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

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Introduction to Ogmios Exchange

A

ir capture – direct removal of carbon dioxide from



the ambient air - is beginning to receive more attention, especially in light of recent reports that CO₂ emissions are increasing much more rapidly than expected, and that certain climate changes will be “irreversible” (<http://www.pnas.org/content/early/2009/01/28/0812721106.full.pdf+html>) for 1,000 years. The Center’s Roger Pielke, Jr., has an upcoming article in the May issue of the journal

Environmental Science and Policy on air capture (see Recent Papers and Publications below). The Economist recently ran an article titled Scrubbing the Skies (http://www.economist.com/science/tq/displaystory.cfm?story_id=13174375) that discusses the technology.

This edition of Ogmios features University of Colorado energy policy expert and Center Faculty Affiliate Paul Komor’s (http://sciencepolicy.colorado.edu/about_us/meet_us/paul_komor/) perspective about the possible pitfalls of pursuing air capture as a climate change response strategy.

Comments welcome!
admin@sciencepolicy.colorado.edu

Ogmios Exchange

Air capture: The latest distraction?

By Paul Komor

T

echnologies under consideration for

addressing climate change fall into two categories: those commercially available, at reasonable cost, and already in use; and those higher up the R&D pipeline, not yet commercially available, and considerably more speculative. Examples of the first type (which I’ll call the A list) include some forms of renewable energy (hydro, wind,



biomass), energy efficiency, and nuclear fission.

The latter (the B list) are considerably more numerous, and include for example geoengineering (such as seeding the oceans with iron), ‘enhanced geothermal’ (also called hot dry rock), various exotic renewable technologies (such as OTEC [ocean thermal energy conversion] and wave power), and nuclear fusion. All these technologies have their estimated costs, their advantages and disadvantages, and their proponents and opponents. For most of these technologies, one can find analyses arguing that, if a few

Ogmios Exchange Continued

technical or other barriers could be overcome, the technology could be a viable and cost-effective partial solution to climate change.

The latest technology to join the B list is air capture – direct removal of carbon dioxide (CO₂) from the ambient air. This, too, has its estimated costs, its pros and cons, its proponents and opponents. The second law of thermodynamics suggests that this approach must require more energy than removing CO₂ directly at the power plants. But there are of course considerations other than energy intensity.

In an ideal world, each and every proposed solution would receive significant research funds, undergo comprehensive and detailed analysis, and be the topic of widespread public and policy debate.

That is unfortunately not the world we live in, and there are several problems with the comprehensive approach. First, it's not possible. The B list is not static: technologies are added, drop off, and in some cases even come back. Air capture, for example, is relatively new to the list. Nuclear fusion, in contrast, has long been the recipient of significant public research funds, and its proponents have used the climate issue to argue for its resurgence. And further out the exotic scale, according to a recent news article, "advocates of using satellites to beam solar power from space to Earth hope U.S. President Barack Obama's campaign promise to develop alternative energy sources will help resurrect NASA's interest in the technology."¹ Giving every technology the R&D, analytic, and policy attention its advocates desire would be a never-ending task.

Second, it would be a damaging distraction. R&D budgets are finite, policy attention is time- and attention-limited, and – most importantly – many argue that the time has come to take concrete actions to address climate change. Continued public and policy attention on the latest proposed technological solution – whether it's air capture, concentrating solar power,

or space beams – diverts attention from the need to take controversial and difficult steps to actually mitigate or adapt to climate change, rather than continuing to study the options.

So how do we move forward, given finite budgets, limited attention spans, and the need to take action? Not by ignoring air capture, certainly, but neither by letting air capture distract us from the solutions in hand. Numerous studies² have shown the considerable carbon savings that could result from greater use of technologies already available, at costs well under \$100 per ton of CO₂. So why continue to pursue uncertain, expensive, and unproven technologies like air capture, when we have proven, cost-effective technologies already in hand?

Yes, air capture might prove a viable technology for addressing climate change. So *might* nuclear fusion, or solar power beams from space, or any of the other B list technologies. Perhaps these ideas deserve some research funds and attention. But that is a distraction from the reality: we have technologies that work; our challenge is to figure out how to make better use of them.

