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OGMIUS EXCHANGE

This issue of Ogmius features an article by climate change adaptation expert Dr. Susanne Moser, Director and Principal Researcher of Susanne Moser Research & Consulting, in Santa Cruz, CA. She also is a Social Science Research Fellow at Stanford's Woods Institute for the Environment and a Research Associate of the Institute for Marine Sciences at the University of California-Santa Cruz. In her current research and work with local, state and federal government agencies and non-governmental organizations, she focuses on adaptation to climate change, especially in coastal areas, resilience, decision support, and effective climate change communication in support of social change. Dr. Moser is a geographer by training (Ph.D. 1997, Clark University). Previously she served as a Research



Scientist at the National Center for Atmospheric Research in Boulder, Colorado, has worked for the Heinz Center in Washington, DC, and served as staff scientist for climate change for the Union of Concerned Scientists. Susanne Moser is co-editor with Lisa Dilling (University of Colorado-Boulder) on a major anthology on climate change communication, called *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, published in 2006 by Cambridge University Press. She contributed to the Fourth Assessment Report of the Nobel-prize winning IPCC and has been selected as a Review Editor for the IPCC Special Report on "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation" and as a Lead Author in the Fifth Assessment. She is a fellow of the Aldo Leopold Leadership, Kavli Frontiers of Science, Donella Meadows Leadership, and Google Science Communication Programs.

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>

SCIENCE FOR CLIMATE ADAPTATION: REFLECTIONS FROM BEHIND THE 8 BALL

by Susanne C. Moser

I came home from summer vacation the day Tropical Storm Irene pummeled its way up the Eastern Seaboard, leaving washed out bridges, roads, flooded homes and businesses, and destroyed crops in its wake. The media have been following closely the hardship and responses of hardy Yankees. For those of us interested in resilience, the Northeast is the place to watch! And for the rest of us tired of the “business-as-usual” politics in Washington, anti-climate science diatribes, or just plain head-in-the-sand avoidance of the realities of our day, hearing folks think hard about their future is about as refreshing as a crisp fall day in New England. Get this: Vermont’s Governor has publicly made the link between extreme events and climate change, and asked – much like his Catskills neighbors – whether we should be rebuilding in the same way, in the same places, yet again. There are people thinking about rebuilding with adaptation and climate change in mind; people wondering how to rebuild better, safer. THIS should be business as usual, but because it is not, this is a place and a time to behold.



Researchers interested in adaptation should be concerned about what states and communities are doing, what gets them started, and what science can do to support them. Communities around the US that are beginning to tackle adaptation often start doing so by dealing with today’s vulnerabilities. They integrate thinking about climate change into their existing priorities and long-term plans; they form consortia and think about governance; some are beginning to engage stakeholders on the issue (though many are hesitant to do so in this volatile political climate). Interestingly enough – uncertainty and imperfect information about the future is not a show stopper for these pioneers. They make do with what they can get despite uncertainty (only the laggards seem to need certainty). After

all, change in mindset is the hallmark of leaders, not the possession of perfect knowledge.

The question then is, how do we scale up from the handful of communities that are leading the way on adaptation? And how can we scientists help? Communities are asking: They need people providing more specific information and access

Researchers interested in adaptation should be concerned about what states and communities are doing, what gets them started, and what science can do to support them.

to that which exists but seems beyond reach; they need credible experts who can translate what the science means; and they need good communicators. So what then is being asked of us scientists? I have three simple answers, none of them easy to do.

- Get out there! Most Americans can't name a living scientist; they don't know who we are, and so it's easy to either view us as strange lab coat-wearing nerds or as money- and ideology-driven spin doctors. Be out there in your community and help where help is most needed.
- You don't have to reinvent the wheel about how to do it right. Yes, you have to get your own "street cred", but much is known already about how to work effectively with practitioners, and what practitioners need from you. Read up a bit and go!
- Meet the need, don't just name it. So: apply what we know that works; actually fill the needs identified; and then leap-frog to the next generation of adaptation work.

And what is that next generation of practice-relevant science on adaptation? What do we need to do research on so that we don't find ourselves behind the 8 ball in ten, 20, 50 years again? I have a going list of topics on which I believe we need to make progress to get out in front of the challenges as they inevitably will arise.

Successful adaptation – How would we know it, if we saw it? How would we measure it? What are the triggers along the adaptation pathway that would tell us we're no longer successful, we need to switch to something different, better? How would we assess and adjudicate among trade-offs?

Imagining transformation – There is increasing talk about "transformative change", but what does that actually mean compared to garden variety adaptation? What capacities do we need to more deeply transform? By what processes? How do we deal with the legacies of institutions, values, and paradigms? And how do we engage anyone on transformative change in this age of short planning horizons, limited attention spans, and pressing needs?

Unpacking governance – Governance theories bump up against reality and we need to understand it better and give people advice on how they can improve it. The idea of mainstreaming climate change into everything communities already do is an oft-heard suggestion, yet shouldn't we ask: mainstreaming into what? Adaptation often means increasing flexibility, but legal experts cringe as that often means loss of accountability. So, how do we build a more adaptable and accountable governance system?



How do we build a more adaptable and accountable governance system?

