

# Ogmios

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*The CIRES Center for Science and Technology Policy Research is privileged to have two European visitors this fall. This issue of Ogmios features their work. Jan Marco Müller from Germany discusses the evolution of science advice at the European Commission. Gesa Luedecke, also from Germany, describes her research that attempts to understand the drivers of environmental engagement by individuals.*



## OGMIUS EXCHANGE

### Beyond the Chief Scientific Adviser

**J**an Marco Müller, a policy officer for international relations in the European Commission's Joint Research Centre (JRC) in Brussels, is currently a visiting sabbatical fellow at the CIRES Center for Science and Technology Policy Research. He served from 2012-2014 as Assistant to Professor Dame Anne Glover, then the Chief Scientific Adviser to the President of the European Commission. Müller's research background is in geography; since earning his Ph.D.



from the University of Marburg (Germany), he has worked in several prominent environmental research centers including the Helmholtz Centre for Environmental Research (UFZ) in Leipzig (Germany), the Centre for Ecology & Hydrology (CEH) in Wallingford (Oxfordshire), and the Institute for Environment and Sustainability in Ispra (Italy), which is one of the seven Institutes constituting the JRC, the European Commission's in-house science service. Müller helped found the Partnership for European Environmental Research (PEER), the network of Europe's largest environmental research centres, to which he served as Secretary in the first three years.

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University of Colorado Boulder

# OGMIUS EXCHANGE

## Beyond the Chief Scientific Adviser by Jan Marco Müller



*Anne Glover served as Chief Scientific Adviser to the President of the European Commission from 2012 to 2014.*

In November 2014 the new President of the European Commission decided not to renew the position of the President's Chief Scientific Adviser, established by his predecessor in 2012 and which had expired with the end of the previous mandate. This followed several months in which the role was attacked by "green" NGOs, inter alia because the jobholder Professor Dame Anne Glover was very outspoken about the scientific evidence regarding genetically modified organisms and because NGOs felt the role was a potential shortcut for industry lobbyists.

The decision of the President triggered an interesting media feedback in which three kinds of reactions could be identified. First, there were the anticipated reactions of those who had been vocal in either supporting or opposing the role. This included harsh reactions from the scientific community (see Science<sup>1</sup>, The Scientist<sup>2</sup>, BBC<sup>3</sup>, Independent<sup>4</sup>) as well as business (see FreshProduce Journal<sup>5</sup>, Food & Drink Technology<sup>6</sup>, Beverage Daily<sup>7</sup>), but also NGOs celebrating that their campaign had been successful (see CIEL<sup>8</sup>).

Second, commentators mainly from the UK-based media made the connection between the NGO campaign and the decision not to renew the Chief Scientific Adviser post, and argued that the new President had "given in to Greenpeace" and "sacked" the CSA because of her stance on GMOs

(see editorial<sup>9</sup> and article<sup>10</sup> in The Times, Independent<sup>11</sup>, Telegraph<sup>12</sup>, The Guardian<sup>13</sup>, The Economist<sup>14</sup>, The Spectator<sup>15</sup>, Herald Scotland<sup>16</sup>, Discover magazine<sup>17</sup>) – without providing any evidence that this was the case. These comments were partly motivated by an anti-EU narrative in the UK, arguing that removing the Chief Scientific Adviser – filled with one of the UK's highest ranked officials in Brussels – would be against British interests.

The most interesting reaction though was the third one: suddenly editorials about the role of science advice in European policy-making started to appear across Europe, including in influential national newspapers and weekly journals. Major examples included Germany (Frankfurter Allgemeine<sup>18</sup>, Die Zeit<sup>19</sup>, Süddeutsche Zeitung<sup>20</sup>), France (RFI<sup>21</sup>), Belgium (De Standaard<sup>22</sup>), the Netherlands (De Volkskrant<sup>23</sup>), Sweden (Svenska Dagbladet<sup>24</sup>), Switzerland (News.ch<sup>25</sup>) and Italy (Il Foglio Quotidiano<sup>26</sup>). The issue also triggered reports and editorials from around the world, most notably in the United States (Wall Street Journal<sup>27</sup>, The New Yorker<sup>28</sup>), Canada (La Presse<sup>29</sup>), China (Xinmin<sup>30</sup>) and Brazil (Carta Capital<sup>31</sup>). This media feedback was highly unusual as the mechanisms of scientific advice to policy-makers generally do not hit the headlines of mainstream media outlets across the globe. Most editorials lamented the role given to science in policy-making and argued that



*College of European Commissioners, 2014-2019.*

the role had been removed with the aim of silencing an inconvenient voice.