Paul Komor
komor@colorado.edu

1. MSNBC, Becky Iannotta, "Space solar power crowd bets on Obama," Feb. 25, 2009, <http://www.msnbc.msn.com/id/29387782>.
2. See e.g. McKinsey & Company, "Pathways to a Low-Carbon Economy," 2009, <http://www.mckinsey.com>; Pacala, S. and R. Socolow, Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies, Science, 13 Aug. 2004; Pachauri, R., "The IPCC Fourth Assessment Working Group Reports," Presentation to the United Nations, 9/24/07, <http://www.ipcc.ch>.

Center News

Center Receives NSF Supplement for SPARC

Congratulations to Roger Pielke, Jr., Lisa Dilling, and Center Affiliate Dan Sarewitz for winning a supplement from NSF for their Science Policy Assessment and Research on Climate ("SPARC") research project (<http://sciencepolicy.colorado.edu/sparc>). They will extend SPARC



work on the "supply of science" theme to climate adaptation efforts, and also further analyze the demand side of the equation, comparing the US and European experiences in climate policy. SPARC insights are especially important as NOAA moves to create a national climate service.

Center News

New Faces at the Center

We are pleased to welcome the following people to the Center. Their backgrounds, interests, and research are described below.

Linsi Beckman is completing a joint internship with the Natural Hazards Center and the Center for Science and Technology Policy Research this semester. Her project involves creating an indexed, annotated bibliography of hazard loss databases. Currently, she is finishing her undergraduate studies at California University of Pennsylvania, which is located just south of Pittsburgh. She has a dual major in GIS/Emergency Management and Tourism. After graduation in May, she hopes to continue her education through graduate school.

Dr. Ila Cote (http://sciencepolicy.colorado.edu/about_us/meet_us/ila_cote/)

is on sabbatical from the Environmental Protection Agency. She is the former director of EPA's National Center for Environmental Assessment – Research Triangle Park Division, and science advisor to EPA senior management. Her expertise is in public health and environmental risk assessment, and the interface of science and public policy. She is trained as a toxicologist and is a former faculty member of New York University Medical Center's Department of Environmental Medicine, and taught courses in Risk Assessment and Air Quality Management at Duke University. She has also collaborated with the Environmental Ministries of several foreign governments to develop their environmental policies and programs.



Ursula Rick (http://sciencepolicy.colorado.edu/about_us/meet_us/ursula_rick/) recently finished her Ph.D. on the Greenland Ice Sheet at the Institute for Arctic and Alpine Research (INSTAAR) here at CU. She has been working with both Lisa Dilling and Roger Pielke, Jr. on climate policy since then. With Lisa, she has been looking at climate change adaptation research: calls for it, funding for it and actual need for it. With Roger, Ursula has been studying the importance and use of scientific uncertainty in the issue of sea level rise. Ursula will continue this research into scientific uncertainty and broaden it to include other scientific topics related to climate change policy.

Melanie Roberts (http://sciencepolicy.colorado.edu/about_us/meet_us/melanie_roberts/)

is a visiting fellow of the Cooperative Institute for Research in Environmental Sciences (CIRES). She comes to CSTPR after two years as a AAAS Science and Technology Policy Fellow in both the National Science Foundation (2007-08) and in the office of Senator Jeff Bingaman (2006-07). Melanie's interests include the societal impacts of academic research, knowledge transfer between academia and other sectors, facilitating interdisciplinary research, ethics education for graduate students, and novel models for training innovative leaders in science and technology. Melanie received her Ph.D. in neurobiology and behavior from the University of Washington in 2005. While at UW, she founded both the Biocareers seminar series and the Forum on Science Ethics and Policy, an interdisciplinary organization that promotes dialogue about the role of science in society among scholars, the public, and policy makers.



Center in the News

Lisa Dilling was quoted in the February 19 Daily Climate article *So Climate Change Is Real, Now What?* (<http://www.alternet.org/environment/127472/so-climate-change-is-real-now-what/>) by Todd Neff.

Center Faculty Affiliate **Paul Komor** was quoted in the February 3 Fox Business article *Al Gore's Mission Impossible? 100% Clean Energy by 2020* (<http://www.foxbusiness.com/story/mission-impossible--clean-energy/>) by Matt Egan.

Center in the News Continued

Roger Pielke, Jr. was quoted or cited in the following news items:

- 23 February NY Times article on his book "The Honest Broker": *Politics in the Guise of Pure Science* by John Tierney, http://www.nytimes.com/2009/02/24/science/24tier.html?_r=2&ref=science.
- 20 February Carbon Capture Journal article on atmospheric carbon capture: *Atmospheric carbon capture - a cost effective alternative?*, <http://www.carboncapturejournal.com/displaynews.php?NewsID=339&PHPSESSID=232>.
- 11 February BBC News article on the UK's CO2 plan: *UK's CO2 plan 'certain to fail'* by Roger Harrabin,



<http://news.bbc.co.uk/1/hi/sci/tech/7881868.stm>.

