Ogmius

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COOPERATIVE INSTITUTE FOR RESEARCH IN ENVIRONMENTAL SCIENCES
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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.

Inside this issue:

Intro to Ogmius Exchange


Robert Palmer

This issue of Ogmius features an essay by Robert Palmer, Democratic Staff Director of the Committee on Science, U.S. House of Representatives, 1993 – 2004, about the current state of science policy in Congress. The essay derives from a talk Palmer gave at the University of Colorado-Boulder on April 18 titled "Science, Policy, and Politics: A View from the Hill." The talk was part of the Center's Presidential Science Advisor lecture series, http://sciencepolicy.colorado.edu/scienceadvisors/ (see Center Project News for more information about the series). A copy of the speech, as well as a webcast and recording, are available on the series website (http://sciencepolicy.colorado.edu/scienceadvisors/palmer.html) .

Palmer's essay explores the reasons behind the current lack of a consistent, focused debate about the role of S&T in meeting broader national goals, as well as the effects of this lack of focus on S&T legislation, matters of congressional oversight, and finding solutions to some of the more pressing problems of the day.

The October issue of Ogmius will feature a companion piece by David Goldston, Republican Chief of Staff for the House Committee on Science. Stay tuned…

Resources

Our Presidential Science Advisor series website has an extensive library (http://sciencepolicy.colorado.edu/scienceadvisors/library.html) of science policy materials.

AAAS Science Policy Programs, http://www.aaas.org/programs/science_policy/.

Center for Science, Technology, and Congress, http://www.aaas.org/spp/cstc/.

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

Consortium for Science, Policy and Outcomes, http://www.cspo.org/.

Government, Performance and Results Act of 1993 ("GPRA"), http://govinfo.library.unt.edu/npr/library/misc/s20.html.

House Committee on Science , http://www.house.gov/science/welcome.htm.

Democratic Caucus House Committee on Science, http://www.house.gov/science_democrats/welcome.htm.

National Science and Technology Policy, Organization, and Priorities Act of 1976 , http://caselaw.lp.findlaw.com/casecode/uscodes/42/chapters/79/subchapters/i/sections/section_6601.html.

Office of Science and Technology Policy (OSTP), http://www.ostp.gov/.

Ogmius Exchange

Science Policy: The Victim of Partisan Politics

In 2000, former House Speaker Newt Gingrich gave a breakfast speech to AAAS's annual Colloquium on S&T Policy. Gingrich's speech was mesmerizing and powerful, because he dared to ask and answer big questions about the proper role of S&T in society – the relationship between science and health care, science and the economy, science and international relations.

But Gingrich's speech was most noteworthy for another reason: it was a rare serious science policy speech given by a public figure (albeit a deposed one). Unfortunately, for over a decade, there has been no consistent, focused debate about the roles of S&T in meeting broader national goals, as there has been about the rightful place of so many other aspects of our culture, like abortion, abstinence, Federal support of education, the military's role in promoting democracy worldwide, and individual rights in a society threatened by terrorism. These issues are constantly sifted – perhaps because of their value in highlighting differences between the two parties – but debates about connecting science with broader goals in society just aren't taking place in the national government.

This wasn't always the case. Enactment in 1976 of the National Science and Technology Policy, Organization, and Priorities Act established a Federal administrative organization for science policy and articulated a science policy for the Nation. For many years, former Congressman George Brown prodded the scientific community to engage politically and take responsibility for the impacts of its work. The Clinton Administration opened a broad dialogue on directing the government's S&T resources toward economic competitiveness.

Recent efforts to catalyze a debate have been less successful. In 1997, Speaker Gingrich asked Congressman Vern Ehlers to produce a new U.S. science policy; unfortunately, Ehlers' report did not tie S&T policy to any overriding goals and even Gingrich later admitted it was a timid endorsement of the status quo. And in 2001, the Bush Administration began evaluating government programs under the Government Performance and Results Act (GPRA). Despite its great potential, GPRA hasn't produced a clear set of national S&T priorities, nor has it done much to clarify funding decisions. Today's Office of Science and Technology Policy – OSTP - seems obsessed not with outcomes, but with outputs – specifically with explanations of why its budget numbers are wonderfully healthy.

While debates about S&T policy have never been center-stage in Washington, its current corrosively partisan atmosphere has driven them further underground. Partisan science fights began in the late 1980's, when S&T became politicized in Congress as part of a broader strategy – ironically formulated by the aforementioned Newt Gingrich – to fight Democrats on everything, including science. The partisan fight over science policy – exemplified today in reports by Congressman Waxman and the Union of Concerned Scientists – did not start during this Administration. It has been bubbling in Congress for 15 years.