Communicating adaptation – This is both a practical task and an area in need of concerted research. How do we increase and yet also manage risk perceptions as we talk about climate change impacts on things we value close to home, not just the iconic polar bear? How do we name the unnamable – the inevitable losses and the many taboos that got us into the problems in the first place? How do we grow the capacity of local leaders to do all that communicating with their constituents?

Overcoming polarization – Last but not least, or maybe even first, how do we get moving on the tasks ahead in an environment that has made climate change such a politicized subject? How do we create space for a real dialogue in the face of more immediate pressures? What other forms for communication are really useful? What are the political and social strategies that help to overcome societal divisions once opinions have become so divided?

Maybe more frequent crises will make communities more receptive over time, but disasters don't always yield future-oriented change. The chance to build adaptive capacity into communities is only as good as the plans in the drawer, ready to go, to rebuild for a more volatile future. Go out and help create those plans. The next town hit could be yours.

Susanne C. Moser, Ph.D.
Susanne Moser Research & Consulting
promundi@susannemoser.com

RESEARCH HIGHLIGHT

ANALYZING EXPRESSED STAKEHOLDERS NEEDS IN THE WESTERN WATER ASSESSMENT REGION

by John Berggren and Lisa Dilling

Our Research Highlight describes a project undertaken by John Berggren and Lisa Dilling. John is a Ph.D. student in Environmental Studies at the University of Colorado, with a secondary focus on water policy. His academic research will be on western water policy and governance, with a focus on the Colorado River. John holds a B.A. in Public Health Studies from the Johns Hopkins University, and an M.H.S. in Environmental Health from the Johns Hopkins Bloomberg School of Public Health. 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.

Plans for a Climate Service and an ongoing national assessment capacity have emerged against a backdrop of over a decade of work within and outside the Regional Integrated Sciences and Assessments (RISA) network, including non-governmental organizations, governments, businesses, and the like who are interested in effectively responding to climate change and variability. In the Western Water Assessment (WWA) geographic region, we have been working for several years with stakeholders from a wide variety of interests to help them manage water and other resources more effectively in the tightly constrained region of the Upper Colorado Basin. This study is an attempt to systematically examine stakeholder needs for climate information through previous documentation in order to not 'reinvent the wheel' and to prevent stakeholder fatigue.

Our examination of stakeholder needs has been undertaken by developing a comprehensive list of documents where stakeholders have expressed desired climate information for their respective sectors. This comprehensive list was developed through web-based searches and querying our network of key informants and collaborators within academia and the public and private sectors. Documents were ultimately selected if they identified any type of stakeholder need in regards to climate information and were within the WWA geographic scope. Regional and nationally focused documents were included if they specifically mentioned the WWA region.

Fifty-five documents were selected and coded using Microsoft Access, then analyzed using NVivo Software. About half of the documents were from the water sector, with the others being from the recreation/tourism, agriculture, natural resources/wildlife, Tribal, and multiple sectors. Some of the main findings include monitoring needs such as additional USGS stream gages and NRCS SNOTEL snowpack sites, better communication and collaboration between



scientists/researchers and the stakeholders themselves, and a 'clearinghouse' or 'portal' where stakeholders could easily obtain climate related information.

Ultimately, analysis of these documents suggests that stakeholders in the WWA region have the capacity to use climate information. This capacity was especially prevalent in Colorado, with fewer documents and needs coming from Utah and Wyoming. It also seems that current management and research are addressing the appropriate issues, but could be better coordinated and communicated to improve decision-making. Additional climate and hydrologic monitoring and modeling would better assist managers and planners, but only if the data is available and in a useful form. The water sector articulated the most needs, but other sectors are engaged as well and interested in successfully adapting to climate variability and change.

John Berggren, john.berggren@colorado.edu

Lisa Dilling, ldilling@colorado.edu

JOHN MARBURGER

1941-2011

John H. "Jack" Marburger, known best for his role as science advisor to President George W. Bush, died on July 5 at age 70. The Center first interacted with Dr. Marburger when he spoke in our Science Advisors series in 2005 (<http://sciencepolicy.colorado.edu/scienceadvisors>). Roger Pielke, Jr., blogged about his reminiscences of Dr. Marburger:

[Dr. Marburger's] talk was followed by an on-stage interview that I conducted with him. We had our largest audience of the series that night with over 500 people in attendance. I distinctly remember the audience mood turning from being somewhat overtly hostile to Dr. Marburger to confusion and even appreciation, as he explained that he was a Democrat, saw evolution as beyond debate and expressed support for action on climate change.

Since that time I had a chance to collaborate a bit with Dr. Marburger, working with him up to the past few weeks on a forthcoming paper in a special journal issue on the "science of science policy." Dr. Marburger had a long and distinguished career and will be remembered for many reasons. One that stands out is his interest in stimulating rigorous research in science and technology policy. A 2005 commentary that he published in *Science* provided the motivation for a new generation of research in the "science of science policy."

He was also a generous and decent person. He will be missed.

See also Pielke, Jr., R. A. (2011), John Marburger (1941–2011) Physicist and longest-serving US presidential science adviser. *Nature* 476 (284), doi: 10.1038/476284a, http://sciencepolicy.colorado.edu/admin/publication_files/2011.26.pdf.