- 2 January Science magazine on the role of the presidential science adviser: *Bending the President's Ear* by Eli Kintisch, <http://www.sciencemag.org/cgi/reprint/323/5910/28.pdf>.

For more In the News articles see: <http://sciencepolicy.colorado.edu/outreach/news.html>.

Graduate Student News

CSTPR and Environmental Studies Graduate Student **David Cherney** (http://sciencepolicy.colorado.edu/about_us/meet_us/david_cherney/) received the 2008-2009 CIRES Graduate Student Seminar Series "Best Talk" Award.



CSTPR and Environmental Studies Graduate Student **Betsy Failey** (http://sciencepolicy.colorado.edu/about_us/meet_us/betsy_failey/) was awarded a Student Travel Grant from the American Geophysical Union to attend the 2008 AGU Fall Meeting in San Francisco, CA, where she presented

a poster titled "Understanding Human Decision Making as a Driver for Carbon Sequestration on Land." Betsy was also awarded a Student Travel Grant from the North American Carbon Program to attend the 2009 2nd NACP All-Investigators Meeting in San Diego, as well as a Student Travel Grant from the University of Colorado at Boulder Environmental Studies Program and Center for Science and Technology Policy Research to travel to Copenhagen for The International Scientific Congress on Climate Change. Betsy was accepted to the University of Colorado Leeds School of Business in the dual MBA/MS Environmental Studies program.



Alumni News

Adam Briggie, ENVS Ph.D. 2006 and former CIRES Policy Center student, has accepted a tenure track assistant professor position at the University of North Texas in the Department of Philosophy and Religious Studies, one of the leading environmental philosophy programs. His book on the



President's Council on Bioethics is in press.

Erik Fisher, ENVS Ph.D. 2006 and former CIRES Policy Center student, has accepted an assistant professor position with the political science department at Arizona State University.

Talks and Presentations by Center Personnel

Recent and upcoming talks and presentations by Center personnel are as follows:



Marilyn Averill

- Averill, M. Three Degrees: The Law of Climate Change and Human Rights Conference. University of Washington School of Law, May 2009, Seattle (Panelist).
- Averill, M. Framing Natural Resource Management for Climate Resilience. IARU International Scientific Congress on Climate Change, March 2009, Copenhagen.
- Averill, M. What happened in the Poznan, Poland Climate Negotiations? American Bar Association Teleconference, March 2009 (Panelist).
- Averill, M. The Complexities of International Climate Policy. American Meteorological Association Annual Meeting, 2009, Phoenix.
- Averill, M. Bringing the Ethics Debate Home. Side Session Panel on Moral and Ethical Issues that Must be Faced in Implementing the Bali Roadmap, United Nations Climate Conference, 2008, Poznan.

David Cherney

- Cherney, D. Transforming Environmentalism: Death of the Environmental Movement, CU-Boulder, March 6, 2009.
- Cherney, D. Science Policy in Greater Yellowstone, Yale University, February 26, 2009.
- Cherney, D. Organizational Ecology in the Greater Yellowstone Ecosystem, Yale University, February 25, 2009.

Lisa Dilling

- Dilling, L. A new direction for global climate change governance. Poster presentation, Energy Initiative Symposium, November 17, 2008, University of Colorado, Boulder.
- Dilling, L. Climate Change: What Does it Mean to the Denver Region? November 19 and 20, 2008, DRCOG Climate Change Board Study Session on Climate Change and Breakfast Forum, Denver, CO.

- Dilling, L. Communicating about climate change: Moving beyond the myths toward more effective strategies for societal engagement. Invited Presentation, Colorado State University Department of Atmospheric Science, December 3, 2008.
- Dilling, L. U.S. science policy for climate change adaptation: A preliminary evaluation. Oral presentation at the American Meteorological Society Annual Meeting, January 14, 2009, Phoenix AZ.
- Dilling, L. Land use decision making as a driver of carbon sequestration at multiple scales, February 20, 2009.
- Dilling, L. The urgency of the climate change challenge: Is governance "getting in the way" of progress? Oral Presentation, The IARU International Scientific Congress on Climate Change, March 10-12, 2009, Copenhagen, Denmark.
- Dilling, L. and E. Failey. Management of carbon across sectors and scales: Insights from land use decision making. Oral presentation at the American Geophysical Union Fall meeting, December 19, 2008, San Francisco, CA.
- Dilling, L. and E. Failey. Land use decision making as a driver of carbon sequestration at multiple scales: A Colorado case study. Plenary Presentation, North American Carbon Program Principle Investigators' Meeting, February 20, 2009, San Diego, CA.