A casualty of this new partisanship has been significant S&T legislation. One NASA authorization bill has been enacted since 1990. In the 1970's and 1980's, broad NASA policy bills passed once or twice every Congress. Today, Republican Congressional leaders fear they lack the votes to implement the President's new space vision. So leaders like Texas's ethically challenged Tom Delay work their miracles behind closed doors, and the money flows. The most significant changes to the nation's civilian space policy in 40 years are moving forward, but there are no votes, no public debate, no democracy.

The corrosive effects of secrecy and partisanship are not limited to space policy. Environmental legislation has also ground to a standstill. Significant environmental policy is now made through executive orders. Or it's surreptitiously inserted into legislative riders to massive appropriations bills, so that Members don't have to answer to a politically active environmental community for their public votes. This approach to governance takes casualties – namely transparency, accountability, and democracy.

Another casualty of partisanship is Congressional oversight. Today the Republican Congress conducts virtually none on the Republican administration. We see no public debate on the misuse of science and scientific integrity, nor on commercialization of universities under the Bayh-Dole Act, militarization of the civilian space program, NASA's financial mismanagement, OMB's new peer review rules, or the Administration's meek response to the loss of manufacturing jobs or to threats in cyber-space. After all, conducting such hearings – fully justifiable by both the Constitution and common sense – could give ammunition to Democrats.

Why should this increasingly partisan atmosphere matter to science, when it will continue to perk along nicely, buoyed by tens of billions of dollars of Federal funding? It matters because S&T are key to helping us understand and respond to global changes unprecedented in their speed and scope. We have the largest defense budgets and among the largest Federal deficits in history. We also have the challenge of terrorism

Ogmius Exchange Continued

and the threat of attacks on our own soil from weapons of mass destruction. Health care costs continue to spiral upward, threatening our small businesses and our future fiscal stability, despite massive expenditures on health research, which seem to exacerbate the cost problem. We face an increasingly competitive Asia, whose ability to challenge our manufacturing base, even our high-tech base – and before long our research and development base – seems limitless.

None of these challenges will be solved by science, but they will all require the wise application of science. In the current environment, they may not even get serious consideration, because of a fixation upon partisan advantage and a political culture which makes it increasingly difficult to reach across party and ideological barriers.

As an example of this debilitating partisanship, consider Dr. Marburger, the Presidential Science Advisor. In his first four years on the job – in stark contrast to the last Republican science advisor, Hill regular Allan Bromley – he never met the Ranking Democrat on the House Science Committee. I do not fault Dr. Marburger, a decent and thoughtful man; I blame an overly partisan White House staff that thinks Democrats simply don't matter.

The Federal government is not responding to the many political challenges of the day – energy, environment, health care, global economic competition – whose resolution would greatly benefit from the wise application of S&T. When politics is overly fettered by partisanship, so is science – in the sense that its legitimate role in opening up more room for negotiations and the development of policy options is severely limited. This unfortunately is the niche that science policy occupies today.

What an irony that Newt Gingrich, a man with more ideas about science policy than any public figure since George Brown, created so many of the partisan problems that continue to plague us – problems that make this an excruciatingly boring and unproductive time for the practice of science policy in government.

Robert Palmer
Democratic Staff Director of the
Committee on Science
U.S. House of Representatives, 1993 - 2004

Research Highlight

Designing a Carbon Program to Produce "Usable Science"

Introduction

There has been a lot of discussion in the pages of Ogmius on the use of scientific information in decision making. Many of the projects of the Center for Science and Technology Policy Research revolve around studying science policies that enable the creation of scientific information that can be "more usable." Often, these policies must negotiate and challenge established scientific norms and cultures— cultures which are extremely valuable in producing top-rated basic research, but not necessarily in producing information that is more obviously useful to society. Lisa Dilling, a visiting fellow at the Center, is working on just such a conundrum in the carbon cycle science arena. Carbon cycle science is one of the highlighted topics of the U.S. Climate Change Science Program, and has a long history as a scientific endeavor.

As carbon cycle science has become more organized in the United States, it has been repeatedly justified by statements that the science conducted in the program will be useful in supporting decision making or informing policy. With the recent emergence of carbon cycle science over the past several years as a prominent element of the U.S. Global Change Research Program, the Climate Change Research Initiative and now the Climate Change Science Program, this goal has been reaffirmed. For example, the U.S. Carbon Cycle Science Plan calls for "coordinated rigorous, interdisciplinary research that is strategically prioritized to address societal needs" and states that "the planned activities must not only enhance understanding of the carbon cycle, but also improve capabilities to anticipate future conditions and to make informed management decisions".

