



Oscar Pistorius competing at the 2012 Summer Olympics in London.
Photo: Wikimedia Commons, Will Clayton.

OGMIUS EXCHANGE

In this issue of Ogmius our exchange article by Center director Roger Pielke, Jr., describes a new program at CSTPR, STePPS: Science, Technology, Policy and Politics of Sport, which focuses on the governance of sport, with a special emphasis on the roles of science and technology in how sport is governed. Roger has been on the faculty of the University of Colorado since 2001 and is a Professor in the Environmental Studies Program and a Fellow of the Cooperative Institute for Research in Environmental Sciences (CIRES). Roger's research focuses on science, innovation and politics. In 2011 he began to focus on the governance



of sports organizations, including FIFA and the NCAA. Roger recently launched STePPS (<http://sciencepolicy.colorado.edu/steps>), which is the topic of the exchange article. Roger holds degrees in mathematics, public policy and political science, all from the University of Colorado. In 2012 Roger was awarded an honorary doctorate from Linköping University in Sweden and was also awarded the Public Service Award of the Geological Society of America. Roger also received the Eduard Brückner Prize in Munich, Germany in 2006 for outstanding achievement in interdisciplinary climate research. At CIRES, Roger served as the Director of the Center for Science and Technology Policy Research from 2001-2007 and again from 2013 to the present.

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<http://sciencepolicy.colorado.edu/ogmius>

STePPS: Science, Technology, Policy And Politics Of Sport by Roger Pielke, Jr.

Here at the CIRES Policy Center we've started up a new research program focused on the governance of sport. The program has been in the works over the past several years after I discovered how closely related many questions of sports governance are to more common topics found within the field of science and technology policy.

A few years ago when teaching a seminar on science and technology studies, I developed two units that used sports as a context for exploring some difficult topics. One case focused on technological augmentation of the human body. We looked at the case of Oscar Pistorious and the policies which governed how athletes who use prosthetics would be eligible to participate in the Olympics, competing against athletes who did not use prosthetics. The case raised challenging questions about what it means to be human, what it means to be augmented, and the role of technologies in our lives. Ultimately, the case came around to policies – what rules should govern technological augmentation in sport?

A second case that we looked at was that of Caster Semenya, the South African runner. After she dominated the field in the 2009 World Championships she found herself in the middle of a gender controversy, with allegations made that she should be deemed ineligible to run with women. Semenya was ultimately vindicated, but the case raises the question of what it means to qualify to compete in women's athletics events. As on many topics, an initial reaction to sex and sports is to hand off the issue to scientists and ask them to determine a bright line that can be used in a decision making setting. But like so many areas, there is no bright line, but many shades of gray. Determining who is eligible to compete in women's sporting events turns out to highlight many of the challenges of using science in decision making.

Cases like these led us to create a new research program, called STePPS: Science, Technology, Policy and Politics of Sport. We are interested in questions of governance, especially as they are related to science and technology. We have also partnered with the Department of Ethnic Studies where there is a new certificate program in Critical Sports Studies.



Caster Semenya runs ahead of Rose Mary Almanza and Halima Hachlaf during heat of the women's 800-meter race in 2012 Olympics. Photo: Franck Fife/AFP/Getty Images.

This semester I am teaching a course on The Governance of Sport, and for our final class project we are holding an Oxford-style debate on the issue of unionization and college athletics. In March 2014 the National Labor Relations Board ruled that football players at Northwestern University would be allowed to unionize in order to secure labor rights as university athletes. Northwestern University immediately appealed the decision. Kain Colter, the Northwestern quarterback, explained: "Right now the NCAA is like a dictatorship. No one represents us in negotiations. The only way things are going to change is if players have a union." The NCAA opposed the move: "This union-backed attempt to turn student-athletes into employees undermines the purpose of college: an education. Student-athletes are not employees, and their participation in college sports is voluntary."

Students in my class are taking different sides of this issue and we are holding the debate at our department of athletics. The question of unionization is part of a bigger debate about the role of big-time college athletics on university campuses. Science and technology policy scholars typically address many questions related to the governance of the modern university. But athletics are rarely a focus.

With STePPS we hope to bring together an impressive body of scholarship, methods and expertise, with a part of society that deserves greater scholarly attention. You can find our new project online <http://sciencepolicy.colorado.edu/steps>. We'd love your feedback!