These arguments ignore that the European Commission has always been committed to evidence-based policies. In fact, it probably relies much more on scientific evidence than national governments because a large part of European policies deals with standardization and harmonization which at the end of the day boil down to science and technology. It is therefore perhaps no surprise that the European Commission has developed over the years strong institutions and processes that ensure a constant delivery of scientific evidence to the policy-makers. This includes most notably the Joint Research Centre (JRC)<sup>32</sup>, an in-house science service with more than 3,000 staff, out of which 2,300 are scientists. This in-house resource is complemented by the EU agencies, such as the European Environment Agency (EEA)<sup>33</sup> or the European Food Safety Authority (EFSA)<sup>34</sup>, which play a similar role in the European science advisory system as their US counterparts.

Some believe that the “CSA experiment” in the European Commission has been a failure, as in fact the role has been removed after only three years of existence. However, as can be demonstrated by the European-wide media feedback, the role also triggered discussions about the importance of science advice in Europe and how to deliver it. Not only Brussels embarked on discussions about science advice, but also at the national level, for instance in Finland and the Netherlands, public debates started about the best mechanisms to feed science into policy-making. NGOs suddenly published position papers on science advice in the European Commission<sup>35</sup> and are organizing events about the subject, something not seen in the past. Business is contributing to the discussions as well (see an example<sup>36</sup>) and also the scientific community is playing its part in the debate (see for instance the book “Future directions for science advice in Europe”<sup>37</sup>).

In May 2015 the European Commission announced that the Chief Scientific Adviser would be replaced by a new “Science Advisory Mechanism”<sup>38</sup>. In particular, the Commission announced the establishment of a high-level panel with 7 eminent scientists under the coordination of the Research Commissioner and supported by a Secretariat in the Directorate-General for Research and Innovation. The role of this panel will be to match supply and demand of scientific evidence and to translate independent advice coming from the wider scientific community. In contrast to the JRC and the EU agencies, which primarily provide scientific-technical support to the policy-making services of the Commission, the high-level panel of the Science Advisory Mechanism will provide advice to the College of Commissioners, i.e. the political level. In so doing it will rely inter alia on a strategic partnership with the Academies of Sciences in Europe (covering natural sciences, arts and humanities, medicine and engineering).

It is noteworthy that the Commission has not decided to go back to “pre-CSA times”. This shows that apparently the Chief Scientific Adviser fulfilled functions which were felt to be missing. It remains to be seen how the new panel is going to work in practice. Also, the relationship with the existing evidence providers such as the JRC still needs to develop. Still, the establishment of the new Science Advisory Mechanism, complementing an otherwise well-developed science advisory system, shows that the importance of scientific advice to policy in the EU will increase rather than decrease.

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**For a list of references see: [http://sciencepolicy.colorado.edu/ogmius/archives/issue\\_42/references.pdf](http://sciencepolicy.colorado.edu/ogmius/archives/issue_42/references.pdf)**

*Disclaimer: The views expressed are those of the author and do not necessarily represent the position of the European Commission.*

# RESEARCH HIGHLIGHT

## Individual Drivers for Environmental Engagement

by Gesa Luedecke



*Gesa Luedecke, a Visiting Fellow at the Center, authored the Research Highlight for this issue of Ogmios. Gesa studied Environmental Sciences at the University of Lueneburg, Germany with a focus on environmental communications, sustainability and media as well as informal learning. She holds a Diploma degree in Environmental Sciences and a Ph.D. in Sustainability Sciences from Leuphana University. She has ongoing interests in environmental and sustainability communication, climate change and sustainability communication via media, media communication and sustainable behavior as well as in inter- and transdisciplinary studies. Her research focus is on the influence of media communication about climate change on individual behavior. With her experience in transdisciplinary research, Gesa is seeking to provide support for cross-disciplinary collaborations on the themes of media communication and social learning for decision-making in climate-related issues.*



**R**esearch on environmental awareness, environmental psychology and social psychology paves the way to help understand individual decision-making processes towards environmental engagement. However, research on individual behavior is still a challenge as there are numerous variables that feed into those decision-making processes and play a central role along the process of definition and internalization of attitudes and opinions.