For truly basic research - research that is advancing the frontier of knowledge solely for its own sake - being driven by scientific curiosity alone is likely a fine approach. But for providing information that specifically addresses societal need, it is questionable whether basic research devoid of societal connection is a particularly effective mechanism to meet that goal. Previous research in policy-relevant scientific issues such as acid rain, ozone depletion and water management has revealed that providing policy-relevant scientific information is a complex and delicate process. If deliberate, ongoing mechanisms are not put in place to connect the scientific

Research Highlight Continued

priority setting process with societal goals, research will tend to proceed on its own assumptions about what might be useful, perhaps only to find over time that its results are not very useful for decision-makers.

How might one define "usable science"? Definitions used thus far place the character of usable science squarely in the realm of meeting users' needs while maintaining the high quality of rigorous scientific research. Lemos and Morehouse suggest that "the knowledge produced should directly reflect expressed constituent needs, should be understandable to users, should be available at the times and places it is needed, and should be accessible through the media available to the user community." They define usable knowledge as "that which can be incorporated into the decision-making processes of all stakeholders and which enhances their ability to avoid, mitigate or adapt to stressors in their environment."

It therefore seems clear from these studies and others that creating usable science involves a two-way interaction between scientists and users of scientific knowledge. But which users, and at what scale? How does one select users, and what are the implications of selection of some users over others? And who does the selecting of users—the agency funding the research? The principal investigators? Congress? At what stage are users involved? In the writing of the proposal? Within the first year? In the priority setting process of the agency issuing a call for proposals? What happens if various users' needs are in conflict and resources are limited? Whose priorities are followed, and by what process? These questions go to the heart of priority setting in scientific agendas and the role of public participation in science.

Moving toward usable science also carries with it several differences in the metrics, reward structure and accountability of projects. As described by Nowotny et al. (2003), this type of knowledge production by definition is more socially distributed, application-oriented, transdisciplinary and subject to multiple accountabilities. Rather than being subject only to standards of peer-review, science produced for use outside the scientific community is also accountable to the users it aims to serve. These multiple accountabilities combined with the transdisciplinary nature of the work can make it difficult for new researchers aiming to make a career in this type of work. Non-traditional products such as face-to-face interactions may be more valuable to users than traditional deliverables such as journal articles. The time commitment involved in interactions with users and working in an interdisciplinary environment on longer time scales can be at odds with the reward structure of disciplines that many researchers still experience. Criteria for developing and evaluating usable science projects must therefore take into account these realities. How are these programs evaluated? What does success look like for a usable science program?

My colleagues and I are currently examining these questions. I organized a workshop held June 13-14 in Boulder, CO that brought together carbon cycle scientists, science policy decision makers, researchers of science policy and experts in user-climate science interactions. The results of the workshop will contribute to developing a research and practice agenda for programs and scientists in carbon cycle science who are interested in serving the needs of users outside of the scientific community. For more information visit the workshop website (http://sciencepolicy.colorado.edu/sparc/research/projects/rsd/ccworkshop05.html).

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Project News
Presidential Science Advisor Series

The Center launched its lecture series "Policy, Politics, and Science in the White House: Conversations with Presidential Science Advisors" in February with a public forum featuring Dr. John Marburger, science advisor to President George W. Bush. Dr. John Gibbons, science advisor to President Bill Clinton (1993-98) spoke in late April. Also included in the series last spring was a talk by Dr. Robert Palmer, former Democratic Staff Director of the House Committee on Science.

The series will continue in the fall with the following talks, all of which begin at 7:00 pm on the CU-Boulder campus:

- **September 12, 2005** - Dr. Edward David, science advisor to Richard Nixon 1970-73, Old Main Chapel.
- **October 5, 2005** - Dr. Neal Lane, science advisor to Bill Clinton 1998-2001, Eaton Humanities Room 1B50.

Project News Continued

- **October 24, 2005** - Dr. Donald Hornig, science advisor to Lyndon Johnson 1963-69, Old Main Chapel.
- **November 29, 2005** - Dr. George Keyworth, science advisor to Ronald Reagan 1981-86, Old Main Chapel.

All talks are free and open to the public. For more information about the series, as well as transcripts and audio and video recordings of each presentation, visit the series website (http://sciencepolicy.colorado.edu/scienceadvisors/). To be placed on the science advisor mailing list and receive email notices of upcoming events see http://sciencepolicy.colorado.edu/mailman/listinfo/scienceadvisors. Each science advisor forum will be broadcast on Boulder Municipal Channel 8 television station and also as a live webcast – check the Channel 8 schedule for more information (http://www.ci.boulder.co.us/channel8/schedule.html).