Betsy Failey

- Failey, E. and L. Dilling. Understanding Human Decision Making as a Driver for Carbon Sequestration on Land. Poster presentation at the American Geophysical Union Fall meeting, December 17, 2008, San Francisco, CA.

Benjamin Hale

- Hale, B. "Think!" Why You Don't Have to Love Nature to Be Green", November 18, 2008.

Roger Pielke, Jr.

- Pielke Jr., R.A. Uncomfortable Knowledge on Climate Change, Aston University, February 10, 2009.
- Pielke Jr., R.A. Uncomfortable Knowledge about Climate Policy, Oregon State University, February 17, 2009.

Center Events

ENVS Colloquium Series 2009

ENVS Colloquium Series 2009

**Restoring the Earth:
no easy answers**

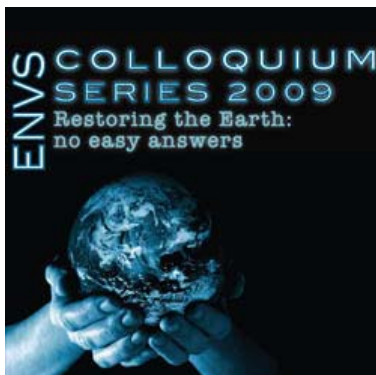
one scientist
one humanist
one policy expert

one topic...

not your ordinary
talk.

Spring 2009

View Flyer: http://sciencepolicy.colorado.edu/outreach/envs_2009coll.pdf



Environmental problems are interdisciplinary by nature. They jump fences. They cross boundaries. They don't respect borders. So what does happen when you mix three scholars from different backgrounds and ask them to comment on one topic? Join us and see. Refreshments starting at 3 pm.

February 16, 2009

Dam Removal: Advocacy, Resistance, & Feasibility

William Lewis, CIRES Center for Limnology

Commentators: Mark Squillace, CU Law School and Caitlin Crouch, ENVS

Location: Humanities 1B50, 3:30 - 5:00 pm

April 1, 2009

Food Politics: Cultivation or Conservation?

Competing Imperatives for Land Use

Steve Vanderheiden, CU Political Science

Commentators: Alan Townsend, EBIO/ENVS and Lorine Giangola, ENVS

Location: CIRES Auditorium (Room 338 CIRES/Ekeley), 3:30 - 5:00 pm

April 20, 2009

The Aftermath of Hurricanes Katrina and Rita - Wetland Restoration: Above Else, Do No Harm

Eugene Turner, Louisiana State University

Commentators: Michael Zimmerman, Philosophy and Shali Mohleji, ENVS

Location: CIRES Auditorium (Room 338 CIRES/Ekeley), 3:30 - 5:00 pm

For more information on this series see: http://sciencepolicy.colorado.edu/outreach/envs_colloquium.html

Center Events

Spring 2009 Noontime Seminar Talks

Our Spring 2009 noontime seminar series features the following talks:

- **Deane Little**, Profitable Air Capture of CO₂, January 28, 2009.
- **Ila Cote**, Risk Assessment at the Environmental Protection Agency: Science, Policy and Politics, February 18, 2009.
- **Konrad Steffen**, Changes in the Arctic Ice Cover, February 26, 2009.



Deane Little gives a talk on January 28, 2009.

- **Jason Delborne**, The Practice of Scientific Dissent in Agricultural Biotechnology, March 4, 2009.
- **CSTPR Discussion**, Reflections on the Copenhagen International Scientific Congress Meeting, 3:00 p.m., CIRES S274, April 13, 2009.
- **Susan Avery**, President and Director for Woods Hole Oceanographic Institution, 3:00 pm, CIRES Auditorium, May 1, 2009.

All talks are free and open to the public and held at the Center for Science and Technology Policy Research's conference room from noon- 1:00 pm (unless otherwise noted). For directions see: http://sciencepolicy.colorado.edu/about_us/find_us.html. Be sure to check our events website (http://sciencepolicy.colorado.edu/outreach/center_talks.html) for updates to this schedule and changes in locations!

