science and Engineering" Workshop Competition

The Graduate Certificate Program in Science and Technology Policy of the CIRES Center for Science and Technology Policy Research organized a competition to select two CU students to attend the AAAS "Catalyzing Advocacy in Science and Engineering" workshop in Washington, D.C. April 12-15. At the workshop students learn about Congress, the federal budget process, and effective science communication, and have an opportunity to meet with their Members of Congress or congressional staff. The competition is supported by the University of Colorado Graduate School and Center for STEM Learning.

Through a highly competitive selection process Nicholas Valcourt (Civil Systems Engineering) and Thomas Reynolds (Chemical and Biological Engineering) were chosen as this year's winners to attend the workshop. Congratulations Nicholas and Thomas!

Lydia Dixon and Adam Perou Hermans Chapters in New Book

CSTPR Ph.D. candidates Lydia Dixon and Adam Perou Hermans have chapters in the new book, *A Fairytale In Question: Historical Interactions between Humans and Wolves*, edited by Patrick Masius and Jana Sprenger, The White Horse Press, 2015. Lydia's chapter is titled "Alaska Wild? Wolves in America's Last Frontier," and Adam's chapter is titled "If You Wander in Winter, They Will Eat You: Local Knowledge, Wolves and Justice in Central Asia."

Shali Mohleji AMS Report, A Prescription for the 21st Century: Improving Resilience to High-Impact Weather for Healthcare Facilities and Services

CSTPR alum Shali Mohleji (Ph.D., ENVS, 2011) and the American Meteorological Society Policy Program released a report in 2014 on improving the resilience to high-impact weather for healthcare facilities and services. The study provides a broad risk management strategy to increase the resilience of health facilities such as hospitals, acute and long-term care. The report can be found at http://www.ametsoc.org/hfs.

RECENT CENTER FACULTY PRESENTATIONS

Crow, D.A. & Albright, E.A. Policy Learning and Political Context: Analyzing Responses to Colorado's Extreme Flood Events of 2013. Association for Public Policy Analysis and Management Fall Research Conference, Albuquerque, NM, November 2014.

Crow, D.A., Dixon, L., Koebele, E., Kroepsch, A., Schild, R., & Huda, J. Information, Resources, and Management Priorities: Agency Outreach and Mitigation of Wildfire Risk in the West. The Politics and Economics of Wildfire Conference, University of California Santa Barbara Bren School of Environmental Science & Management, October 2014.

Crow, D.A., Kroepsch, A., Koebele, E., Dixon, L., Schild, R. & Huda, J. Assessing Wildfire Mitigation Outreach Strategies in the Wildland-Urban Interface. 2014 Sustaining Colorado Watersheds: Come Hell or High Water! Avon, CO, October 2014.

Crow, D.A., "Culture, Politics & Climate Change: How Information Shapes Our Common Future," Department of Journalism and Media Studies, Oslo and Akershus University College of Applied Sciences, Oslo, Norway, October 2014.

Crow, D.A., Expert discussion on Colorado flood recovery, A Public Affair, September 11, 2014, KGNU Radio.

Roger Pielke participated in a seminar at the Rathenau Institute, the Netherlands, on February 9 titled "Scientific Evidence Never Comes Alone." His session discussed blaming, responsibilities and communication in the Aquila case. Details here: http://www.rathenau.nl/agenda/bijeenkomsten/scientific-evidence-never-comes-alone/program-and-key-note-speakers.html.

CENTER PUBLICATIONS

Below is just a sample of the many recent publications by CSTPR authors (CSTPR authors in bold).

Awareness of Both Type I and II Errors in Climate Science and Assessment

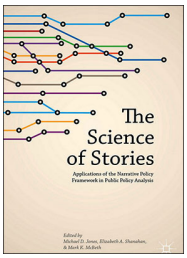
by Anderegg, W.R.L., E.S. Callaway, **M.T. Boykoff**, G. Yohe, and T.L. Root
Bulletin of the American Meteorological Society, doi: 10.1175/BAMS-D-13-00115.1, October 2014

Abstract: Treatment of error and uncertainty is an essential component of science and is crucial in policy-relevant disciplines, such as climate science. We posit here that awareness of both "false positive" and "false negative" errors is particularly critical in climate science and assessments, such as those of the Intergovernmental Panel on Climate Change. Scientific and assessment practices likely focus more attention to avoiding false positives, which could lead to higher prevalence of false-negative errors. We explore here the treatment of error avoidance in two prominent case studies regarding sea level rise and Himalayan glacier melt as presented in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. While different decision rules are necessarily appropriate for different circumstances, we highlight that false-negative errors also

have consequences, including impaired communication of the risks of climate change. We present recommendations for better accounting for both types of errors in the scientific process and scientific assessment. Read more: http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-13-00115.1.