Roger Pielke, Jr., pielke@colorado.edu

RESEARCH HIGHLIGHT

Our new writing intern Dan Zietlow (see Center News) catches up with CSTPR's Lisa Dilling to learn about her ongoing "Interactions of Drought and Climate Adaption for Urban Water" (IDCA) project. Lisa is an 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. Her career has spanned both research and practice arenas of the science-policy interface, including program leadership for NOAA and the U.S. Global Change Research Program. Her current research focuses on the use of information in decision making and science policies related to climate change, adaptation, and the carbon cycle. She is a co-editor of the book *Creating a Climate for Change: Communicating climate change and facilitating social change* from Cambridge University Press.



The Dynamics Of Vulnerability: Rethinking Our Approach To Drought In The Face Of Climate Change by Dan Zietlow

Much of eastern Australia is currently in the midst of some of the driest months on record. Similarly, wintertime droughts are becoming increasingly common for the Mediterranean region. Closer to home, California posted its driest documented year in 2013. These regions of the world, as well as many others, successfully mitigated short-term effects of drought in the past by implementing "no regrets" strategies. Such policies are arguably good for the preservation of our environment regardless of climate change, with common solutions including mandatory water restrictions and more efficient methods of water conservation (e.g., low-flow toilets or xeriscaping). With increased knowledge of anthropogenic-induced climate change, we must also begin to ask: do "no regrets" solutions reduce water system vulnerability in conditions of long-term climate change? Lisa Dilling, a scientist with the Center for Science and Technology Policy Research at the University of Colorado, and her colleagues are beginning to ask such a question.



Dilling is the principal investigator for the Interactions of Drought and Climate Adaption for Urban Water (IDCA) project. Her work aims to understand the dynamic nature of vulnerability to identify drought management policies that are effective across the timescales on which climate

change operates. Vulnerability (i.e., susceptibility to harms like drought) is a function of one's exposure and sensitivity to that vulnerability, as well as society's capacity to adapt. With this in mind, it is often asserted that actions taken to reduce vulnerability to current climate variability will help in adapting to climate change (the "no regrets" solutions discussed earlier). Evidence suggests, though, that ignoring the spatial and temporal dynamic of exposure to vulnerability may solve the problem in the short-term, but may shift vulnerability to other parts of the system or limit our future ability to adapt. In the case of drought, there are concerns that restructuring urban water systems to permanently conserve water might limit flexibility to cut back on water usage during future drought.

RESEARCH HIGHLIGHT

A scan of drought policies implemented by various cities across the United States highlight this exact problem: we can make changes to adapt to drought today, but may not always anticipate the long-term effects of such policies, especially in the face of climate change. Despite initial limitations ranging from equity concerns to social resistance, most cities considered their drought policies successful since they reduced the overall amount of water used. That being said, many water policies caused unforeseen problems, including water quality issues and revenue imbalances. In-depth analysis is now underway on the water systems of Tampa, FL, Austin, TX, and Las Vegas, NV to further elucidate the linkages between drought response and other elements of the water system.



drought, but have other effects on financial systems, political relationships, and perceptions of fairness. Attention to how the dynamics of vulnerability shift following significant adaptation decisions will allow for a more informed and flexible approach as we adapt to climate change.

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From her initial work, Dilling has drawn some significant preliminary conclusions. Namely, we might want to rethink the language used around adaptation from “no regrets” to “proceed with caution.” “No regrets” decisions made to ensure a sufficient supply may reduce physical exposure to

CENTER NEWS



Roger Pielke, Jr. Joins FiveThirtyEight

Center director Roger Pielke, Jr. joined ESPN's FiveThirtyEight as a contributor writer where he writes about science, innovation and politics as well as sports governance. His articles include Disasters Cost More than Ever—But Not Because of Climate Change (<http://fivethirtyeight.com/features/disasters-cost-more-than-ever-but-not-because-of-climate-change>), When Picking a Bracket, It's Easier to Be Accurate Than Skillful (<http://fivethirtyeight.com/features/when-picking-a-bracket-its-easier-to-be-accurate-than-skillful>) and There's Income Inequality in Golf, Too (<http://fivethirtyeight.com/features/theres-income-inequality-in-golf-too>).



Roger Pielke, Jr. was featured on the NBC's News Special, Ann Curry Reports: Our Year of Extremes: Did Climate Change Just Hit Home?

Roger was featured in an NBC news special about extreme weather and climate change. View video here: <http://www.nbcnews.com/news/us-news/our-year-extremes-did-climate-change-just-hit-home-n70976>.