Recent Papers and Publications

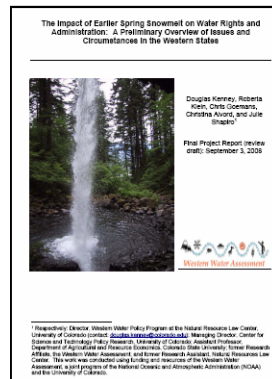
The following represents a sample of the numerous publications authored by Center staff. For a complete, searchable list, with online versions of most articles, visit our Publications page: <http://sciencepolicy.colorado.edu/publications>.

Marilyn Averill

Averill, M. (Forthcoming spring 2009). **The Resilience and Environmental Law Reform Symposium Experiment**. University of Nebraska Law Review.

Bobbie Klein

Kenney, D., Klein, R., Goemans, C., Alvord, C., and Shapiro, J., 2008. **The Impact of Earlier Spring Snowmelt on Water Rights and Administration: A Preliminary Overview of Issues and Circumstances in the Western States**, Final Project Report (http://sciencepolicy.colorado.edu/admin/publication_files/resource-2715-2008.24.pdf)



Abstract: The paper reviews the potential for administrative problems/disputes associated with western prior appropriation water rights in those sub-regions experiencing increasingly early spring snowmelt and the lengthening of growing seasons. In those areas, potential problems of two general types are envisioned. First, in those states that link water rights to specific calendar dates (that are becoming increasingly out-of-step with natural hydrographs), the yield and/or utility of those rights can theoretically become increasingly devalued. Second, in states that do not attempt to limit the exercise of rights to specific dates, water consumption under a given right may increase, thereby threatening the yield and reliability of other (particularly more junior) users. These problems can potentially occur at many scales, including interstate basins. To date, the study finds that problems of both types are exceptionally rare, and can be managed using existing administrative discretion and water system flexibility—a situation that is unlikely to persist given additional shifts in streamflows and water demands, and given increases in competition for limited water resources. The authors recommend that water managers explicitly design and operate water system models (to the extent possible) to account for interactions between shifts in streamflow timing and water rights, and that states plan for a growing strain on water administration personnel and systems.

Roger Pielke, Jr.

Pielke, Jr., R.A., 2009. **An Idealized Assessment of the Economics of Air Capture of Carbon Dioxide in Mitigation Policy**, Environmental Science & Policy (Forthcoming May 2009) (http://sciencepolicy.colorado.edu/admin/publication_files/resource-2716-2009.03.pdf).



Abstract: This paper discusses the technology of direct capture of carbon dioxide from the atmosphere called air capture. It develops a simple arithmetic description of the magnitude of the challenge of stabilizing atmospheric concentrations of carbon dioxide as a cumulative allocation over the 21st century. This approach, consistent with and based on the work of the Intergovernmental Panel on Climate Change (IPCC), sets the stage for an analysis of the average costs of air capture over the 21st century under the assumption that technologies available today are used to fully offset net human emissions of carbon dioxide. The simple assessment finds that even at a relatively high cost per ton of carbon, the costs of air capture are directly comparable to the costs of stabilization using other means as presented by recent reports of the IPCC and the Stern Review Report.

Pielke, Jr., R.A. and R. Klein, 2009. **The Rise and Fall of the Science Advisor to the President of the United States** (http://sciencepolicy.colorado.edu/admin/publication_files/resource-2719-2009.05.pdf).



Abstract: The president's science advisor was formally established in the days following the Soviet launch of Sputnik at the height of the Cold War, creating an impression of scientists at the center of presidential power. However, since that time the role of the science advisor has been far more prosaic, with a role that might be more aptly described as a coordinator of budgets and programs, and thus more closely related to the functions of the Office of Management and Budget than the development of presidential policy. This role dramatically enhances the position of the scientific community to argue for its share of federal expenditures. At the same time, scientific and technological expertise permeates every function of government policy and politics, and the science advisor is only rarely involved in wider White House decision making. The actual role of the science advisor as compared to its heady initial days, in the context of an overall rise of governmental expertise, provides ample reason to reconsider the role of the presidential science advisor, and to set our expectations for that role accordingly.

Recent Prometheus Blogs

Prometheus,
the
Center's
science



policy weblog

(<http://sciencepolicy.colorado.edu/prometheus/>), continues to serve as an online forum for discussion of a variety of issues at the intersection of science and policy. Recent blogs include:

Is 350 The Most Important Number on Earth?