Project News

Science Policy Assessment and Research on Climate (SPARC)

SPARC is organizing two workshops this summer to explore priority setting for scientific research under the Climate Change Science Plan (CCSP) to meet the needs of policymakers.

The first workshop, "Decision Support and Carbon Cycle Science: Practical Strategies to Reconciling the Supply of and Demand for Carbon Cycle Science," was held June 13-14 to share knowledge across areas of expertise and develop a preliminary research agenda for creating "usable carbon cycle science." The goal of the workshop was to foster an interested community of researchers and develop a research agenda with the ultimate aim of improving the usefulness of carbon cycle science for the broader community of decision makers. The workshop's objectives were to:

- Survey existing knowledge about successful decision support using carbon cycle science
- Enable cross-disciplinary transfer of knowledge about how to design and implement research agendas, projects and programs so that they can effectively serve users' needs
- Develop a research and practice agenda for programs and scientists in carbon cycle science who are interested in serving the needs of users outside of the scientific community.

For more information contact Lisa Dilling (ldilling@cires.colorado.edu) or visit the workshop website (http://sciencepolicy.colorado.edu/sparc/research/projects/rsd/ccworkshop05.html).

The second workshop, "2005 Workshop on RISA Science Policy," will be held August 15-17. This workshop will compare and assess science policy decision making across the RISA (Regional Integrated Sciences and Assessments) programs. The RISA program is now 10 years old and has developed a significant body of experience in working to establish a two-way connection between decision makers and interdisciplinary science and assessment. This experience provides a rich resource for drawing lessons from the various RISA projects on how science priorities might be set, research implemented, and the resulting output transferred to operational agencies in support of the needs of decision makers.

The workshop will bring together ~30 participants from each of the RISA teams to address questions such as the following:

- How are stakeholders' needs reflected in the research prioritization process?
- How are stakeholders' needs assessed and evaluated?
- How does each RISA prioritize areas of research and assessment to which to devote its resources?
- How does each RISA evaluate its resource allocation decisions?

The overarching goal of the workshop is to distill from the RISA projects those processes, institutions and other conditions that facilitate making decisions about climate science research priorities that lead to useful information for decision makers. We will evaluate the extent to which climate science policy in the RISAs can serve as "a model that could guide some of the larger efforts within USGCRP."

For more information contact Roger Pielke (pielke@cires.colorado.edu) or visit the workshop website (http://sciencepolicy.colorado.edu/sparc/research/projects/risa/risaworkshop05.html).

Student News

Adam Briggle

The Encyclopedia of Science, Technology, and Ethics (ESTE), edited by Dr. Carl Mitcham at the Colorado School of Mines, will be published in August. Adam Briggle (http://sciencepolicy.colorado.edu/homepages/adam_briggle/), a doctoral student in Environmental Studies, worked on the ESTE as a research assistant, editor, and writer. For more information about the ESTE see: http://www.gale.com/pdf/facts/EncySciTechEthics.pdf.

Adam will be spending this summer writing his dissertation titled "Knowledge, Democracy and the Good Life: The President's Council on Bioethics." He will attend the Society for Philosophy and Technology (SPT) conference (http://www.sptdelft2005.tbm.tudelft.nl/) in Delft, Netherlands in July.

And in his "spare time" Adam was recently elected Co-chair of the Board at the CU Environmental Center (http://ecenter.colorado.edu/index.php).

Joel Gratz

ENVS/MBA graduate student Joel Gratz (http://sciencepolicy.colorado.edu/homepages/joel_gratz/) is spending the summer at ICAT Managers LLC (http://www.icat.com/), a Boulder, Colorado-based catastrophe insurance company. Joel, who has completed two out of three years toward the pursuit of a Masters in policy and meteorology and an MBA, is working in the modeling department at ICAT. ICAT only insures for damage caused by earthquakes and from the winds of a hurricane, and only for small to medium size businesses. Whereas other types of insurance companies base their pricing on historical statistics (for example, an auto insurance company may use historical statistics to indicate that a 20 year old male in Boulder, Colorado driving a brand new sports car has a xx% chance of getting into a car accident costing the insurance company $xxx), insurance companies that specialize in earthquakes and hurricanes only have a few quakes or storms to rely on in order to determine pricing strategies. The companies therefore must rely on computer models of simulated hurricanes to understand the risk to different types of buildings (built from wood, steel, etc) in different locations. Joel is helping ICAT analyze these computer models to ensure that the company achieves its business goals. This work relies on knowledge of meteorology, business, and the methods and policies employed to protect life and property when tropical storms and hurricanes threaten land.

