

Research Highlight

Misuse of Science

Last May a group of high-achieving undergraduates participated in a critical thinking course at the University of Colorado-Boulder titled "The Use, Misuse and Abuse of Science in Policy and Politics." The goal of the course was to better understand recent debate and discussion about the role of science under the Bush Administration. The class syllabus can be found at http://sciencepolicy.colorado.edu/homepages/roger_pielke/hp_roger/syllabus_maymester_2004.pdf.

Attention had been focused on the Bush Administration because of a series of reports from the Union of Concerned Scientists and Congressman Henry Waxman (D-CA). Concern about the misuse of science is apparently bipartisan as the conservative-leaning Hoover Institution recently published a book about the misuse of science.

In our course we wanted to see if concern about the misuse of science had any basis, other than personal partisan preferences. We considered each case discussed by the UCS

and Waxman reports and the Hoover book and asked the following question: Does the data suggest a misuse of science and, if so, what exactly is that misuse? After going through this exercise we developed four categories of misuse and two categories of political use that was not clearly misuse. We then took these categories and explored the historical record to see if similar events occurred under the administrations of Bill Clinton and George H. W. Bush. The class findings are included in the following report:

Pielke, Jr., R. A. (ed.), 2004. Report on the Misuse of Science in the Administrations of George H.W. Bush (1989-1993) and William J. Clinton (1993-2001). By the Students in ENVS 4800, Maymester 2004, University of Colorado, June, http://sciencepolicy.colorado.edu/admin/publication_files/resource-1429-ENVS%204800%20Report.pdf.

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Center News

Science, Technology, and Decision Making Symposium

On February 25 the Center sponsored an all-day public symposium to showcase the research and other efforts at the Center and the University of Colorado relating to science, technology, and decision making. The symposium included sixteen sessions on the following topics:

- Striking Back! Protecting Spectators from Lightning in Large Stadiums by Joel Gratz
- Changing the Climate on Climate by Susan Avery
- Does Water Flow towards Money or Downhill? Lessons from the Western Water Assessment by Brad Udall
- Assessing the Effectiveness of Lawn Watering Restrictions During the Drought of 2002 by Doug Kenney
- Transfer of forecasting methods from the research community to operational agencies: Lessons learned by Martyn Clark
- Climate Change and Regional Heat waves: Policy Implications by Tom Chase
- One-Stop Shopping for Usable Science: The Case of Climate Information by Genevieve Maricle

- Incorporating Large-Scale Climate Information in Water Resources Decision Making by Balaji Rajaopalan
- Science and Security in the Age of Bioterrorism by Lisa Keranen
- Decision structures for the new nuclear era by Jerry Peterson
- The Impact of Frequency Agile Radio Communications on Spectrum Policy by Doug Sicker
- Implications of Go-as-You-Pay for the Bush Space Vision by Shep Ryen
- Presidential Science Advisor Lecture Series by Bobbie Klein
- Journalism Values vs. Science Values: an uneasy match by Tom Yulsman
- From Linear Model to Pasteur's Quadrant by Elizabeth McNie
- In search of Pasteur's Quadrant: Opportunities and barriers in incorporating considerations of use in carbon cycle science research by Lisa Dilling

For more information and to view Powerpoint presentations see the symposium website, http://sciencepolicy.colorado.edu/events/st_decision_symposium/.

Center News *Comings and Goings*

Linda Pendergrass recently joined our staff. Linda was the office manager for the CIRES message center. She will be assisting us with travel, updating and managing Center publications, office and building related issues, and student assistant tasks. Welcome Linda!



Sally Dowlatshahi, a graduate student who received her B.S. in electrical engineering from the University of Illinois-Chicago in December 2001, has joined our staff to help on the Science Policy Assessment and Research on Climate (SPARC) project.



Center News *Rad Byerly Addresses NASA Meeting*

On February 1, Rad Byerly spoke at a workshop in Boulder which NASA organized to determine what future capabilities it will need to accomplish President Bush's program for humans to return to the Moon, and for a subsequent trip to Mars. The workshop organizer invited Byerly, a member of the Space Studies Board (SSB) of the National Research Council, to present the results of two other workshops the SSB had conducted. The first one found that: NASA's human exploration program needed a goal beyond earth orbit and that Mars was a likely destination, and also that since we do not now know how to accomplish this, the program should proceed by steps, should learn from each step and modify its plans based on this learning, and should "go as you pay". The Administration announced a program very similar to what the workshop had recommended on the same day this workshop's report was released.