February 17th, 2009

A Guest Post by: Michael E. Zimmerman

In his recent posting "The collapse of Climate Policy and the Sustainability of Climate Science" (February 7, 2009), Roger A. Pielke, Jr. argues that the political consensus about climate policy is collapsing, because policy makers are realizing that it is unrealistic to expect that CO₂ can be stabilized at 450 ppm. That such expectations are already in the realm of "fiction and fantasy" does not prevent some environmentalists from calling for even more impossible attainments, while confusing the relationship between science and policy-making.

Consider Bill McKibben's essay in Mother Jones (November 10, 2008), "The Most Important Number on Earth." McKibben, author of *The End of Nature*, maintains during the past year climate scientists have demonstrated that we are facing "the oh-my-lord crisis you drop everything else to deal with..." Claiming that we may have already reached the "tipping point" in global warming that may lead to "the collapse of human society as we have known it," McKibben cites a recent paper by James Hansen et al. which calls for reducing CO₂ from its current 385ppm to 350 ppm. For McKibben, this is the most important number on Earth. Above 350ppm, he warns us... (read more at: <http://sciencepolicy.colorado.edu/prometheus/is-350-the-most-important-number-on-earth-4967>).

Obama Administration Breaks with IPCC, Focuses on Art of the Possible

March 5th, 2009

Posted by: Roger Pielke, Jr.

Todd Stern, chief US climate negotiator in the State Department, gave a speech two days ago in which he laid out some of the principles that will guide the Obama Administration's approach to climate policy. In it he recognizes that what is politically possible will be the most important factor guiding the pace of policy implementation. He says the following:...(read more at: [http://sciencepolicy.colorado.edu/prometheus/obama-](http://sciencepolicy.colorado.edu/prometheus/obama-administration-breaks-with-ipcc-focuses-on-art-of-the-possible-5028)

[administration-breaks-with-ipcc-focuses-on-art-of-the-possible-5028](http://sciencepolicy.colorado.edu/prometheus/obama-administration-breaks-with-ipcc-focuses-on-art-of-the-possible-5028)).

"Science" mischaracterized: a tale of three news stories

March 6th, 2009

A guest post by: Sharon Friedman

The recent restoration of a requirement for consultation with FWS and NMFS for ESA was correctly characterized by the Denver Post Wire Report and the Washington Post and mischaracterized by CNN (and perhaps President Obama) (see quotations and links below, the bold in each story is mine.)...(read more at:

<http://sciencepolicy.colorado.edu/prometheus/%e2%80%9d-science%e2%80%9d-mischaracterized-a-tale-of-three-news-stories-5031>).

What was the Copenhagen Climate Change Conference really about?

March 13, 2009

A Guest Post by: Professor Mike Hulme

The largest academic conference that has yet been devoted to the subject of climate change finished yesterday in Copenhagen. Between 2,000 and 2,500 researchers from around the world attended three days of meetings during which 600 oral presentations (together with several hundred posters on display) were delivered on topics ranging from the ethics of energy sufficiency to the role of icons in communicating climate change to the dynamics of continental ice sheets.

I attended the Conference, chaired a session, listened to several presentations, read a number of posters and talked with dozens of colleagues from around the world. The breadth of research on climate change being presented was impressive, as was the vigour and thoughtfulness of the informal discussions being conducted during coffee breaks, evening receptions and side-meetings.

What intrigued me most, however, was the final conference statement issued yesterday, a statement drafted by the conference's Scientific Writing Team. It contained six key messages and was handed to the Danish Prime Minister Mr. Anders Fogh Rasmussen. The messages focused, respectively, on Climatic Trends, Social Disruption, Long-term Strategy, Equity Dimensions, Inaction is Inexcusable, and Meeting the Challenge... (read more at: <http://sciencepolicy.colorado.edu/prometheus/what-was-the-copenhagen-climate-change-conference-really-about-5055>).

S&T News CEJournal

Our friends at CU's Center for Environmental Journalism recently launched a blog, CEJournal, that includes contributions from the five Ted Scripps Fellows in Environmental Journalism, other prominent environmental journalists,

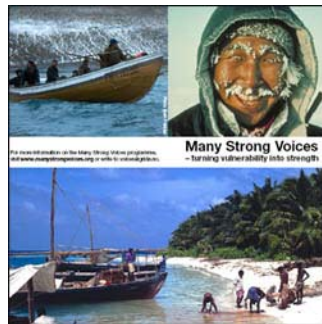


students of the environmental emphasis at the School of Journalism & Mass Communication, and guest bloggers. Recent posts include "Fake Plastic Trees: Cure for Global Warming?", "Warming, drought afflict mature forests of the West", and "New study shows Antarctica has been warming for 50 years." Be sure to check out the very well written and informative CEJournal at <http://www.cejournal.net/>.