When we look at how people's brains work and what receives the most attention on an everyday life basis, we find an interesting pattern behind different theoretical and empirical approaches from socio and environmental psychology that describe motivations in a way that suggests to classify them hierarchically.

In this hierarchy of motivations, we find emotions on top of the pyramid as the first and less strong level in terms of long-term impacts. Emotions can be a powerful system, but are often situational, short-termed, and influence our decision making on a day-to-day basis, while we learn through positive as well as through negative reinforcement.

Many decisions we make refer to rational choices we take by making individual cost-benefit analyses in certain situations (assessing resource input in terms of money, time, and effort). In this context individuals evaluate the relation between input of resources and the anticipated output or added value of

# RESEARCH HIGHLIGHT

the planned behavior. This motivation often overshadows emotions in the long run.

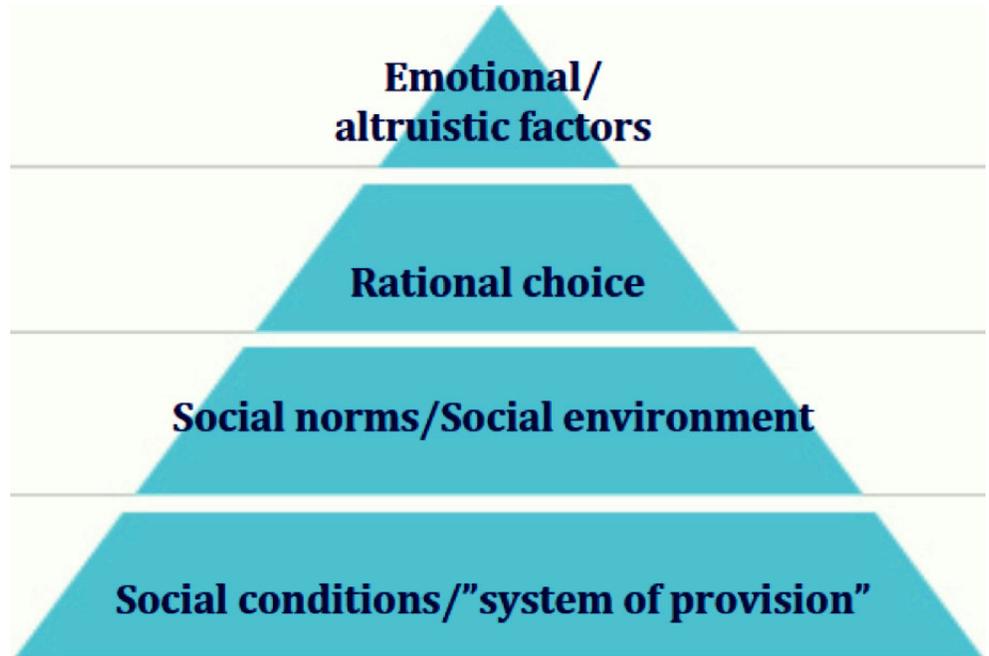
Social norms can also heavily influence our decision making in certain situations. As individuals we do not live in social vacuums, but are part of our social environments and their norms and values. We often think we act independently from others, but most of the time our decisions and activities are embedded in and adapted to external norms and behavior patterns.

Finally, there is the level of social infrastructure (at the bottom of the pyramid) that needs to be provided in terms to be able to conduct a planned behavior or maintain a certain activity. Infrastructural constraints to action can limit any sort of intended behavior, such as financial constraints, reduced sense of personal agency, and limited service provision (e.g. no accessibility or availability of infrastructure).

Sometimes the four different motivation levels intertwine. These so called 'motive alliances' can build strong bonds and become more effective as long-term motivations than single level motives.