Roger Pielke, Jr. discusses whether climate change is causing extreme weather on Colorado Public Radio

Colorado Matters host Ryan Warner discussed climate change and extreme weather events with CIRES' Roger Pielke Jr. and

CENTER NEWS

NCAR's Kevin Trenberth. Excerpt: "After big weather events, the question that often comes up is: "Is climate change responsible for this?" That question has popped up a lot in Colorado recently given massive floods and fires over the past year. In



September 2013, devastating floods hit the Front Range and, less than a year ago, the Black Forest wildfire wiped out more than 500 homes near Colorado Springs. Colorado hasn't been alone in its extreme weather misery: Hurricane Sandy ravaged the East Coast in 2012, blizzards and snowstorms tortured the Northeast in 2013 and the current severe drought in California means ski resorts haven't opened and ranchers are selling off their herds. Are all these events just Mother Nature cycling through her natural mood swings? Or is it, as some scientists suggest, that the human influence on our climate is causing these weather catastrophes? Read more and listen to audio here: <http://www.cpr.org/news/story/climate-change-causing-extreme-weather-experts-disagree>.

New Pilot Episode for Inside the Greenhouse

Max Boykoff's collaborative project with Beth Osnes and Rebecca Safran at the University of Colorado, Inside the Greenhouse, has produced a pilot program - incorporating creative climate communications from student projects assembled in their partner courses. The centerpiece



of this program draws on part two of the project, recording from an on-stage interview with a high-profile public figure who has been wrestling with questions regarding climate science, policy and the public. As part of this, guests to the live event visit onsite locations in the Boulder community as part of the stories in the program, and as part of the important dimension of outreach beyond campus (e.g. K-12 classrooms). The footage taken during these visits will also become part of the programs. View the program here: <http://vimeo.com/85576017>.

New Faces at the Center

The Center continues to grow with the addition of several new members.

Katherine "Katie" Dickinson joined the Center as a Research Associate/Research Scientist. 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 decisionmaking 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.



CSTPR's new undergraduate assistant is Torie Duke. Torie is pursuing a Bachelor's Degree in Chemical and Biological Engineering from CU Boulder with a minor in Computer Science. She has worked with Engineers Without Borders on designing water catchment systems in Rwanda for three villages and is eager to learn more about the policies behind current environmental issues.



CSTPR welcomes Dan Zietlow, a Ph.D. candidate in Geophysics at CU Boulder, as our new writing intern. In this position Dan will utilize his blogging and photography skills to produce short articles and blogs and to participate in social media discussions in areas related to the Center's research, education and outreach.



Welcome Katie, Torie and Dan!

CENTER NEWS

AAAS Competition

Congratulations to the winners of the AAAS “Catalyzing Advocacy in Science and Engineering” Workshop Student Competition organized by the CIRES Center for Science and Technology Policy Research and supported by the CU Graduate School and Center for STEM Learning. Emily Pugach, a Ph.D. student in Molecular, Cell and Developmental Biology, and Chris Schaeftbauer, a Ph.D. student in Computer Science, both at CU-Boulder, were selected through a highly competitive process. They recently attended the AAAS



workshop in Washington, DC, to learn about Congress, the federal budget process, and effective science communication. They also met with Members of Congress or congressional staff. Emily had the following to say about the experience:

“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.”

GRADUATE STUDENT NEWS

Marisa McNatt article for The Boulder Stand, “Changing the Game: Boulder’s Clean Energy Goals, and How a Lego Game Shows How to Reach Them”

CSTPR graduate student Marisa McNatt had an article in The Boulder Stand addressing using Lego blocks and “Change Cards” as a tool to visualize what would happen if Boulder, CO were to take more aggressive action for reducing carbon emissions, or to map what it would look like to meet its renewable energy targets through municipalization.



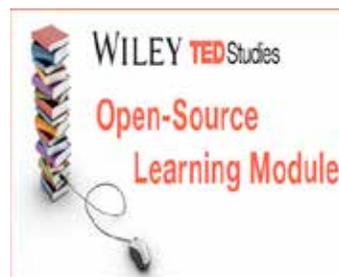
Excerpt: In July I traveled to the E.U. as a Heinrich Böll Climate Media Fellow, to learn about policies that the EU and Germany are implementing to transition to a carbon-free economy and translate them to U.S. policy-makers. My first stop took me to Copenhagen, home to the inventors of “Changing the Game” — a game that allows you to dream up your ideal energy scenario for a region in Europe in 2030 and see if you can get there under realistic technological and economic conditions. The Game uses Lego towers to visually capture the basic principles of the energy system. As you implement policy measures throughout the game using “Change Cards” that modify the energy system, the Lego towers are altered in tandem, so that the changes are visualized.