S&T News

Many Strong Voices for Tackling Climate Change By the Many Strong Voices Team

As climate change takes an ever-increasing toll on communities around the world, the Many Strong Voices project assists by joining coastal communities from around the Arctic with those from the 51 Small Island, Developing States Project (SIDS; <http://www.sidsnet.org>) in order to share and enhance knowledge of and action on climate change. The project aims are to:



1. Develop capacity to strengthen the role of these regions in negotiations on reducing greenhouse gases and on

climate change adaptation.

2. Raise awareness about the effects and vulnerabilities of climate change in these regions.
3. Increase understanding of needs and solutions, including through research.
4. Motivate action on addressing and preventing climate change's adverse impacts.

The focus is catalyzing local action through the complementary contributions of capacity building, research, education, and outreach. Many Strong Voices provides the inspiration, impetus, and opportunity to build and maintain local processes linked to national and international endeavors in order to lead to positive action for positive change. For more information visit <http://www.manystrongvoices.org>.

Ogmios

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| ▪ Organization | |

S&T Opportunities

Science and Technology Policy Institute, Research Associates (full-time or summer intern positions), Washington DC

The Science and Technology Policy Institute (STPI), a Federally Funded Research and Development Center (FFRDC) that serves the Office of Science and Technology Policy (OSTP) and the Executive agencies, is looking for entry-level staff to participate in science and technology policy-support analyses. Areas covered include all domains of science and technology, as well as methods-related capabilities. Recent activities have included areas such as energy and the environment, biomedical research, space and aeronautics, engineering education, urban studies, risk analysis, data visualization, scientometrics, and innovation/competitiveness.

Requirements: For full-time positions, a bachelor's or master's degree in an S&T field with interest and some experience in the S&T policy field. For summer intern

positions, junior and seniors are encouraged to apply. All positions require U.S. citizenship. Strong written and verbal communication skills are critical, especially the ability to present complex issues and recommendations to senior government officials. Knowledge of US Federal S&T agencies is highly desirable. An ideal candidate is innovative and self starting.

Please send your resume via e-mail to Sarah Ryker, Research Staff Member, at STPI (sryker@ida.org). STPI (<http://www.ida.org/stpi/>) assists the Executive Branch of the US government as it formulates federal S&T policy by providing objective, high-quality analytic support to policymakers. Chartered by an act of Congress in 1991, STPI supports the Office of Science and Technology Policy and other government bodies under the sponsorship of the National Science Foundation. Full-time applicants selected will be subject to a security investigation and must meet eligibility requirements for access to classified information. U.S. citizenship is required. We are an Equal Opportunity Employer.

S&T Opportunities

Council for Regulatory Environmental Modeling (CREM) Post-Doc Announcement

We are seeking a highly motivated individual to provide expertise and leadership in the CREM's efforts to help ensure that the Agency's model-based decisions are founded on the best available, practicable science and are legally defensible. Candidates should have experience developing and applying environmental models and should be broadly familiar with a variety of statistical methods for sensitivity and uncertainty analysis. In addition, an interest in IT and technology used to support the development of environmental models is desirable.



Duties associated with this position include the following:

- Assist in development of guidance on conducting uncertainty and sensitivity analyses. The incumbent shall apply his/ her expertise in identifying, collecting and communicating information on the appropriate uncertainty and sensitivity analysis approaches and tools for model-based decision making. In particular, special emphasis will be placed on analyzing and understanding the propagation of uncertainty in integrated models.
- Scientific Leadership to advance the state of research in model development and use. The incumbent shall provide expert guidance to program and regional office

staff, and others regarding all major aspects of EPA's development and use of models. The incumbent shall also participate in the development and implementation of modeling projects and the dissemination of the products produced as a result.

High Priority Research Area(s): Enhanced "Science and Research" as specified in sub-objectives of Strategic Goals 1 through 4 of the EPA Strategic Plan 2006-2011. Improved environmental management decisions are enabled by improved decision support tools. Supports "Results and Accountability", "Innovation and Collaboration" and "Best Available Science" cross-goal strategies under the 2006-2011 EPA Strategic Plan.