Using the Narrative Policy Framework to Understand Stakeholder Strategy and Effectiveness: A Multi-Case Analysis

by **D. A. Crow** and **J. Berggren**
In Jones, M., Shanahan, E. & McBeth, M. (Eds.) *The Science of Stories: Applications of the Narrative Policy Framework in Public Policy Analysis*. NY: Palgrave Macmillan, 2014



Abstract: Understanding stakeholder strategies and effectiveness are key components in an analysis of policy change and policy coalition dynamics. The Narrative Policy Framework provides a mechanism for systematically analyzing these elements of the policy process. Using a multi-case analysis of stakeholder communication in environmental policymaking, this study analyzes stakeholder narrative strategy, effectiveness, and framing of winners and losers. The results presented here suggest that policy winners are more likely to use narrative tools such as science and blame, are more likely to use characters in their narratives, and also use a greater number of narrative elements across their narratives. These findings are relevant not only to our understanding of effective narrative strategy and policy outcomes, but also to advocates who seek to achieve policy goals through the use of narrative strategies.

Analyzing Responses to Colorado's Extreme Flood Events of 2013

by **D. A. Crow** and E. A. Albright
Natural Hazards Center, University of Colorado Boulder.
QR248, 2014

Abstract: By examining the policy response to extreme flooding events, this study seeks to illuminate the important factors explaining variation in local level policy learning in response to the extreme floods in Colorado in September 2013. This research examines the factors that are associated with observed variations in policy change in flood mitigation and prevention at the local level. Understanding the factors that encourage 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. Additionally, this study provides a comparative case research design wherein federal and state-level emergency response and management can be held constant, focusing on the role of counties and localities in responding to extreme weather events. We are studying these factors in the context of the September 2013 floods in Colorado and the community-level decisions made in seven case communities located in the three hardest-hit counties in Colorado. Findings indicate the importance of several variables in determining the policy responses within communities: the extent of damage a community incurred, the political context within a community and level of transparency in routine governance, and the degree to which city infrastructure (instead of private property) bore the brunt of the flood damage. Additionally, the availability of information appears to be a crucial resource for governments in policy responses, with those more likely to undertake adaptive policy measures also more likely to engage digitally and in-person with local constituents and stakeholders. Read more: http://www.colorado.edu/hazards/research/qr/qr248.html.

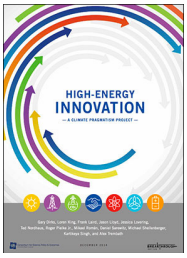
What Stakeholder Needs Tell Us about Enabling Adaptive Capacity: The Intersection of Context and Information Provision across Regions in the United States

by **L. Dilling**, K. Lackstrom, B. Haywood, K. Dow, M. C. Lemos, **J. Berggren**, and S. Kalafatis
Weather, Climate, and Society 7 (1) 5-17, January 2015

Abstract: In recent years increasing attention has been focused on understanding the different resources that can support decision makers at all levels in responding to climate variability and change. This article focuses on the role that access to information and other potential constraints may play in the context of water decision making across three U.S. regions (the Intermountain West, the Great Lakes, and the Carolinas). The authors report on the degree to which climate-related needs or constraints pertinent to water resources are regionally specific. They also find that stakeholder-identified constraints or needs extended beyond the need for data/information to enabling factors such as governance arrangements and how to improve collaboration and communication. As climate information networks expand and emphasis is placed on encouraging adaptation more broadly, these constraints have implications not only for how information dissemination efforts are organized but for how those efforts need to be informed by the larger regional context in a resource-limited and fragmented landscape. Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2015.02.pdf.

High-Energy Innovation - A Climate Pragmatism Project

by G. Dirks, L. King, F. Laird, J. Lloyd, J. Lovering, T. Nordhaus, **R. Pielke, Jr.**, M. Román, D. Sarewitz, M. Shellenberger, K. Singh, and A. Trembath
Consortium for Science, Policy & Outcomes, and *The Breakthrough Institute*, 2014



Excerpt: In the coming decades, most of the innovation in clean energy technologies needed to combat climate change will likely occur in rapidly industrializing rather than developed nations. This report identifies and maps promising international efforts by private firms and governments in China, India, the United States, Europe, Latin America, and Africa to advance four low-carbon technologies –– shale gas, nuclear, carbon capture and storage (CCS), and solar –– and makes the case for more collaborations between nations. Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2014.49.pdf.