Participating in a round of Changing the Game on day two of my travels, I learned that even with a well-educated

and ambitious group, it’s pretty difficult to overcome the technological and economic constraints to meeting renewable energy and carbon reduction targets. Despite the cultural and political differences between Europe and the U.S., there are similar constraints to transitioning to a carbon-free economy on either side of the Atlantic. Even for Boulder, the Game offers insight into what it will take to reach municipal climate and clean energy goals...read more: <http://www.theboulderstand.org/2013/12/21/changing-the-game-boulders-clean-energy-goals-and-how-a-lego-game-shows-how-to-reach-them>.

Kanmani Venkateswaran Participates in TED: Environmental Studies

CSTPR’s Max Boykoff and Kanmani Venkateswaran are now part of an open-source learning module through Wiley-Ted Studies: TED Studies: Environmental Studies – Climate Change. Wiley in collaboration with TED has published a curated series of talks plus specially commissioned educational support materials. Teachers and students can use TED: Environmental Studies to explore the issues relating to one of the biggest threats to our planet. Specially commissioned contextual essays, activities, and multimedia resources link the science of urban planning to the real world, plus expanded academic content such as key terms and further reading. For more information: http://media.wiley.com/assets/7224/76/Climate_Change_TLG_Overview.pdf.



GRADUATE STUDENT NEWS

Xi Wang Renewable Energy Policy Work, Appointment and Award

CSTPR graduate student Xi Wang gave a talk titled “Negotiating Power: The Political Contingencies of Renewable Energy Policy in the U.S.” She discussed how and why Renewable Portfolio Standards (RPS) emerged as the dominant renewables policy. Her paper examines how the RPS emerged in the state of California—one of the world’s leaders in renewable energy development—not as a determinative outcome, but as the result of contingencies. Her research provides insight into the complex political economy from which the RPS emerged; the contentions and negotiations between industry, environmental non-profits, and government that first abandoned and then advanced the RPS.



Xi’s work on renewable energy curtailment with the National Renewable Energy Laboratory was recently featured in CIREs’ Spheres science magazine: http://cires.colorado.edu/science/spheres/energy-environment/EE_2014.pdf.

Xi has also been selected as a Breakthrough Generation Fellow for the Breakthrough Institute for summer 2014. As one of ten fellows, Xi will be working in the Climate and Energy Program. She will be examining global greenhouse gas emissions embedded in international trade.

In addition, Xi has been awarded the CIREs Graduate Research Fellowship for the 2014-2015 academic year. The

fellowship aims to promote student scholarship and research excellence by embracing a dual approach of 1) attracting the best talent to University of Colorado-Boulder at the outset of their graduate careers, and 2) enabling graduating seniors to complete and publish their research results.

Kelsey Cody article for Society and Natural Resources

Kelsey Cody recently submitted a manuscript to Society and Natural Resources. Cody, K.C., Smith, S.M., Cox, M., Krister, K. (2014) Emergence of Collective Action in a Groundwater Commons: Irrigators in the San Luis Valley of Colorado. Society and Natural Resources (In Review).

Marilyn Averill Presentations and New Affiliation

Marilyn has several given several presentations over the past year:

- Averill, M. (July 2014). Protecting Rights through Climate Litigation. International Political Science Association. Montreal.
- Averill, M. (Dec. 2013). What Does It Mean to Agree? United Nations Framework Convention on Climate Change Conference of the Parties 19. Warsaw.
- Averill, M. (Oct. 2013). Science, Courts and Climate Change. Society for the Social Studies of Science. San Diego.
- Averill, M. (Aug. 2013). Civil Society Engagement with the UNFCCC. Taiwan UNFCCC NGO Conference. Taipei.
- Averill, M. (March 2013). Courts and the Diffusion of Climate Science. International Studies Association Annual Conference. San Francisco.

She is now a senior fellow at the Getches-Wilkinson Center for Natural Resources, Energy and the Environment at CU Law.

CENTER EVENTS

Spring 2014 Talks:

“Adapting to Change: Promise, Pitfalls and Politics”

The Center’s spring 2014 noontime seminar series is focusing on Adapting to Change and includes the following presentations. Webcasts of completed talks are available online at: <http://sciencepolicy.colorado.edu/news/webinars/index.html>.