The second SSB workshop addressed the role of science in the new NASA exploration vision. It recognized that a great deal of research is needed to enable the vision and reciprocally that the vision might enable new kinds of space science research. It recommended in effect that such "enabled" science should not be given a high priority just because it could be done, but rather that all science should meet the criterion of "transforming" our understanding of space.

These SSB workshop reports form an important part of the context in which NASA will be carrying out its vision, and were relevant to deciding what capabilities should be developed. The workshop reports can be found at these links:

http://www7.nationalacademies.org/ssb/SSB_Space_Policy_Workshop.pdf

<http://books.nap.edu/catalog/11225.html>

Center News *Lisa Dilling Presents at Fall AGU Meeting*

In December 2004, Lisa Dilling presented at the Fall American Geophysical Union meeting, North American Carbon Program (NACP) Session on a Pilot Study on Reconciling Supply and Demand: Who are the Consumers of Information on the North American Carbon Balance? by L. Dilling, R. Pielke Jr. and D. Sarewitz. The main purpose of the presentation was to introduce the method of reconciling supply and demand for information to the carbon cycle science community.

In December 2004, Lisa Dilling also presented an invited talk, "Communicating the Urgency and Challenge of Global Climate Change: Lessons Learned and New Strategies" by L. Dilling and S. Moser at the Fall American Geophysical Union meeting, Communicating Climate Change session. This presentation

synthesized work at a workshop at NCAR in summer, 2004, that examined some of the pitfalls of current communication strategies on climate change and suggested alternative approaches.

In April 2005, Lisa Dilling will be presenting a talk, "Toward Carbon Governance: Challenges for science and policy across scales" at the American Association of Geographers meeting in Denver, CO. Direct management of the carbon cycle is already becoming a significant option proposed to mitigate rising atmospheric CO₂ concentrations. Decisions that affect the carbon cycle, whether inadvertently or deliberately, therefore occur at the widest possible variety of scales. This paper will examine how decision-making in institutions at different scales currently influences the carbon cycle and how scientific information enters the process.

Student News

Elizabeth McNie to Co-Host Panel Session

Policy Center graduate student Elizabeth McNie and professor Maria Carmen-Lemos from the University of Michigan will be hosting a panel session at the 6th Open Meeting of the Human Dimension of Global Environmental Change Research Community to be held in Bonn, Germany October 9-13, 2005. The title of the panel session is "Climate Science Policy Assessment and Research". The results of climate research play an important role in many climate-change policy decisions. But how do we know if ongoing research is meeting the needs of policy makers? The purpose of the panel session is to explore the following issues:



1. How is climate science information used by decision makers and what can we learn from the nature of users' information needs?
2. How do scientists determine what climate information to produce and what consideration do they give to users' needs in shaping climate science policies?
3. What do we know about the 'boundary' between science and policy and the role of 'boundary spanning organizations' that facilitate the production of credible, legitimate and relevant climate science that is also useful to policy decisions?

Elizabeth will discuss her research on the 'Supply and

Demand of Scientific Information for Decision Making' and Maria will present findings from her research on the use of climate forecasts by various governmental programs in Brazil. As part of the panel, Policy Center Director, Roger Pielke Jr., will present a talk titled "Shaping Science for Decision Makers: Lessons from the RISAs". His talk will present initial findings of a comparative assessment of the Regional Integrated Sciences and Assessments (RISA) projects of the U.S. National Oceanic and Atmospheric Administration. The RISAs are designed to integrate climate science with research on end users and are thus well positioned at the boundary of climate science and policy to help shape priorities and objectives of climate science programs designed to provide useful information to decision makers. Assessment of the RISA programs is part of the Center's \$2.4 million SPARC research project. Eva Lövbrand (University of Kalmar, Sweden) will present a paper titled "Between laboratory practice and policy involvement. Ideals, expectations and every-day concerns for Swedish carbon cycle science".