Other former students and faculty share their thoughts on Dr. Marburger's passing:

Shali Mohleji

We recently lost a member of our community with the passing of Dr. Marburger. I had the fortunate opportunity to meet with Dr. Marburger several times and he left a lasting impression on me during a 2009 workshop on Reconciling the Supply of and Demand for Research in the Science of Science and Innovation Policy. Dr. Marburger showed great intellectual humility which I admired, with a gracious open-mindedness and a spirited curiosity for everyone's thoughts. Such intellectual modesty is the sign of a true scholar, which Dr. Marburger proved to be. Even though we have lost a valued member of the science policy community, the research community, and so many



Dr. John H. Marburger, U.S. White House photo

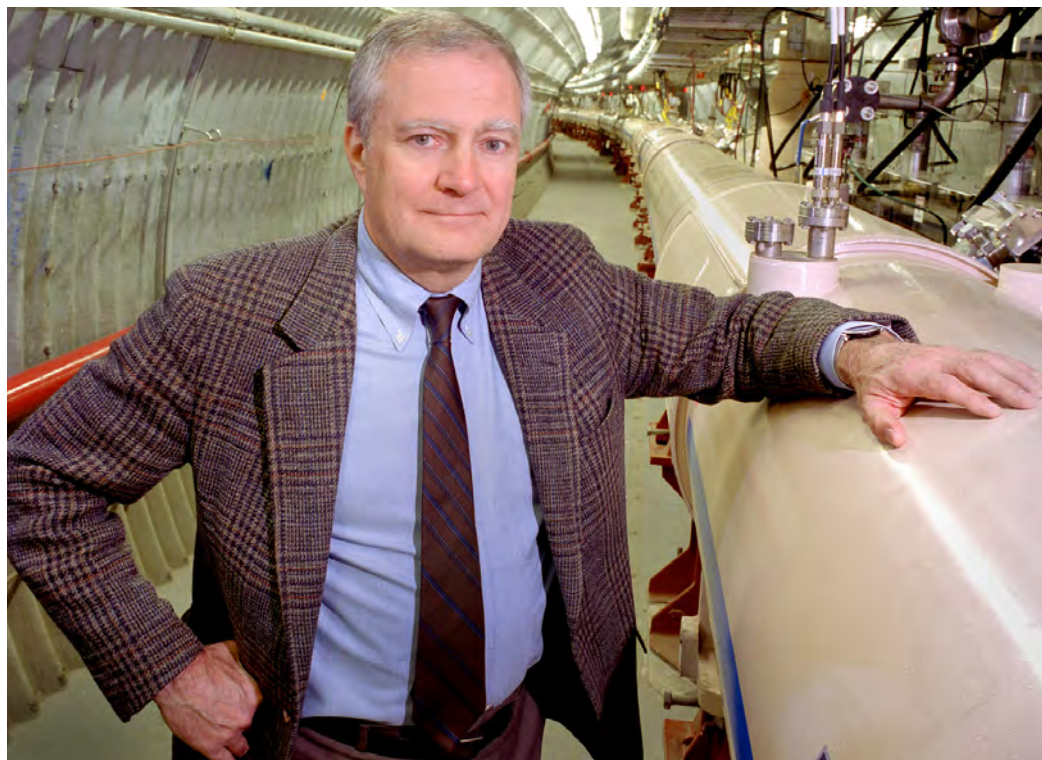
other groups, Dr. Marburger's qualities live on by setting a precedent for us all.

Elizabeth McNie

It's difficult to think of Jack Marburger in the past-tense. I first met him as a graduate student at CU when he came to speak about his role as the President's Science Advisor. Later I was able to interact with Jack on issues close to his heart: the science of science and innovation policy. Throughout my engagement with him Jack seemed incredibly patient and interested in what I was saying, even when I was sure there were other people in the room with more interesting things to say. But that's what made him so special to many of us who came to know him when we were graduate students and early-career professionals: his un-hurried presence and willingness to talk with and listen to our ideas, not to mention patience answering questions he'd probably fielded hundreds of times before. He may have been the Presidential Science Advisor when we first met him, but today he is simply Jack. Friend, mentor, coach, incredible scientist, role model...words can hardly describe how he's informed our lives and careers. Jack's passion for science, policy and science policy will live in unique ways in each of us whose lives and careers he has touched. We are, indeed, fortunate.

Lisa Dilling

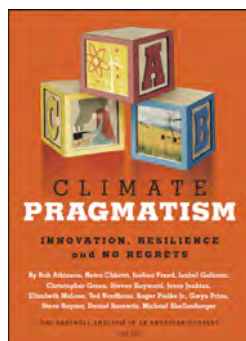
I met Jack Marburger a few times, once when he was part of our series on Presidential Science Advisors and once in Washington, D.C. for our SPARC project's "Usable Science" symposium with CSPO and Dan Sarewitz. I got to know him further through his insightful and well-written science policy articles on topics from how we decide on the direction of science policy to the use of intelligence in making decisions about weapons of mass destruction in Iraq. He played an instrumental role in initiating the now burgeoning field of "the science of science policy" and his thoughtfulness in this arena will be greatly missed.



Dr. John Marburger in the tunnel of Brookhaven's Relativistic Heavy Ion Collider in 2000.