How Competing Securitized Discourses over Land Appropriation Are Constructed: The Promotion of Solar Energy in the Israeli Desert

by I. Fischhendler, D. Boymel, and **M. T. Boykoff**
Environmental Communication , doi: 10.1080/17524032.2014.979214, November 17, 2014


How Competing Securitized Discourses over Land Appropriation Are Constructed: The Promotion of Solar Energy in the Israeli Desert

Abstract: Although solar farms are often favorably received by the public due to their contribution to clean energy, they are not conflict-free. In various contexts, this land-intensive technology often competes with other land uses like agriculture, nature reserves, and army training. As a result of this competition, interest groups often seek political leverage in order to prioritize their spatial use. Framing their uses as existential is one possible way to capture the attention of decision-makers. Yet, this securitization process may create a framing contest whereby different actors use similar securitization language to promote different land uses. This study is the first attempt to trace how this framing contest of securitized discourses over land appropriation is constructed. Read more: http://www.tandfonline.com/doi/full/10.1080/17524032.2014.979214#.VH4gZjHF9u6.

Would You Lie to Airport Screeners? The terrible, "lesser evil" choice facing travelers asked about Ebola

by **B. Hale**
Slate, October 14, 2014

Excerpt: After the Dallas Ebola patient Thomas Eric Duncan died last week, public comments ranged from expressions of sadness and condolences to his family to vitriolic condemnations of his behavior for lying to airport screeners. It may be helpful to revisit the rationale that likely brought him here, especially in light of the Centers for Disease Control and Prevention's new airport screening procedures, as well as Liberia's and Texas' earlier proposals to prosecute Duncan for evading airport checkpoints. Thinking carefully about his mindset can help us understand how better to address this outbreak and keep it from spreading further. Read more: http://www.slate.com/articles/health_and_science/medical_examiner/2014/10/airport_screening_for_ebola_did_thomas_eric_duncan_lie_and_should_liars.single.html.

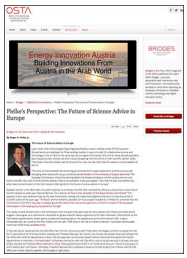
Can FIFA's Corruption Be Stopped?

by **R. A. Pielke, Jr.**
Foreign Policy, November 16, 2014

Excerpt: Fans of American football have weathered a season of scandal, with claims of willfully disregarding knowledge of concussion damage and a culture of domestic abuse battering the National Football League's top officials. But nothing comes close to the hailstorm that surrounds the Fédération Internationale de Football Association (FIFA), the Swiss-based non-profit that oversees international soccer, including the quadrennial World Cup finals. Since 2010, the organization has found itself buried in an avalanche of allegations of corruption, notably surrounding how it awarded the 2018 and 2022 World Cups to Russia and Qatar. Read more: http://www.foreignpolicy.com/articles/2014/11/16/fifa_corruption_scandal_be_stopped_russia_qatar_bribes_investigation.

Pielke's Perspective: The Future of Science Advice in Europe

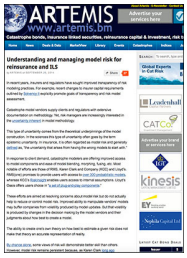
by **R. A. Pielke, Jr.**
Bridges, Vol. 42, December 2014



Excerpt: Last month, when the European Space Agency's Rosetta mission orbited comet 67P (Churyumov–Gerasimenko) and deployed its Philae landing module, it was a triumph for collaborative science and technology in the EU. But on the same day, the European Commission (EC) and its newly elected president, Jean-Claude Juncker, announced that it would be getting rid of the office of chief scientific advisor (CSA). That meant that Anne Glover was the first and, for now, the last chief scientific advisor to the president of the EC. Read more: http://ostaustria.org/bridges-magazine/item/8316-pielkes-perspective.