For a complete list of presenters at this panel session, or for more information, contact Elizabeth McNie at: mcnie@colorado.edu.

Elizabeth also had papers accepted at the American Academy of Science's "International Conference on Environmental Science and Technology" and the "Science and Technology in Society Graduate Student Conference". She also recently presented a poster at the AAAS conference in Washington DC.

Student News

Lightning Threat to Large Outdoor Stadiums Article in Weatherwise Magazine

Research about Lightning and Large Outdoor Stadiums by Center Graduate Students Joel Gratz and Erik Noble, and MBA student Ryan Church ('04) was published in the January/February 2005 issue of Weatherwise magazine (http://sciencepolicy.colorado.edu/admin/publication_files/resource-1707-2005.15.pdf). Joel also

presented this research at the Lightning Conference at the AMS Annual meeting in San Diego in January.



Photo of Joel and Mary Ann Cooper - a leader in the medical aspects of lightning injuries - in front of Joel's poster

Student News

Joel Gratz and Erik Noble Participate in AMS Student Conference

Center graduate students Joel Gratz and Erik Noble helped plan and coordinate the 4th Annual Student Conference at this year's AMS Annual Meeting. More than 350 junior and senior undergraduate and first-year graduate students attended the two-day event which featured speakers from industry, government, and academia, as well as time to interact in small groups with each other and



invited professionals. Joel spoke to the students about broadening their perspectives on meteorology to include areas and occupations outside the norm, such as incorporating weather in business decision-making, transportation safety, and any other niche where one can add "M"eteorology to another field ("M" plus fill in the blank). The conference flowed smoothly and ended on time each day (what a feat!) thanks in large part to the efforts of Erik Noble who controlled the timing and audio/visual logistics. For more information visit the conference website (<http://www.ametsoc.org/MEET/85annual/studentconference/index.html>).

Student News

Joel Gratz Gives Noontime Seminar talk:

"Commercializing Research: My summer experience at the CU Technology Transfer Office"

Joel Gratz spoke at the Center's February 7 noontime seminar about his summer experience working for the University of Colorado's Technology Transfer Office (TTO). Joel worked largely with the Cooperative Institute for Research in Environmental Sciences (CIRES) technology and found the technology commercialization process interesting but also arduous at

times and very lengthy. With the support of the TTO and CIRES, Joel is working to start a Technology Commercialization advisory group for CIRES made up of past and current CIRES employees with experience and/or an interest in technology commercialization. Joel's presentation is available online on the Center's speakers page (http://sciencepolicy.colorado.edu/center_info/center_talks.html).

Student News

Shep Ryen Vice President for UGGS

Center graduate student Tind Shepper Ryen is a vice president for the United Government of Graduate Students. UGGS serves as the primary advocate for graduate and professional students at the University of Colorado, a role that is particularly



challenging and important given the financial difficulties faced by higher ed in the state of Colorado. UGGS leadership helps implement the policies of the assembly through state and campus lobbying, participation in campus boards and meetings, and leverage of a small UGGS budget. More information can be found at the UGGS website (<http://uggs.colorado.edu>).

Center Talks and Presentations

Noontime Seminar Series

This spring the Center has hosted a variety of fascinating talks in its noontime seminar series. On February 7 Center graduate student Joel Gratz gave a talk titled "Commercializing Research: My summer experience at the CU Technology Transfer Office."

On February 28 Visiting Scholar Anne Ruggles spoke about "Wolf Management in Colorado: The Role of Science in Collaborative Decision Making." On March 7 Graduate School Dean and Faculty Affiliate Susan Avery gave a talk titled "Scientists Pushing Back." On April 4 Faculty Affiliate Frank Laird spoke about "Learning Complex Lessons:

Center Talks and Presentations Continued

Participation and Electric Utility Regulation." And on April 22 Faculty Affiliate Lisa Keranen spoke about "Constructing Character in Research Misconduct Controversies."

Information about the Noontime Seminar series, as well as past and future talks is posted on our Speakers page (http://sciencepolicy.colorado.edu/center_info/center_talks.html). We post available Powerpoint presentations from talks on this page.

Other talks

On March 11 Peter Weiss of the National Weather Service gave a talk titled "Borders in Cyberspace: Maximizing Social and Economic Benefit from Public Investment in Information."