NEW PUBLICATIONS

Atkinson, R. N. Chhetri, J. Freed, I. Galiana, C. Green, S. Hayward, J. Jenkins, E. Malone, T. Nordhaus, R. Pielke Jr., G. Prins, S. Rayner, D. Sarewitz, and M. Shellenberger (2011), **Climate Pragmatism: Innovation, Resilience and No Regrets. The Hartwell Analysis in an American Context, 32 pp., Published July, http://sciencepolicy.colorado.edu/admin/publication_files/2011.20.pdf.**



Excerpt: A new climate strategy should take a page from one of America's greatest homegrown traditions — pragmatism— which values pluralism over universalism, flexibility over rigidity, and practical results over utopian ideals. Where the UNFCCC imagined it could motivate nations to cooperatively enforce top-down emissions reductions with mathematical precision, US policymakers should acknowledge that today's global, social, and ecological systems are too messy, open, and complicated to be governed in this way. Whereas the UNFCCC attempted to create new systems of global governance, a pragmatic approach would build upon established, successful institutions and proven approaches. Where the old climate policy regime tried to discipline a wildly diverse set of policies under a single global treaty, the new

era must allow these policies and measures to stand—and evolve — independently and according to their own logic and merits. And where the old regime required that everyone band together around the same core motivation and goals, policymakers today are likely to make the most progress to the degree that they refrain from centrally justifying energy innovation, resilience to extreme weather, and pollution reduction as "climate policy."

Hale, B. (2011), **Nonrenewable Resources and the Inevitability of Outcomes. The Monist 94 (3) 369-390, http://sciencepolicy.colorado.edu/admin/publication_files/2011.28.pdf.**



Excerpt: Many argue that environmental degradation, particularly of the noxious pollutant and carbon-emissions variety, eventuates from a kind of prisoner's dilemma. In doing so, they suggest that it culminates in a disastrous tragedy of the commons (Hardin 1968; Gardiner 2001). Others are concerned that it arises to a dilemma as such, but that it is the result of externalized costs (Stern 2007), or because costs are so widely distributed, either across disconnected populations or across multiple generations (Broome 1994; Gardiner 2006; Andreou 2007). Still others

have argued that we can gain a handle on the issue if we assume intransitive preferences, as with the case of the “puzzle of the self-torturer” (Andreou 2006). These are all helpful, but I believe normatively problematic, characterizations of the climate-change challenge. Each captures only one narrow dimension of what has become the “super wicked problem” of the millennium (Lazarus 2009). More importantly, each explanatory characterization carries with it a set of normative prescriptions about how best to approach the climate problem, and each implies, I think, that we ought to take action in order to mitigate climate change by reducing our emissions.

I argue in this paper that the release of climate-altering CO2 into the atmosphere is best understood as temporally inevitable, at least from the standpoint of moral theory. Namely, I reason that, in the absence of alternative energy technologies and robust global remediation strategies, human activity is headed toward the same end: the complete exhaustion of fossil fuel resources. In turn, as these fuels are used, the near certain outcome is that carbon, otherwise deeply sequestered in rock and sediment at the bottom of the carbon cycle, will enter the atmosphere and the terrestrial biosphere. The current climate crisis is therefore only partially characterized by each of the above factors—ranging from the consumption of nonrenewable resources to the emission and subsequent accumulation of carbon concentrations in the atmosphere—but these factors taken together undercut harms-based conservation arguments aimed at mitigating climate change. This, I believe, has implications for the ethical and political framework appropriate to address the climate challenge.

Pielke, Jr., R. A. (2011), Improving conveyance of uncertainties in the findings of the IPCC. Climatic Change, Published August 9, http://sciencepolicy.colorado.edu/admin/publication_files/2011.25.pdf.

Abstract: Authors of the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) received guidance on reporting understanding, certainty and/or confidence in findings using a common language, to better communicate with decision makers. However, a review of the IPCC conducted by the InterAcademy Council (2010) found that “the guidance was not consistently followed in AR4, leading to unnecessary errors . . . the guidance was often applied to statements that are so vague they cannot be falsified. In these cases the impression was often left, quite incorrectly, that a substantive finding was being presented.” Our comprehensive and quantitative



analysis of findings and associated uncertainty in the AR4 supports the IAC findings and suggests opportunities for improvement in future assessments.

For further reading, see Roger’s blog: How Many Findings of the IPCC AR4 WG I are Incorrect? Answer: 28%, <http://rogerpielkejr.blogspot.com/2011/08/how-many-findings-of-ippc-ar4-wg-i-are.html>.

Pielke, Jr., R. A. (2011), The Policy Advisor’s Dilemma. Bridges 30, Published July 20.



Excerpt: More than 65 years ago the sociologist Robert K. Merton described a key challenge faced by policy analysts: An analyst must achieve a balance between being close to decision makers to ensure that the advice is deemed relevant and useful while, at the same time, maintaining a degree of independence in order to exercise judgments based on the merits of the issue rather than political expedience. Merton explained that while relevance required the analyst to become “part of a bureaucratic power structure,” such participation may lead the analyst “to abdicate his privilege of exploring policy possibilities which he regards as significant.” Read more: <http://www.ostina.org/content/view/5711/1507>.

Travis, W.R. (2011), A Future of Mass Evacuations. New York Times, Published August 29.