January 29, 2014

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

February 5, 2014

Knowledge Production, Access, and Use for Climate Adaptation at Local Scales in Northern Tanzania
by Meaghan Daly, Center for Science and Technology Policy Research

February 12, 2014

The Energy-Water Nexus: Where Climate Adaptation and Greenhouse Gas Mitigation Policies Collide
by Kristen Averyt, CIREs and Western Water Assessment

March 5, 2014

Psychological and Community Correlates of Adaptation to Water Stress Among Smallholding Farmers in Sri Lanka
by Amanda Carrico, Vanderbilt Inst. for Energy & Environment

CENTER EVENTS

March 12, 2014

Guinea Pigs of the Shale: Informed Consent & the Politics of Fracking
by Adam Briggie, Philosophy and Religion, Univ. of N. Texas

April 2, 2014

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

April 16, 2014

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

April 23, 2014

Playing with Fire: Social Interactions and Wildfire Mitigation Behaviors in Colorado
by Katie Dickinson, National Center for Atmospheric Research and Center for Science and Technology Policy Research

Join our mailing list to receive notification of upcoming talks and a link to the webcast by entering your email under "Join our Mailing List" on the left hand column at <http://sciencepolicy.colorado.edu>.

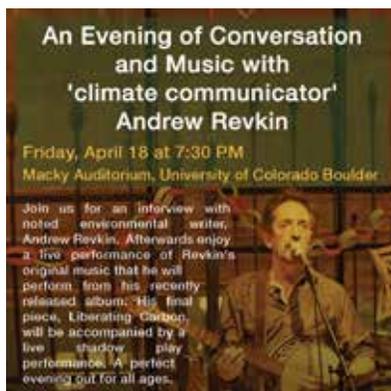
UPCOMING SPECIAL EVENTS

An Evening of Conversation and Music with 'climate communicator' Andrew Revkin

Friday, April 18 at 7:30 PM

Macky Auditorium, University of Colorado Boulder
Free and Open to the Public

Join us for an interview with noted environmental writer, Andrew Revkin. Afterwards enjoy a live performance of Revkin's original music that he will perform from his recently released album. His final piece, *Liberating Carbon*, will be accompanied by a live shadow play performance. A perfect evening out for all ages.



Andrew Revkin is the Senior Fellow for Environmental Understanding at Pace University and has been writing about environmental sustainability for more than three decades, from the Amazon to the White House to the North Pole, mainly for The New York Times. He has won the top awards in science journalism multiple times, along with a Guggenheim Fellowship. At Pace, he teaches courses in blogging, environmental communication and documentary film. He has written acclaimed books on global warming, the changing Arctic and the assault on the Amazon rain forest, as well as three book chapters on science communication. Drawing on his experience with his Times blog, Dot Earth, which Time Magazine named one of the top 25 blogs in 2013, Revkin speaks to audiences around the world about the power of the Web to foster progress. He's also a performing songwriter,

was a longtime accompanist for Pete Seeger and recently released his first album of original songs, which was hailed as a "tasty mix of roots goulash" on Jambands, an influential music website. Two films have been based on his work: "Rock Star" (Warner Brothers, 2001) and "The Burning Season" (HBO, 1994).

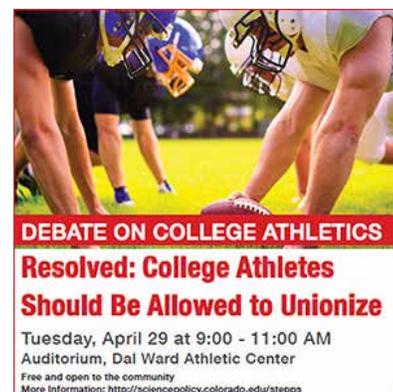
More Information: <http://sciencepolicy.colorado.edu/itg/events/revkin.html>

DEBATE ON COLLEGE ATHLETICS

Resolved: College Athletes Should Be Allowed to Unionize

Tuesday, April 29 at 9:00 - 11:00 AM
Auditorium, Dal Ward Athletic Center
Free and open to the community

As part of their final project, students in ETHN 3104, The Governance of Sport, are organizing an Oxford-style debate on the subject of unionization among college athletes. Half the class will be taking the affirmative position and the other half the negative. Audience participation will be part of the debate, which is open to the University community.



This debate is for educational purposes only. No position is being taken or is affiliated by the University of Colorado.

More Information: <http://sciencepolicy.colorado.edu/steps/news/events.html>

CENTER PRESENTATIONS

Max Boykoff Talk at University of Idaho "Who speaks for the climate?"