On March 28, Sarah Michaels, a visiting scientist at NCAR, gave a talk titled "Taking steps towards a multidimensional view of the science-policy interface".

S&T News

Global Environmental Change, Globalization and International Security: New Challenges for the 21st Century

The 6th Open Meeting of the Human Dimensions of Global Environmental Change Research Community, to be held October 9-13, 2005 in Bonn, Germany, is set up to promote a better understanding of global transformations, to identify the resulting opportunities and challenges and to develop appropriate responses. This entails a critical assessment of what the community has achieved to date as well as the development of a forward-looking action plan that links human dimensions research into contemporary policy debates on future actions of the global community.



The ultimate goal is to fashion a human dimensions research agenda that is specific and relevant to current global realities

and scenarios of future trends in global transformations. These realities include not only social and cultural globalization and the prevailing free-market economic frameworks, but also alternatives emerging from groups that contest globalization. In addition, there is a need to consider the post-September 11th security concerns, which are shaping the potential and trajectory for cooperative approaches to global environmental governance.

The Center's Elizabeth McNie is co-hosting a session titled "Climate Science Policy Assessment and Research". The panel also includes the Center's Roger Pielke Jr.

More details, including information, application forms, timelines and deadlines, are available at the Open Meeting website, <http://openmeeting.homelinux.org>.

To Subscribe to Ogmios, use the on-line form at:

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

Or send an email to:

ogmios-admin@sciencepolicy.colorado.edu

and include the following information:

- **Name**
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S&T News

Call for Papers, "The Ethics of Genetic Commerce"

Japha Symposium on Business and Professional Ethics November 11, 2005 in Boulder, Colorado

Seeing academically-oriented studies of issues related to the ethics of genetic commerce. Likely approaches might

include: the ethics of genetic screening of insurance applicants or potential employees; social issues involved in the genetic modification of plants or the cloning of animals; business use of genetic information; access to gene therapy; and other concerns related to the creation, use, and control of genetic material and information. The key for successful submission is to focus on the business ethics of genetic commerce. Papers must be in English and an ideal length is 20 pages. Travel grants and honoraria will be available for paper presenters.



Papers presented at the Japha Symposium will be published in our monograph series: Leeds School Series on Business and Society published by Blackwell Publishers.

Submit a two-page proposal by August 1 and final papers by September 15, 2005 to:

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Please visit our Leeds School business and society web site to learn about our activities and to subscribe to our e-newsletter, <http://leeds.colorado.edu/businessandsociety/>.

Recent Center Publications

Mote P.W., A.F. Hamlet, M.P. Clark, and D.P. Lettenmaier, 2005. Declining mountain snowpack in western North America. *Bulletin of the American Meteorological Society*, January 2005, pp. 39-49, http://sciencepolicy.colorado.edu/admin/publication_files/resource-1699-2005.06.pdf.

Pielke, Jr., R.A., 2005. A part of but apart from politics: Can Scientists advise policy-makers without compromising their objectivity? Book Review for *Nature's Experts: Science, Politics, and the Environment* by Stephen Bocking, Rutgers University Press: 2004, *Nature*, Volume 434, pp 139-140,

http://sciencepolicy.colorado.edu/admin/publication_files/resource-1739-2005.26.pdf.

Pielke, Jr., R.A. and D. Sarewitz, 2005. Bringing Society back into the Climate Debate, *Population and Environment*, Volume 26, Number 3, pp. 255-268, http://sciencepolicy.colorado.edu/admin/publication_files/resource-1688-2005.25.pdf.

Sarewitz, D., and R.A. Pielke, Jr., 2005. Rising Tide. *The New Republic*, Jan. 6, http://sciencepolicy.colorado.edu/admin/publication_files/resource-1694-2005.01.pdf.

Opportunities

Research Scientist, Program Leader for Climate and Society Publications Series

The International Research Institute for Climate Prediction (<http://iri.columbia.edu/>) at Columbia University is seeking an outstanding individual with excellent analytical abilities and a research background in climate impacts and related policy arenas. The IRI mission is to enhance society's capability to understand, anticipate and manage the impacts of seasonal climate fluctuations, to improve human welfare and the environment, especially in developing countries.