Excerpt: Irene highlighted a long-standing weak link in hurricane forecasting: track forecasts are much more reliable than intensity forecasts. Even if wind speed is well known, storm surge, the biggest killer in hurricanes and main reason for evacuating, is difficult to predict.

Unfortunately, in a world of rapid coastal development, accelerating sea level rise, and beach erosion, evacuations are becoming more frequent and including more people. Someday soon officials somewhere will try to move a million people out of the way of a hurricane. This will save lives (though not property). But the awkward medical relocations in front of Irene showed that evacuations are not without risk... Read more: http://sciencepolicy.colorado.edu/admin/publication_files/2011.27.pdf or <http://www.nytimes.com/roomfordebate/2011/08/29/what-did-we-learn-from-irene/mass-evacuations-for-hurricane-irene-and-more-to-come>.

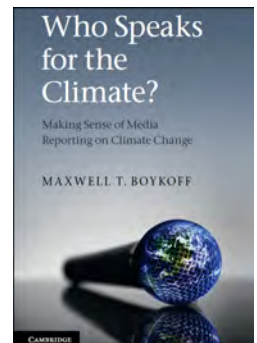
Science of Science and innovation Policy

The 2011 special issue of Policy Sciences includes papers for a workshop titled "Reconciling the Supply of and Demand for Research in the Science of Science and Innovation Policy" held in 2009 in Oslo, Norway. This workshop brought together academics, practitioners, and those with feet in both worlds to examine how science policy research does (or does not) support the information needs of science policy decision makers. To view all the papers in this special issue see: http://sciencepolicy.colorado.edu/publications/special/pielke_rsd_sip.html.



Who Speaks for the Climate? Making Sense of Media Reporting on Climate Change

Max Boykoff's new book, *Who Speaks for the Climate? Making Sense of Media Reporting on Climate Change*, will be available soon. This book provides a "bridge between academic considerations and real world developments, and helps students, academic researchers and interested members of the public make sense of media reporting on climate change as it explores 'who speaks for climate' and what effects this may have on the spectrum of possible responses to contemporary climate challenges." To order a copy see: http://www.cambridge.org/gb/knowledge/isbn/item6441726/?site_locale=en_GB.

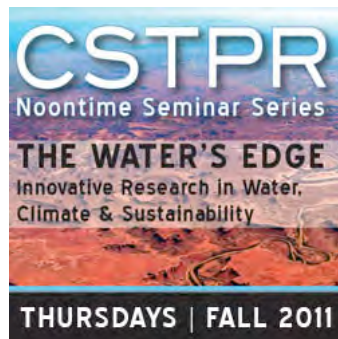


CENTER EVENTS

CSTPR FALL 2011 NOONTIME SEMINAR SERIES

The Water's Edge: Innovative Research in Water, Climate & Sustainability

All talks are held in the CSTPR conference room (map: http://sciencepolicy.colorado.edu/about_us/find_us.html) on Thursdays from 12:00 - 1:00 PM **unless otherwise indicated**. Free and open to the public.



September 15, 2011

Normalized Tornado Losses in the United States: 1950-2011
by Roger Pielke, Jr., Center for Science and Technology Policy Research, University of Colorado

October 6, 2011

Climate Adaptation by Any Other Name - Social Learning in Colorado Water Governance: Building Adaptive Capacity for Climate Uncertainty?

by Shannon McNeeley, Research Applications Laboratory/ Integrated Science Program, National Center for Atmospheric Research

October 13, 2011

Abrupt Climate Change: What is it and Should I Fear it?

by Jim White, INSTAAR and Environmental Studies, University of Colorado

NOTE DIFFERENT LOCATION: CIRES Auditorium (map: <http://cires.colorado.edu/contact/maps.html>)

October 27, 2011

Collaborative Resilience: Moving Through Crisis to Opportunity

by Bruce Goldstein, Department of Planning and Design, University of Colorado

November 3, 2011

Twenty Years of Water Reform in Australia: Any Lessons for the American West?

by Brad Udall, Western Water Assessment, University of Colorado

NOTE DIFFERENT LOCATION: CIRES S274 (map: <http://cires.colorado.edu/contact/maps.html>)

December 1, 2011

Adapting to What? Interactions of Drought Management, Climate Adaptation, and Shifting Vulnerability in the Urban Water Sector

by Lisa Dilling and Meaghan Daly, Center for Science and Technology Policy Research, University of Colorado

December 8, 2011

Current Colorado Water Issues: Research and Information Needs

by Reagan M. Waskom, Colorado Water Institute, Colorado State University

NOTE DIFFERENT LOCATION: CIRES S274 (map: <http://cires.colorado.edu/contact/maps.html>)

Join our mailing list at http://sciencepolicy.colorado.edu/news/center_talks.html to receive notices of upcoming talks and presentations.

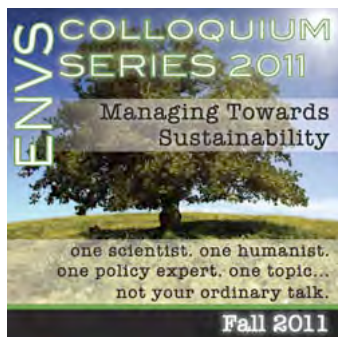
CENTER EVENTS

Fall 2011 ENVS Colloquium Series

Managing Towards Sustainability (upcoming talks)

one scientist. one humanist
one policy expert. one topic...
not your ordinary talk.