Elizabeth McNie

Center doctoral student Elizabeth McNie (http://sciencepolicy.colorado.edu/homepages/elizabeth_mcnie/) is traveling to Iceland in July to conduct research on Iceland's paleoclimate history, societal impacts of climate variability, and strategies for adaptation to climate variability. Elizabeth is part of a four-person research team funded by a grant through the NSF IGERT program (http://www.nsf.gov/crssprgm/igert/intro.jsp). The project is interdisciplinary in nature and includes graduate students in paleogeology, environmental studies, science journalism, and science and technology policy.

Shep Ryen

Center doctoral student Shep Ryen (http://sciencepolicy.colorado.edu/homepages/shep_ryen/) is spending the summer interning for the House Committee on Science (http://www.house.gov/science/welcome.htm), chaired by Sherwood Boehlert (R-NY). Shep is the second Center student to work for the Committee, after Genevieve Maricle interned in the summer of 2003.

Center News

Recent Lisa Dilling Presentations

Dilling L., 2005. In Search of Pasteur's Quadrant: "Use-inspired" Carbon Cycle Science, Center for Science and Technology Policy Research Symposium, February 25.

From Abstract: Since the 1970s, carbon cycle science has been justified in the United States for its potential to provide information to underpin important societal decisions. At that time, as today, societal concern over rising atmospheric CO2 concentrations was the backdrop as scientific debates swirled around various uncertainties, including the magnitude of carbon sources and the effects of increasing CO2 on climate, humans, and Earth systems. In 1977, the National Academy of Sciences recommended a program of research on phenomena "involved in the carbon dioxide problem" to "close gaps in knowledge, so that future decisions regarding the exploitation of energy resources can be made on as sound a basis as possible." Several agencies, notably the Department

Center News Continued
Recent Lisa Dilling Presentations

of Energy, began to invest significant resources in carbon cycle science. Twenty-seven years later, resources invested in carbon cycle science have increased to over 260 million dollars a year. Research carried out within the program is generally considered "basic science", on topics such as ocean circulation, terrestrial carbon exchange, atmospheric gas monitoring, modeling, vegetation dynamics, and so on. With the introduction in 2002 of the North American Carbon Program, the goal of serving the needs of decision makers with this research was reaffirmed. Indeed, the NACP was a leading component of the President's U.S. Climate Change Research Initiative, which "represents a focusing of resources and attention on those elements of the USGCRP that can best support improved public debate and decision-making in the near term." Numerous studies have pointed out, however, that research justified by its usefulness to society, but divorced from users in practice, has difficulty effectively supporting decision-making. The carbon cycle science program to date does not have a component focused on understanding how research can support decision-making, and thus risks replicating the failed model of many other climate-related research programs of the past few decades. Here we present the alternative model of "use-inspired basic research," or "Pasteur's Quadrant," and suggest new research paths are necessary to understand precisely what needs exist, and how information on the North American carbon balance or other aspects of the carbon program will meet them.

Other Dilling Presentations

Dilling L., 2005. Toward carbon governance: Challenges for science and policy across scales, Association of American Geographers Annual Meeting, April.

Dilling, L., 2005. Overview of SOCCR Mandate and Process, 1st SOCCR Authors workshop, Atlanta, GA May.

Moser, S. (Given by Dilling, L), 2005. North to the Future: Communicating to and from the Arctic Front Lines of Climate Change, Arctic Research Council of the United States: 2005 Arctic Forum.

Dilling, L. 2005. Carbon and Climate: Challenges and Opportunities, Cherry Creek Challenge School Invited Speaker, June 3.

Dilling, L., 2005. Introduction, challenge, and charge to the workshop, "Decision Support and Carbon Cycle Science", University of Colorado, June 13-14.

Dilling, L., 2005. Invited Presentation: "Usable Carbon Cycle Science: Exploring the nexus of carbon cycle science and management at different scales", International Postdoctoral Scientist Network for Earth Systems Science, Breckenridge, CO, June 23-25.

Center News
Recent Roger Pielke Presentations

Pielke, Jr., R. A. 2005. Climate Change and Disaster Trends: What are the facts?, Reinsurance Association of America's Current Events Forum, Philadelphia, PA, 26 May.

Pielke, Jr., R. A. 2005. Beyond Global Warming: Yes or No? Some New Story Ideas on Climate Change, Scripps Institute on the Environment, Center for Environmental Journalism, University of Colorado, Boulder, CO, 19 May.

Pielke, Jr., R. A. 2005. Decisions as a Focus of a Philosophy of Science Policy, Workshop on Philosophy of Science Policy, Lancaster University, Lancaster, UK, 5-6 May.

Pielke, Jr., R. A. 2005. The IPCC: Honest Broker or Political Advocate? Tyndall Centre for Climate Change Research, University of East Anglia, Norwich, UK, 3 May.