The Research Scientist (RS)/Associate Research Scientist (ARS) will be responsible for leading the development and production of a flagship report series on climate and society. The report will help meet the needs of decision-makers and

the public for peer-reviewed, policy-relevant scientific information on the consequences of climate variability for society and options for response.

The incumbent is also expected to pursue his/her own scientific interests on the use of climate information for sustainable development within the research framework of the IRI. Relevant areas include climate impacts, decision systems and institutions and policy related to IRI regional programs in Africa, Asia, and the Americas.

Candidates must have: a Ph.D. in natural or social sciences, engineering or the humanities and a minimum of two years of experience at the post-doctoral level (ARS), or six years at the post-doctoral level (RS). Post-doctoral experience must

Opportunities Continued

reflect a combination of research and applied work, preferably in sustainable development in matters related to climate. Prior experience with producing reports that pull together a consensus of scientific opinion for international decision-makers is highly preferred.

Strong quantitative skills and demonstrated ability to communicate scientific information to a general audience are essential. Required skills include the ability to meet deadlines and ability to work collaboratively in a skilled group environment. Excellent written and oral communications skills and organizational habits are also required.

This position is located in Rockland County, NY at the Lamont Campus of Columbia University. Prospective candidates please select 'apply now' to submit: contact information; letter of application including position reference number LD670 05 001; statement of research interests; statement of career objectives; curriculum vitae; and contact information for three references. Columbia University is an Equal Opportunity and Affirmative Action Employer. Women and Minorities are encouraged to apply.

For more information, please visit:
<http://iri.columbia.edu/aboutiri/job/html/67005001.html>.

Science & Technology Policy Resources

- **AAAS Directorate for Science and Technology Policy Programs**, <http://www.aaas.org/spp/>

The Directorate for Science and Policy Programs (SPP) serves society, government, and the research community through a diverse set of activities. Its programs address several objectives of the American Association for the Advancement of Science (AAAS), including furthering the work of scientists, improving the effectiveness of science in the promotion of human welfare, and fostering scientific freedom and responsibility.

- **AGU Science and Policy**, http://www.agu.org/sci_soc/policy/sci_pol.html

The American Geophysical Union's science and policy-related activities, opportunities, and position statements.

- **Consortium for Science, Policy, and Outcomes**, <http://www.cspo.org/>

The Consortium for Science, Policy, and Outcomes is an intellectual network aimed at enhancing the contribution of science and technology to society's pursuit of equality, justice, freedom, and overall quality of life. The Consortium creates knowledge and methods, cultivates public discourse, and fosters policies to help decision makers and institutions grapple with the immense power and importance of science and technology as society charts a course for the future.

- **Institute for Science, Engineering, and Public Policy**, <http://www.isepp.org/>

The Institute for Science, Engineering and Public Policy is a public, non-profit corporation dedicated to the development of local understanding of issues concerning science, technology and society (STS).

- **Loka Institute**, <http://www.loka.org/>

Founded in 1987, the Loka Institute is a non-profit research

and advocacy organization concerned with the social, political, and environmental repercussions of science and technology. Loka works to make science and technology more responsive to social and environmental concerns by expanding opportunities for grassroots, public-interest group, everyday citizen, and worker involvement in vital facets of science and technology decision making.

- **National Academy of Sciences Board on Science, Technology, and Economic Policy**, <http://www7.nationalacademies.org/step/>

The Board's objective is to integrate understanding of scientific, technological, and economic elements in the formulation of national policies affecting the economic well-being of the United States.

- **Office of Science and Technology Policy**, <http://www.ostp.gov/index.html>

Serves as a source of scientific and technological analysis and judgment for the President with respect to major policies, plans, and programs of the federal government.

- **President's Council of Advisors on Science and Technology**, <http://www.ostp.gov/PCAST/pcast.html>

PCAST was originally established by President George Bush in 1990 to enable the President to receive advice from the private sector and academic community on technology, scientific research priorities, and math and science education.

- **Washington Science Policy Alliance**, <http://www.aaas.org/spp/wspa/>

The Washington Science Policy Alliance is a loosely-knit coalition of institutions that has banded together to conduct seminars and meetings around specific science and technology policy issues.

About Us

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

On-Line Version

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

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