Sponsored by the
Environmental Studies
Program at the University
of Colorado at Boulder and
the Center for Science and
Technology Policy Research



Wednesdays 3:30 - 5:30 PM, CIRES Auditorium
(map:<http://cires.colorado.edu/contact/maps.html>).
Refreshments starting at 3:30 pm. Talks/panels begin at 4:00
pm. Free and open to the public.

October 26, 2011: Sustainable Food Systems - Going Beyond 'The Omnivore's Dilemma'

by Shannon Collinge

Environmental Studies Program, University of Colorado
Commentators: Michael Zimmerman, CU Center for
Humanities and the Arts and Jessica Lovering, CU
Environmental Studies Program

November 16, 2011: Acid Mine Drainage and Climate Change in the Rocky Mountains: Approaches to Understand and Address a Major Problem that is Rapidly Getting Worse

by Diane McKnight

Institute of Arctic and Alpine Research, University of Colorado
Commentators: Nick Flores, CU Department of Economics
and John Berggren, CU Environmental Studies Program

Center Ten-Year Anniversary Celebration September 2012

We plan to commemorate our 10-year anniversary in September 2012 with an exciting event that will include current faculty, staff and students, as well as our alumni and others in the science and technology policy community. Stay tuned for further details!



CENTER NEWS

AMS Adaptation Meeting

The Center had a strong presence at the American Meteorological Society's "Practical Solutions for a Warming World: AMS Conference on Climate Adaptation," held on 18- 20 July 2011, in Asheville, North Carolina. Lisa Dilling helped organize and co-chaired the event, and also presented on "The Role of Information in Climate Change Adaptation on Western Public Lands" and "Building and comparing stakeholder databases and networks across RISAs." She co-authored a poster (with Bobbie Klein and Meaghan Daly) on the "Interactions Of Drought And Climate Adaptation For Urban Water (IDCA)" project. Other Center presentations included John Berggren (with Lisa Dilling) on "Analyzing

expressed stakeholder needs in the Western Water Assessment RISA;" Christine Kirchhoff (with Lisa Dilling) on "Science Informing Policy? Understanding Drivers and Constraints to Improved Water Management in a Changing Climate;" and CSTPR alum Elizabeth McNie on "Producing usable climate science for climate services: what your research organization needs to know." Bobbie Klein helped prepare a presentation by Eric Gordon titled "The Colorado Climate Preparedness Project: A Systematic Approach to Assessing State-Level Adaptation." The meeting agenda and recordings of the presentations can be found here: <http://ams.confex.com/ams/19Applied/webprogram/AMSADAPTATION.html>.



NEW CSTPR VIDEO

Roger Pielke, Jr. discusses
the Center on our new video:
[http://www.youtube.com/
watch?v=f58WqGse2Ik](http://www.youtube.com/watch?v=f58WqGse2Ik).

Check it out!

Other Presentations by Center Personnel

September 1

Lisa Dilling attended the 242nd American Chemical Society National Meeting in Denver with three other CIRES Fellows. She presented a talk titled "Facilitating usable science: Experience from the use of seasonal climate forecasts."

June 20

Max Boykoff spoke at the 'International Climate Communication Summit' sponsored by Greenpeace about "What Media Analysis Can Tell Us About Effective Climate Change Communications".

June 25

Max Boykoff chaired a media and climate session at the 2011 Association for Environmental Studies and Sciences Meeting on "Exploring How Mass Media Confront Complexity When Covering Climate Change".

July 14

Max Boykoff gave a talk at University of Oxford on "Who speaks for climate? Making sense of media reporting



Marty Coniglio and Roger Pielke, Jr., May 29, 2011

on climate change". A webcast of this event is available at: <http://www.oxfordmartin.ox.ac.uk/videos/view/118>.

July 9

Roger Pielke, Jr. discussed the promise vs. the reality of the space shuttle program on National Public Radio's Weekend Edition. Listen online at: <http://www.npr.org/2011/07/09/137705599/shuttle-legacy-grand-though-not-what-was-planned>.

July 12

Roger Pielke, Jr. gave the keynote

speech on "The New Economic Loss Model" at the M.O.R.E. 25 on Mapping and Modeling Risks and Opportunities (MMR+O 2). This conference was organized by the Geneva Association and Axis Re, Bermuda and hosted by the Bermuda Underwater Exploration Institute in Bermuda.

May 29

Roger Pielke, Jr. discussed climate change with meteorologist Marty Coniglio on 9News YOUR SHOW. Videos from this interview are available at: <http://www.9news.com/video/default.aspx?bctid=1033003235001>.

CENTER NEWS

Graduate Student and Visitor News

CSTPR welcomes **Fran Hollender** as a visitor this fall. Fran joins us from the University of Vienna, Institute for Social Studies of Science, where she is pursuing an M.A. in Science, Technology and Society. Fran will be collaborating with Max Boykoff on a project examining climate change and social media.