Pielke, Jr., R. A. 2005. Climate Change and Disasters, Department of Earth System Science, University of California-Irvine, Irvine, CA, 15 April.

Pielke, Jr., R. A. 2005. Dealing With Scientific Uncertainties in Policy Making, Forum on Science Policy and Ethics, University of Washington, Seattle, WA, 8 April.

Pielke, Jr., R. A. 2005. A Perspective on the Politicization of Science, Forum on Science Policy and Ethics, University of Washington, Seattle, WA, 7 April.

Pielke, Jr., R. A. 2005. Science Policies and Hurricanes, National Research Council Disasters Roundtable, National Research Council, Washington, DC, 8 March.

Pielke, Jr., R. A. 2005. Beyond Kyoto: A Third Way on Climate Change, U.S. Environmental Protection Agency, Washington, DC, 7 March.

Center News
Prometheus

The Center's weblog, Prometheus (http://sciencepolicy.colorado.edu/prometheus/), has received a good deal of attention since its debut in April of 2004. It has been described as an "excellent science web log" by a UPI reporter; a blog writer urges his readers to "blow off [his blog] and read Prometheus, at least for science policy, especially climate related policy;" and yet another blogger writes "Roger Pielke demonstrates again why the Prometheus blog is must reading for those interested in the intersection of science and public policy. I don't always agree with Pielke, but he's very thoughtful, insightful and provocative." Recent topics include the following:

- Hiding Behind the Science of Stem Cells (May 25)
- The Linear Model of Science in Climate Policy (May 24)
- Is the "Hockey Stick" Debate Relevant to Policy? (May 17)
- Immigration and Climate Change (May 9)
- Leadership in Space (May 2)

Recent Center Publications

- Gratz, J., Church, R., and E. Noble, 2004. Event managers should consider the safety of spectators when lightning threatens a large outdoor gathering (http://sciencepolicy.colorado.edu/admin/publication_files/resourse-1740-2005.27.pdf). Meteorological Applications of Lightning Data Conference, Paper prepared for 2005 AMS Annual Meeting in San Diego.

  Excerpt: *Large outdoor stadiums face a significant and growing vulnerability to lightning due to increased size and frequency of events. This growth is not paralleled in the knowledge and management of spectator safety. To date, there have been few casualties in the United States from direct lightning strikes to a stadium or from the mass movement of spectators when lightning threatens. However, if no further action is taken, stadium managers are overlooking an opportunity to prevent a potential disaster as the probability of a tragic event continues to increase while the costs of intervention remain substantially low.*

- Pielke, Jr., R. A. 2005. Consensus about climate change? (http://sciencepolicy.colorado.edu/admin/publication_files/resourse-1761-2005.32.pdf) Science, 308: 952-953.

  Excerpt: *In the discussion motivated by [Naomi] Oreskes' Essay [in the Dec. 3, 2004 issue of Science], I have seen one claim made that there are more than 11,000 articles on "climate change" in the ISI database and suggestions that about 10% somehow contradict the IPCC consensus position. But so what? If that number is 1% or 40%, it does not make any difference whatsoever from the standpoint of policy action.*

- Pielke, Jr., R.A., and R.A. Klein, 2005. Distinguishing Tropical Cyclone-Related Flooding in U.S. Presidential Disaster Declarations: 1965–1997 (http://sciencepolicy.colorado.edu/admin/publication_files/resourse-483-2005.30.pdf). Natural Hazards Review, May, 55-59.

  Abstract: *A problem exists in that the classifications used by the Federal Emergency Management Agency (FEMA) for weather-related disasters do not always allow analysts to clearly link declared disasters to their ultimate meteorological cause. This research focuses on those disasters related to flooding resulting from tropical cyclones. Neither FEMA nor the states that request federal disaster aid distinguish flood disasters by their meteorological origin, making it difficult to assess the contributions of various meteorological phenomena to the incidence and severity of Presidential Disaster Declarations. The data presented in this initial analysis indicate that the flood-related impacts of tropical systems are considerably broader and undoubtedly larger in economic magnitude than documented in the official records kept by FEMA.*

- Pielke, Jr., R. A., C. Landsea, K. Emanuel, M. Mayfield, J. Laver and R. Pasch, in press. Hurricanes and global warming. Bulletin of the American Meteorological Society.