Understanding and Managing Model Risk for Reinsurance and ILS

by **J. Weinkle**
Artemis, September 25, 2014

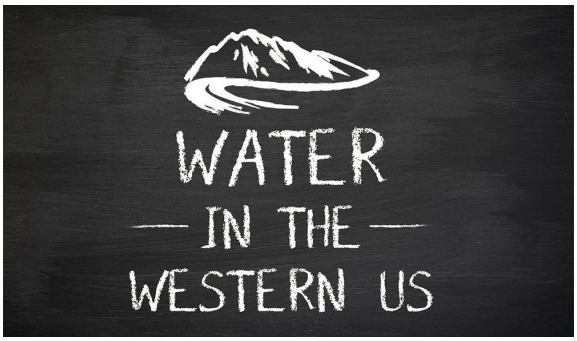


Excerpt: In recent years, insurers and regulators have sought improved transparency of risk modeling practices. For example, recent changes to insurer capital requirements outlined by Solvency II explicitly promote goals of transparency and risk model assessment. Read more: http://www.artemis.bm/blog/2014/09/25/understanding-and-managing-model-risk-for-reinsurance-and-ils/.

S&T NEWS

Free Online Course: Water in the Western United States

Eric Gordon from the Western Water Assessment and Anne Gold from the Cooperative Institute for Research in Environmental Sciences (CIRES) are co-teaching a free online course entitled "Water in the Western United States." This college-level course is available by clicking here (https://www.coursera.org/course/waterwestus) and provides a broad overview of the history of water development in the region and relevant hydrology and climatology. Registration is available now; the course will run from April 1 through May 1.



S&T OPPORTUNITIES

College of William & Mary Mellon Postdoctoral Fellow in Environment Science and Policy

The Department of Environmental Science & Policy and the Socionatural Tick-Borne Disease Research Group at the College of William and Mary invites applications for a two-year postdoctoral fellow position that will begin August 10, 2015. We seek an individual with expertise in political ecology that is interested in examining the political and economic dynamics surrounding land use change and tick-borne disease. Candidates should have a Ph.D. in Sociology, Geography, Environmental Studies, or a related discipline. Candidates should have the ability to do spatial analysis using GIS software and/or ethnographic interview based research. A familiarity with social scientific theories on (sub-)urban growth, neoliberalization, and/or financialization are highly desirable. Joining an interdisciplinary team of social and natural scientists, the fellow should also be willing to take part in ecological fieldwork and work in a lab extracting and analyzing tick DNA. A Ph.D. is required at the time appointment begins (August 10, 2015). Candidates must apply online at https://jobs.wm.edu. Submit a curriculum vitae and a cover letter detailing your interest in the position and relevant qualifications and research experience. You will be prompted to submit online the names and email addresses of three potential references. For full consideration, submit application materials by the review date, April 8, 2015. Questions about the position should be directed to Brent Z. Kaup (bzkaup@wm.edu).

USAID Research and Innovation Fellowships

The USAID Research and Innovation Fellowships aim to build a sustainable model for knowledge exchange by connecting bright American minds with key in-country organizations to collaboratively apply science, technology, and innovation to complex development challenges. The Fellowships offer unique opportunities for Fellows to provide critical research and technical expertise to exciting, progressive projects and initiatives with tangible and finite goals. Additionally, the Fellowships allow for complementary program design, incorporating the needs of the host organization within the scope of the Fellows' existing studies and research. As part of the Research and Innovation Fellowships program, USAID partners with the U.S. National Science Foundation (NSF) and six universitiy partners to foster stronger human networks and improve sharing of organizational best practices under the umbrella of science, technology, and innovation for stronger development.

To become involved in the Research and Innovation Fellowships or for additional information, please contact RIFellowships@usaid.gov. More Information: http://www.usaid.gov/RIFellowships.

THE ROLES OF SCIENTISTS IN POLICY AND POLITICS

by Roger Pielke, Jr.

When Science and Citizens Connect: Public Engagement on Genetically Modified Organisms

A Workshop of the NAS Roundtable on Public Interfaces of the Life Sciences, January 15-16, 2015

Video [29:50]: https://www.youtube.com/watch?v=CWQhCBWkY-w

To view more CSTPR videos see:
http://sciencepolicy.colorado.edu/news/multimedia

Job Opportunities

Please see the Center's Jobs Page to learn about additional opportunities in the S&T field:
http://sciencepolicy.colorado.edu/students/jobs

ABOUT US

Ogmius is the newsletter of the Center for Science and Technology Policy Research. The Center is within the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado-Boulder. The mission of CIRES, which was established in 1967, is to act as a national resource for multidisciplinary research and education in the environmental sciences. CIRES is jointly sponsored by the University of Colorado-Boulder and the National Oceanic and Atmospheric Administration.

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