Fran Hollender

The Center also welcomes new grad students **Chandler Griffith** and **Arielle Tozier de la Poterie**. Chandler is a Ph.D. student in Geography. Originally from Miami, FL, Chandler moved to Colorado from New York City where



Chandler Griffith

he taught and studied for 5 years. His research interests include climate risk management, food production and distribution, as well as natural resource management. Arielle grew up in Portland, Oregon. She has a B.A. in anthropology from Vassar College and recently earned an MSc. in Sustainable Development from Utrecht University in the Netherlands. Before deciding to pursue her Master's, she taught English in France and worked for several years in environmental education, restoration, and policy in the Portland area. She has many interests but hopes to focus her research on environmental issues related to international development.



Arielle Tozier de la Poterie

ALUMNI NEWS

Erik Fisher (Ph.D., ENVS, 2006), gave a talk this summer at the French Embassy in London at one of several high-level meetings on “responsible innovation” held in Europe recently, and also attended one held by the European Commission. He was the only American at either event. His talk discusses some of the work he is doing at Arizona State University (ASU), including his 3 year NSF grant (the STIR project) that places human and social scientists in laboratories in over a dozen nations on three continents. Watch his talk here: <http://www.ambafrance-uk.org/Videos-and-presentations-from-the>.



Kristin Gangwer (M.A., Geography, 2011), is currently living in Albuquerque, NM, where she manages the Central New Mexico LandLink, a program that “links” aspiring farmers with land and mentorship opportunities. Additionally, she recently completed a research project for the Rocky Mountain office of the Environmental Defense Fund, which involved interviewing ranchers in both the Upper Green and Yampa River Valleys about irrigated agriculture and land ownership change.



Joel Gratz (M.S. Meteorology and Policy, M.B.A., 2006), founder of Colorado Power Forecast (<http://www.coloradopowderforecast.com>), just launched www.Chanceofweather.com for sport-specific weather forecasts. Chanceofweather.com is “a team of meteorologists that is dedicated to making weather fun. The news is dominated by stories of bad weather or generic forecasts. But you like to play outside and want a quick and simple source to find your perfect weather window. You’ve come to the right place. We don’t forecast rainbows and we can’t control the weather (yet), but we’re dedicated to helping you enjoy the outdoors.”



Yeonsang Hwang (Ph.D., Civil, Environmental, and Architectural Engineering, 2005), and a registered professional engineer, has several new publications:

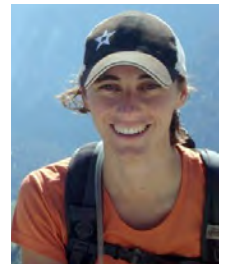
- Yeonsang Hwang, Martyn Clark, and Balaji Rajagopalan (2011), “Use of daily precipitation uncertainties



in streamflow simulaton and forecast”, *Stochastic Environmental Research and Risk Assessment*, 25(7). DOI: 10.1007/s00477-011-0460-1.

- Yeonsang Hwang, Martyn Clark, Balaji Rajagopalan, and George H. Leavesley (2011, in print), “Spatial interpolation schemes of daily precipitation for hydrologic modeling”, *Stochastic Environmental Research and Risk Assessment*; DOI: 10.1007/s00477-011-0509-1.
- Yeonsang Hwang, Jun-Haeng Heo, and Younghun Jung (2011), “Ensemble Daily Streamflow Forecast Using Two-step Daily Precipitation Interpolation”, *Journal of Korea Water Resources Association*, 44(3), 209-220.
- Yeonsang Hwang, Younghun Jung, Kwangsuop Lim, and Jun-Haeng Heo (2010), “Comparison of Daily Rainfall Interpolation Techniques and Development of Two Step Technique for Rainfall-Runoff Modeling”, *Journal of Korea Water Resources Association*, 43(12), 1083-1091.

Genevieve Maricle (ENVS Ph.D., 2008) has recently accepted a new position at the US Agency for International Development in the Bureau of Policy, Planning, and Learning. She will serve as USAID’s Environment and Climate Change Policy Advisor. In this role, she will be responsible for coordinating climate change policy and strategic planning efforts across the Agency, and for representing USAID in its work with the other US government Agencies responsible for the President’s international Global Climate Change Initiative. She works closely with USAID’s Global Climate Change Coordinator in these roles.

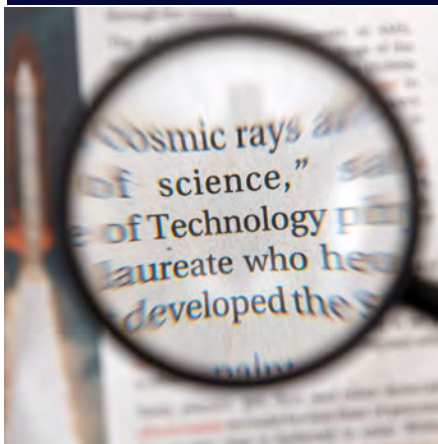


As a member of the Office of Policy, she will engage with a number of other Agency-wide development policy initiatives, and will, for example, be responsible for improving integration and cross-sectoral programming across USAID’s development portfolio (e.g. with regard to climate change, urbanization, democracy and governance, food security, water, and health). She is currently managing the release of USAID’s new Climate Change and Development Strategy.

Shali Mohleji (Ph.D. ENVS 2011) will be taking a fellowship with the American Meteorological Society’s Policy Group in Washington, D.C. She will be working directly with the AMS Policy Director, Dr. Bill Hooke, on federal natural disaster policy and science policy issues.