  Excerpt: *At the end of the 2004 Atlantic hurricane season, many scientists, reporters and policymakers looked for simple answers to explain the extent of the devastation, which totaled more than $40 billion according to the National Hurricane Center. Some prominent scientists proposed that the intense 2004 hurricane season and its considerable impacts, particularly in Florida, could be linked to global warming resulting from the emissions of greenhouse gases into the atmosphere (e.g., Harvard Medical School 2004; NCAR 2004). But the current state of climate science does not support so close a linkage.*

Center Staff in the News

- ***Roger Pielke's Prometheus weblog entry***, Reaction to UPI Climate Commentary (http://sciencepolicy.colorado.edu/prometheus/archives/climate_change/000381reaction_to_upi_clim.html), was discussed in an April 5, 2005 UPI column on climate science and politics titled Climate Skeptics Split Into Two Factions (http://www.spacedaily.com/news/climate-05zo.html), by Dan Whipple.
- ***Roger Pielke, Jr. was quoted*** in an article in the May 2005 issue of Audubon magazine titled Pulp Fiction (http://magazine.audubon.org/profile/profile0505.html), by Daniel Glick that reviews Michael Crichton's book, State of Fear.
- ***Roger Pielke, Jr., was quoted*** in a June 3, 2005 Denver Post article, "Study: Humans to blame for warming of oceans" by Katy Human (article no longer available online).
- ***Lisa Dilling was part of a radio show*** "Skeptical Sunday: Global Warming - Is There Any Room for Doubt?" (http://www.seti.org/site/apps/nl/newsletter2.asp?c=ktJ2J9MMIsE&b=289154) on June 5, 2005.
- ***A paper coauthored by Roger Pielke, Jr.***, Hurricanes and Global Warming (see Recent Publications in this issue of Ogmius for more information), was the subject of a June 17, 2005 article in the Daily Camera titled Hurricanes brew human storm; Scientists disagree on global warming conclusions (http://www.dailycamera.com/bdc/science/article/0,1713,BDC_2432_3861911,00.html), by Todd Neff (free registration required).

In the News archives are available at http://sciencepolicy.colorado.edu/outreach/news.html.

Center for Science & Technology Policy Research Opportunity

CIRES Postdoctoral Research Associate

The Cooperative Institute for Research in Environmental Sciences (CIRES) has an opening for a Postdoctoral Research Associate under an NSF-sponsored project called Science Policy Assessment and Research on Climate that is investigating climate science policy. The position will be located in the CIRES Center for Science and Technology Policy Research at the University of Colorado in Boulder.

Duties

- Engage in original research that will characterize the supply of, demand for or reconciliation of supply and demand of climate information.
- Engage in original research on the relative sensitivity of anticipated climate impacts to various causal factors in a range of areas, possibly including, ecosystems, extreme events, water resources.
- Collaborate with colleagues within CIRES on research
- Collaborate with national and international partners
- Publish research results in peer-reviewed fora
- Assist and lead in the development of meetings and workshops in support of project objectives
- Contribute to other, related Center projects in research, education and outreach

Requirements

- Recent Ph.D. in a related field.
- Knowledge of climate science and climate policies.
- Experience working on interdisciplinary projects.
- Demonstrated ability to present and perform on a professional level through use of excellent written and verbal communication and interpersonal skills.
- Demonstrated ability to work within a team of researchers.
- Publication of articles in refereed journals and in the non-academic literature.
- Presentation of papers at national or international scientific meetings.
- International interests and experience

The position will be filled as a Research Associate in CIRES, University of Colorado at Boulder, and will be eligible for employee benefits, including 22 days of vacation per year. Screening will begin immediately and continue until the position is filled. Applicants should submit a letter of interest with Job Code, and complete resume and salary history. In addition, the applicant should furnish the names of three individuals familiar with the applicant's professional qualifications for the position to provide references.

To apply, e-mail (jobs@cires.colorado.edu), fax (303.492.1149), or mail information to: CIRES Human Resources, Job Code PL-1, 216 UCB, Boulder, CO 80309-0216.

The University of Colorado at Boulder is committed to diversity and equality in education and employment.

S&T News

Atmospheric Science and Policy Research - 2006 AMS Conference

The American Meteorological Society (AMS) will hold its first Symposium on Policy Research on 1-2 February 2006, as part of the 86th AMS Annual Meeting in Atlanta, Georgia. Preliminary programs, registration, hotel, and general information will be posted on the AMS Web site (http://www.ametsoc.org/) in mid-September 2005.

Increasingly, policy issues matter to the Earth system sciences and Earth system science-based service community. Research and analysis of those issues is growing commensurately. Papers are solicited that discuss policy research in the Earth system sciences and services. This AMS Symposium on Policy Research is intended to provide a forum where:

(i) researchers can share their findings and report on recent progress,

(ii) policy makers can dialog with researchers about areas that merit further analysis and why, and

(iii) researchers can dialog with each other and with federal agency officials and others about topics and themes for future Symposia.