Max gave a talk at the University of Idaho on March 25 about the ways in which the news media contribute to public understanding – and misunderstanding – of climate issues. His talk was followed by a panel discussion featuring four UI faculty members.



Roger Pielke Talk at Basic and Applied Research Workshop

Roger Pielke, Jr. spoke on February 21 at a workshop titled, "Basic and Applied Research: Historical Semantics of a Key Distinction in 20th Century Science Policy" organized by David Kaldewey, University of Bonn, and Désirée Schauz, Munich Centre for the History of Science and Technology. Roger's talk was on "basic research" as a political symbol in the US context based on his paper "Basic Research as a Political Symbol" (Minerva, 2012). To view his presentation slides click here: <https://docs.google.com/file/d/0B92Cyl7iP9pqdGdfeXJhNHRWWik/edit>.

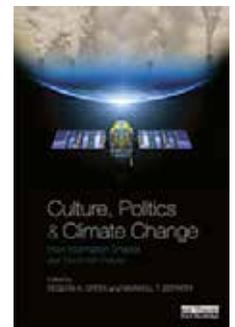
NEW PUBLICATIONS

Max Boykoff has a new article published in the March 2014 edition of *Nature Climate Change*: Boykoff, M. T. (2014). Media discourse on the climate slowdown. *Nature Climate Change*, Volume 4, pp. 156-158.

Excerpt: In August 1968, protestors from the Students for a Democratic Society — an activist movement in the United States — repeatedly hurled the phrase 'the whole world is watching' outside the hotel in Chicago where the Democratic National Convention was being held. As Columbia University professor Todd Gitlin later documented in a book titled by the same phrase, media coverage of the clashes accompanying the refrain then served to draw wider visibility to their antiwar activities and claims. He found that implications from the media representations were twofold: first, coverage largely framed the protests as a fringe action promoted by marginalized actors; however, second, the increased media coverage of the Students for a Democratic Society actions actually boosted awareness and bolstered member enrolments in the student-led movement... Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2014.02.pdf.



Communication and Media, Politics and Policy, and Future Directions in Climate Politics Scholarship – each followed by a commentary from a key expert in the field. The book includes analysis of the challenges and opportunities for establishing successful communication on climate change among scientists, the media, policy-makers, and activists.



With an emphasis on the interrelation between social, cultural, and political aspects of climate change communication, this volume should be of interest to students and scholars of climate change, environment studies, environmental policy, communication, cultural studies, media studies, politics, sociology. Read more: <http://www.routledge.com/books/details/9780415661492>.

Deserai also has a new article (with coauthors Tanya Heikkila, Jonathan J. Pierce, Samuel Gallaher, Jennifer Kagan, and Christopher M. Weible) about fracking policy in Colorado, *Understanding a Period of Policy Change: The Case of Hydraulic Fracturing Disclosure Policy in Colorado*. *Review of Policy Research*, Volume 31, Issue 2, pages 65–87, March 2014.



Deserai Anderson Crow and **Max Boykoff** just had a book published by Routledge Press:

Culture, Politics and Climate Change
How Information Shapes our Common Future
Edited by Desera A. Crow, Maxwell T. Boykoff

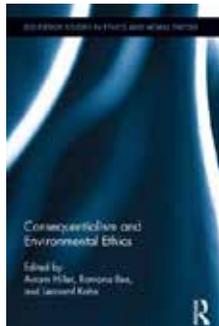
Focusing on cultural values and norms as they are translated into politics and policy outcomes, this book presents a unique contribution in combining research from varied disciplines and from both the developed and developing world.

This collection draws from multiple perspectives to present an overview of the knowledge related to our current understanding of climate change politics and culture. It is divided into four sections – Culture and Values,

Abstract: This paper investigates the beliefs and framing strategies of interest groups during a period of policy change and the factors explaining policy change. We develop propositions to explore questions concerning policy change primarily from the advocacy coalition framework as well as from other theories. The propositions are tested by examining the promulgation of a Colorado regulation requiring the disclosure of chemicals used in hydraulic fracturing. Using coded data of documents published by organizations involved in the rulemaking process, we find divergence between industry and environmental groups on their beliefs concerning hydraulic fracturing, as well as their portraying

themselves and each other as heroes, victims, and villains, but some convergence on their more specific beliefs concerning disclosure of chemicals. Interviews point to the importance of policy entrepreneurs, timing, a negotiated agreement, and learning for explaining policy change. The findings provide both theoretical and methodological insights into how and why policy changes. Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2014.07.pdf.