Projected duration of appointment: 3 Years

Educational Requirements: Ph.D. in the Physical Sciences, Engineering, Computational Biology, Bioinformatics, Mathematical Sciences or a related discipline.

Specialized training and/ or experience preferred:

The successful candidate should have experience developing and applying environmental models and a demonstrated publication record in this area as well as an interest in policy-relevant applications. A working knowledge of statistics is required and advanced statistics is preferred. Excellent written and oral communication skills are needed. Previous experience convening scientific workgroups is desirable.

To apply, please follow instructions on the OSA Post-Doc Program website: <http://www.epa.gov/osa/post-doc.htm>. The deadline for submitting applications is **April 24, 2009**.

S&T Opportunities

Climate Change Team Leader The Nature Conservancy, Washington DC

The Nature Conservancy is actively collaborating with policy makers, community members, businesses, scientists, industry leaders and others to slow the pace of climate change and help natural areas adjust to the impacts of climate change.



To accomplish our climate change goals, we seek a Team Leader to guide and manage a thematic cross-functional team (Team) within the Conservation Strategy Division (CSD) to reduce the impacts of climate change in ways that protect biodiversity, benefit human welfare, and generate resources for biodiversity conservation. The climate change Team will achieve the following measurable objectives: 1) change policy to reduce emissions, 2) demonstrate and promote forest carbon as a valid emissions mitigation strategy, 3) produce and disseminate climate change impact assessments, and 4) work with the field and partners on conservation area design and management to enhance resiliency and adaptation.

The Climate Change Team Leader's responsibilities will include the following functions:

- Develops and implements cutting edge conservation strategies related to climate change adaptation
- Establishes the Conservancy as a major conservation partner on climate change issues at the global level
- Establishes clear objectives for the Team and a timeline for achieving those objectives
- Leads and manages a cross-functional team which

implements TNC's climate change strategies

- Develops innovative scientific methods, analyses, tools, and frameworks to reduce impacts of climate change

Desired Training/Experience

- At least a BA but an advanced degree is preferred in a related discipline or environmental economics, science, business, or policy with excellent knowledge of biodiversity conservation issues.
- At least 8 years experience in a related field - having worked successfully at a senior level in the public, NGO or private sector.
- Significant international experience (extensive travel or work outside US)

A Full Job Description is available at the Nature Conservancy website: <http://www.nature.org/careers/work/>

Application Process:

The Nature Conservancy has retained the services of Global Recruitment Specialists to fill this position. You do not need to apply online. Please submit your resume and cover letter to: (Include - Climate Change Team Leader in subject line):

Global Recruitment Specialists

Attn: Patrick Shields

501 Westport Avenue, Suite 285

Norwalk, CT 06851 USA

Email: Shields@globalrecruitment.net

Web: <http://www.globalrecruitment.net>

The Nature Conservancy is an Equal Opportunity Employer Talented professionals from around the world are encourage to apply.

S&T Opportunities

CALL FOR PAPERS: Weather, Climate and Society

A new journal published by the American Meteorological Society

Wather, Climate, and Society, a quarterly journal of the American Meteorological Society, publishes scientific research and analysis on the interactions of weather and climate with society. The journal encompasses economic, policy, institutional, social, behavioral, and international research, including mitigation and adaptation to weather and climate



change. Articles may focus on a broad range of topics at the interface of weather and/or climate and society, including the socioeconomic, policy, or technological influences on weather and climate, the socioeconomic or cultural impacts of weather and climate, ethics and equity issues associated with weather, climate, and society, and the historical and cultural contexts of weather, climate, and society. Because of the interdisciplinary subject matter, articles that involve both natural/physical scientists and social scientists are particularly encouraged.

More information is available at: <http://www.ametsoc.org/pubs/journals/wcs/index.html>. Submissions can be made at: http://www.ametsoc.org/au_upload/index.cfm.

About Us

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Editor: William Travis (william.travis@colorado.edu)

Managing Editor: Bobbie Klein (bklein@colorado.edu)

Associate Editor/Web: Ami Nacu-Schmidt (ami@cires.colorado.edu)

CENTER FOR SCIENCE AND TECHNOLOGY POLICY RESEARCH



University of Colorado/CIRES
1333 Grandview Avenue
Campus Box 488
Boulder, CO. 80309-0488
Ph: 303-735-0451 Fx: 303-735-1576
<http://sciencepolicy.colorado.edu>

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