This Symposium should allow for discussion of the need for stable, structured funding for research in this field, and for outlets for research, such as an AMS Policy Journal. Symposium sessions will be organized along the three areas described above. Because the lines between policy research and the social sciences are not sharply drawn, contributed papers on such related topics will be welcome. For this initial year, the AMS Policy Program will develop the Symposium program in cooperation with the Board on Societal Impacts.

The 86th Annual Meeting is being organized around the broad theme of "Applications of Weather and Climate Data" with an emphasis on documenting success stories in the applications of atmospheric, hydrologic and oceanic sciences, and the research needed to continue benefiting from new knowledge. Two integrating subthemes that will be highlighted are "Managing Our Physical and Natural Resources: Successes and Challenges" and "Environmental Risks and Impacts on Society: Successes and Challenges." Please submit abstracts electronically via the Web by 1 August 2005 (refer to the AMS Web page at http://www.ametsoc.org/meet/annual/ for instructions).

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S&T News

Community Meeting on the Future of the U.S. Weather Prediction Enterprise

This meeting is organized by the American Meteorological Society in partnership with the Weather Coalition, with financial support provided by the AMS Commission on the Weather and Climate Enterprise, the National Center for Atmospheric Research, and the following members of the Weather Coalition: the University of Oklahoma, the University Corporation for Atmospheric Research, The Weather Channel, and the Reinsurance Association of America.

Meeting Background

Although numerical weather prediction in the United States has made significant strides during the past several decades, there are a number of warning signs that U.S. weather prediction and research are not living up to their potential. At the same time, the weather prediction enterprise has changed substantially in recent years and there is increasing debate on how the various parts of the enterprise should work together. This meeting is open to all members of the weather prediction enterprise ranging from those participating in operational prediction and weather-related research, to members of the weather user communities. Specifically, the meeting will:

1. Examine the strengths and weaknesses of the U.S. weather prediction and research enterprise.
2. Examine the process by which research results and modeling improvements are transitioned to operations.
3. Discuss who is the weather prediction community and how decisions should be made.
4. Examine the need for a more cooperative and coordinated approach to weather prediction operations and research.
5. Discuss concrete next steps, consistent with the consensus of the meeting.

The meeting will began at 1 PM on 26 July and will end midday on the 28th. Registration will be free; attendees will be responsible for their own travel expenses.

Dates: July 26-28, 2005
Location: University of Colorado Centerplate Conference Center, Folsom Field

A paper on the general subject matter of the meeting is found at: http://www.atmos.washington.edu/~cliff/CliffsNewPaper8.pdf.

For more information visit the meeting website, http://dtcenter.org/events/wxprediction2005.php.

Science & Technology Policy Resources

The Center's jobs page (http://sciencepolicy.colorado.edu/sp_grads/opportunities.html) has extensive links to science and technology policy-related job and internship opportunities around the world. Here are a few:

- **American Council for an Energy-Efficient Economy:** http://www.aceee.org/job/job.htm
- **Center for Clean Air Policy:** http://www.ccap.org/jobs.htm
- **Congressional Research Service science policy internships:** http://www.loc.gov/crsinfo/volunteer/rsi/scipol.html
- **Consortium for Science, Policy and Outcomes:** http://www.cspo.org/home/jobs/index.htm
- **Christine Mirzayan Science & Technology Policy Graduate Fellowship Program:** http://www7.nationalacademies.org/policyfellows/
- **Environmental and Energy Study Institute :** http://www.eesi.org/employment/employment.htm
- **International Research Institute for Climate Prediction:** http://iri.columbia.edu/aboutiri/job/
- **National Council for Science and the Environment:** http://www.ncseonline.org/Jobs/
- **John A. Knauss Marine Policy Fellowships:** http://www.seagrant.noaa.gov/knauss/knauss.html
- **Network Newsletter:** http://www.isse.ucar.edu/newshp/index.html
- **Pew Center on Global Climate Change:** http://www.pewclimate.org/about/career_opportunities/index.cfm
- **Prometheus Job Announcements:** http://sciencepolicy.colorado.edu/prometheus/archives/job_announcements/index.html
- **Redefining Progress:** http://www.rprogress.org/about/jobs.html
- **Resources for the Future:** http://www.rff.org/rff/About/Employment_Opportunities/Index.cfm
- **Union of Concerned Scientists:** http://www.ucsusa.org/ucs/about/page.cfm?pageID=888
- **UN Framework Convention on Climate Change:** http://unfccc.int/secretariat/employment/vacancies/items/1216.php

About Us

Ogmius 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/ogmius/)

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