Benjamin Hale has a chapter published in the new book *Consequentialism and Environmental Ethics* by Avram Hiller, Ramona Ilea, and Leonard Kahn, Eds. (December 2013, Routledge Studies in Ethics and Moral Theory).



Excerpt: Of the 4.9 million barrels of crude oil discharged into the Gulf of Mexico during and immediately after the Deepwater Horizon disaster, an impressive 41% of the oil was removed through human intervention. Such interventions included not only chemical dispersion (accounting for approximately 16% of the discharge), in situ burning (5%), and skimming (3%), but also a significant portion was captured directly from the well (17%). Researchers estimate that another 37% of the oil disappeared naturally, either through natural dispersion (13%) or through evaporation or dissolution (24%). As the remaining 22% of the oil continues to float in the gulf and threaten wildlife, the cost of the cleanup is expected to pass \$41 billion (Hagerty and Ramseur 2010).

Notwithstanding these economic costs, many lives, human and non-human, have been affected by the spill. Countless sea critters, including fish and marine mammals, died gruesome deaths or ended up with genetically abnormal offspring. Fish, shrimp, and oyster stocks were decimated (in the literal sense of the term). More than 3,000 miles of beach and wetland areas were bathed in oil. Recreation in the area took an incredible hit. The devastation is tremendous, and those responsible for the event-British oil giant BP, primarily-are on the hook to clean it all up.

Many people want to say this: that pollution is wrong. Typically, they say this on harm grounds: Pollution is wrong because it is harmful to other people, to animals, or to nature more generally. This seems about right. Environmental damage is a serious consequence of polluting and it would seem wrong to impose it unjustifiably. These same people may have similar views about elephant poaching and rampant suburban expansion, to take just two examples, though such cases are not instances of pollution. That is, they may think that what makes poaching and rampant expansion wrong is also that it destroys the environment. In this way, pollution is just one of several forms of environmental wrongdoing. Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2013.39.pdf.

Ben also authored a new article, *Clowning Around with Conservation: Adaptation, Reparation and the New Substitution Problem*, with Alexander Lee, and Adam

Hermans, *Environmental Values* 23 (2) 181-198, doi: 10.3197/096327114X13894344179202, Published April 2014.

Abstract: In this paper we introduce the 'New Substitution Problem' which, on its face, presents a problem for adaptation proposals that are justified by appeal to obligations of reparation. In contrast to the standard view, which is that obligations of reparation require that one restore lost value, we propose instead that obligations to aid and assist species and ecosystems in adaptation, in particular, follow from a failure to adequately justify – either by absence, neglect, omission or malice – actions that caused, or coalesced to cause, climatic change. Because this position suggests a different reason for reparation – namely, it does not rely on the notion that an obligation to repair is contingent upon a lost good – it permits moving forward with assisted colonisation and migration, but does so without falling subject to the complications of the New Substitution Problem. Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2014.06.pdf.



Roger Pielke, Jr. has a new publication at Law in Sport on the analysis of immigration and US Soccer: US immigration policy negatively impacts US Soccer.

Excerpt: Issues related to immigration and citizenship have long been debated in the United States, and are reemerging as a political issue, with calls for reform coming from both Republicans and Democrats.



President Obama says that “the US immigration system is broken ... there are 11 million people living in the shadows.” One consequence of the broken immigration system can be seen in US soccer, where certain immigrants to the United States are deemed ineligible to represent Team USA, despite meeting FIFA criteria for eligibility. This article explains this situation and recommends several alternative ways forward to better align the intent of FIFA regulations with their implementation in a US context by US Soccer. Read more: <http://www.lawinsport.com/articles/regulation-a-governance/item/us-immigration-policy-negatively-impacts-us-soccer>.

Roger Peilke, Jr. assesses the legacy of J. D. Bernal’s science-policy classic on its 75th anniversary in *In Retrospect: The Social Function of Science*. *Nature* 507, 427–428 (27 March 2014) doi:10.1038/507427a.

Excerpt: In 2011 Tom Coburn, the Republican Senator for Oklahoma, issued a report focused on helping the US National Science Foundation to better conduct research that “can transform and improve our lives, advance our understanding of

the world, and create meaningful new jobs". It is ironic that this conservative Republican's demands that research be carefully planned and focused on social objectives can be traced directly to the writings of an Irish-born communist crystallographer 75 years ago.

Such is the wholesale acceptance of John Desmond Bernal's views in his 1939 treatise *The Social Function of Science* — covering the organization of research to science and its social role — that they are now part of the fabric of science-policy debates across the political spectrum. For Bernal, usefulness was more than an aspiration: it was the central objective of the scientific enterprise and the desired end of state support of science.