S&T NEWS



THE JOURNAL OF SCIENCE POLICY & GOVERNANCE CALL FOR SUBMISSIONS

The Journal of Science Policy and Governance is an interdisciplinary journal that seeks high-quality submissions on emerging or continuing policy debates. Current students (undergraduate or graduate) and recent graduates within three years of earning a degree are eligible to submit. We seek to publish articles on a variety of policy areas including: scientific research, engineering, innovation, technology transfer, commercialization, bio-medicine, drug development, energy, the environment, climate change, the application of technology in developing countries, STEM education, and space exploration. For Submission Guidelines please see <http://www.sciencepolicyjournal.org/submissions.html> or email jofspg@gmail.com. **Submission Deadline is October 28, 2011.**

GORDON RESEARCH SEMINAR ON SCIENCE & TECHNOLOGY POLICY

The Gordon Research Seminar on Science & Technology Policy is a unique forum for graduate students, post-docs, and other scientists with comparable levels of experience and education to present and exchange new data and cutting edge ideas. We invite abstract submissions for presentations and posters by scholars and practitioners in: economics, science and engineering, science and technology policy, and science and technology studies.

The theme of the 2012 meeting is "The International Context of Science and Technology Policy". The keynote will discuss conflict, cooperation, collaboration and competition in science and technology policy. We hope (but do not require) that the presentations and posters will raise questions such as:

- Which international institutions, multinational corporations, and non-governmental organizations are demonstrating promising results in collaborative efforts to address global health issues?
- How has international conflict co-produced energy regimes and security?
- Is science and technology policy

for energy shaped by an intense competition and/or mutual collaboration between national programs striving towards the Green Economy?

- How does the interest in Global Climate Change affect other global issues and their policy solutions?
- How do multilateral policies shape cooperation around issues of energy, health, and the environment?
- How is civil society implicated in these processes of conflict, cooperation, collaboration and competition?

While covering broad themes of health, energy, and the environment, this particular conference is encouraging junior scholars to examine the international implications of their policy case studies and theory. This seminar will include a career panel of recent graduates who have gone into science and technology policy research or practice.

For more information or to submit your application, please go to the

Gordon Research Seminar for Science and Technology Policy 2012 website: http://www.grc.org/programs.aspx?year=2012&program=grs_scipol.

S&T Jobs

Please visit our jobs page at <http://sciencepolicy.colorado.edu/students/jobs.html>. Recent postings include:

- Dartmouth College, Assistant Professor, Environmental Studies (posted 9/16/11)
- Geological Society of America, Director of Geoscience Policy (posted 9/2/11)
- Morris K. Udall and Stewart L. Foundation, Native American Congressional Internship Program - Program Manager (posted 9/29/11)
- New York University, Clinical Assistant Professor of Environmental Studies (posted 9/8/11)
- University of Arizona, School of Government and Public Policy - Environmental Politics (posted 9/12/11)

S&T NEWS

NATIONAL PARK SERVICE CLIMATE CHANGE RESPONSE PROGRAM

The George Melendez Wright Climate Change Youth Initiative gives unique opportunities to undergraduate and graduate students to work on projects related to climate change in National Parks. There are two programs within this Initiative.

Internship Program

Paid 12-week internships with park housing often included. Work with NPS staff on science, communication, and mitigation projects. Examples include:

- Monitoring greenhouse gases in alpine tundra at Rocky Mountain National Park.
- Developing educational displays and programs on climate change at Cape Cod National Seashore.
- Helping North Cascades National Park meet its sustainability goals and reduce the carbon footprint of its operations.

Fellowship Program

The fellowship program supports research relevant to managing climate change impacts in US National Parks, including transboundary issues and comparisons to Mexican or Canadian protected areas.

These are one-year awards of up to \$20,000 for students enrolled in



Masters and Ph.D. programs in the US, Canada, and Mexico. Examples include:

- Assessing effects of ocean acidification on marine invertebrates in Channel Islands National Park.
- Predicting how climate-induced changes in fire regime will affect mercury transport in Mesa Verde National Park.
- Understanding how forests and human communities are affected by decline of the significant Yellow Cedar in Glacier Bay National Park.

How to Apply

Both programs are best suited to students in natural, social, and cultural sciences; education; communications; resource management; public policy; or disciplines relevant to a public agency that manages natural, cultural, and historic resources.

The internship program is run in cooperation with the National Council for Science and the Environment. Specific internship openings and application directions will be available in March on the NCSE website: [http://](http://ncseonline.org/program/Campus-to-Careers)

ncseonline.org/program/Campus-to-Careers.

The fellowship program is run in cooperation with the University of Washington. On-line applications will be accepted beginning in November on the UW website: http://coenv.washington.edu/students/melendez_wright.

George Melendez Wright was deeply influential in bringing science to America's national parks. As a child he fell in love with the natural environments of northern California. He pursued that love by working as a naturalist in Yosemite National Park. While there, he saw many problems with park wildlife and realized that good science is needed for effective conservation.

In 1929, Wright started a survey of wildlife and the threats they faced across all the National Parks, with the aim of recommending actions to restore and manage natural populations. In 1930, he was appointed Chief of the Wildlife Division for the National Park Service. As a result of his work, the NPS began moving away from practices like feeding bears to entertain tourists, and embraced science-based approaches to conserving species, habitats, and other natural conditions in the parks.

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