He was among the first to recognize that all public engagement is ultimately political, although his vision of scientists as stalwarts resisting partisan politics might now seem naive: "The scientist ... sees the social, economic and political situation as a problem to which a solution must first be found and then applied, not as a battleground of personalities, careers and vested interests." Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2014.08.pdf.

Roger Pielke, Jr. and Dan Sarewitz have a new Op-ed in the Financial Times on energy development and poor nations,



Climate policy robs the world's poor of their hopes: We need technologies that work in the US and in Pakistan, say Roger Pielke and Daniel Sarewitz.

Excerpt: Having failed to stem carbon emissions in rich countries or in rapidly industrialising ones, policy makers have focused their attention on the only remaining target: poor countries that do not emit much carbon to begin with.



Legislation to cap US carbon emissions was defeated in Congress in 2009. But that did not prevent the Obama administration from imposing a cap on emissions from energy projects of the Overseas Private Investment Corporation, a US federal agency that finances international development. Other institutions of the rich world that have decided to limit support for fossil fuel energy projects include the World Bank and the European Investment Bank.

Such decisions have painful consequences. A recent report from the non-profit Center for Global Development estimates that \$10bn invested in renewable energy projects in sub-Saharan Africa could provide electricity for 30m people. If the same amount of money went into gas-fired generation, it would supply about 90m people – three times as many. Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2014.03.pdf.

S&T OPPORTUNITIES

NCAR ASP 2014 Summer Colloquium on Uncertainty in Climate Change Research: An integrated Approach

Announcing the ASP, NCAR Summer Colloquium on Uncertainty in Climate Change Research: An Integrated Approach, July 21- August 6, 2014, NCAR, Boulder, CO.



Uncertainty is present in all phases of climate change research from the physical science (e.g., projections of future climate) to the impacts through to the effort to make decisions regarding mitigation and adaptation across different spatial scales. This theme will embrace all aspects of uncertainty in

climate change research, providing a pedagogic whole for students, post-docs, and early career scientists interested in any and all aspects of climate change. One central focus will be the need to understand the strands of uncertainty throughout the climate change problem in order to focus effectively in any one area. We aim to train the next generation of postgraduates in interdisciplinary thinking.

This workshop builds on one held two years ago at NCAR in IMAGE. Core topics will be similar but new topics have also been added. To view the agenda, abstracts, talks, etc. of this previous workshop, please visit: <https://www2.image.ucar.edu/event/uncertainty-climate-change-research-integrated-approach>. Students, post-docs and early career scientists are invited to apply. For more information and to apply, please visit: <http://www.asp.ucar.edu/colloquium/2014/index.php>.



NEW VIDEO FEATURING ROGER PIELKE, JR.

ANN CURRY REPORTS

Our Year of Extremes: Did Climate Change Just Hit Home?

<http://www.nbcnews.com/news/us-news/our-year-extremes-did-climate-change-just-hit-home-n70976>

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

Job Opportunities

Environmental Defense Fund: Policy Analyst, Legislative Affairs, US Climate and Political Affairs

Overall Function

Environmental Defense Fund is looking to hire a Policy Analyst in the Washington DC office. The Analyst will be an integral member of Environmental Defense Fund's US Climate Political Affairs program legislative team, working in a high-intensity and multi-disciplinary setting, to advocate on range of energy, clean air and climate change policies.

Key Responsibilities

The policy analyst responsibilities will include:

- Work at direction of U.S. Climate Political Affairs senior staff on outreach and advocacy with other organizations, government agencies, and Congressional offices.
- Organize and participate in meetings with Congressional offices about range of energy, clean air and climate issues.
- Conduct research related to various aspects of energy, clean air and climate policy including but not limited

to, summarizing legislative proposals and tracking legislation and sponsors.

- Draft correspondence, fact sheets and other outreach, advocacy materials.

Qualifications

- Two years or more of experience working with Congress.
- Ability to recognize and build on political opportunities.
- Results-oriented, self-starter with the ability to think strategically and carry out responsibilities in a timely and effective manner with minimal supervision.
- Advanced degree in environmental and/or energy related field, political science or public policy preferred. Candidates without a graduate degree will be considered based on qualifying experience.
- Working knowledge of current issues relating to energy efficiency, clean energy, air quality and climate change.

More Info: <http://www.edf.org/jobs/policy-analyst-legislative-affairs-us-climate-and-political-affairs>.

ABOUT US

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