Qualitative in-depth interviews with 25 individuals were conducted to reveal connections between motivational aspects and behavioral intentions and outcomes regarding climate adaptation and mitigation. The aim of this study was to unveil patterns from individual climate awareness, knowledge, and commitment to detect an existence of the four levels that have been carved out above.

Results of the study show that information-based knowledge about climate change does not necessarily lead to a better understanding or commitment towards climate-related issues. Above, the interviewed individuals did not recognize



a difference between climate mitigation and adaptation, which suggests there is no clear idea about what can actually be done on an individual level to tackle climate change or adapt to it. Therefore, it is also important to focus on solution-based knowledge (e.g. offer concrete tips for taking action) in climate-related issues. Emotions play a central role in climate change related issues, although they are mostly based on short-term effects and overlaid by rational motives that are mentioned as justification for not becoming engaged in climate-related issues.

Findings suggest that social conditions (system of provision) finally constrain the behavioral intention as limiting factors as socio-structural motives often overlie altruistic (emotional), rational and normative motivations, which can only have a long-term effect in combination with stronger motives. Thus, the study overall finds support for the hierarchy of the four motivation levels beyond short-term effects.

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## CENTER NEWS

### Red Cross/Red Crescent Climate Centre Internship Accepting Applications for Summer 2016

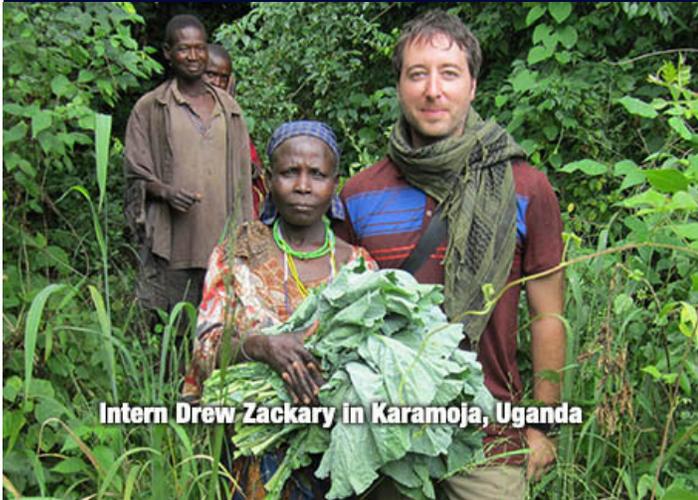
\*\*\*Application Deadline: Monday February 1, 2016\*\*\*

\*\*\*Submit your application to [redcross@colorado.edu](mailto:redcross@colorado.edu)\*\*\*

CU-Boulder has partnered with the Red Cross Red Crescent Climate Centre (RCRCCC) to place graduate students in locations in eastern and southern Africa each summer. This collaborative program targets improvements in

environmental communication and adaptation decision-making as well as disaster prevention and preparedness in the humanitarian sector. It connects humanitarian practitioners from the Red Cross/Red Crescent Climate Centre – an affiliate of the International Federation of Red Cross and Red Crescent Societies – with graduate student researchers at the University of Colorado who are interested in science-policy issues. Through this program we strive to accomplish three key objectives:

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Intern Drew Zackary in Karamoja, Uganda

## International Red Cross/Red Crescent Climate Centre internship, summer 2016

**APPLY BY FEBRUARY 1**

<http://sciencepolicy.colorado.edu/students/redcross/>

**Be global. Be sustainable. Be bold.**

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1. To improve the capacity of humanitarian practitioners within International Federation of Red Cross and Red Crescent Societies network at the interface of science, policy and practice

2. To help meet needs and gaps as well as work as a research clearing house in environmental communication and adaptation decision-making in response to climate variability and change, as identified through Red Cross/Red Crescent Climate Centre priorities and projects

3. To benefit graduate students by complementing the classes and research that they undertake in their graduate program with real-world experience in climate applications and development work

This internship program will place 1-2 Ph.D. and/or Master's degree students in an IFRC regional field office, a National Society branch office, or with a partner organization for approximately 3 months.

Students will design their own program of work in conjunction with CU-Boulder Director Max Boykoff and RCRCCC supervisors. The RCRCCC supervisors will liaise with specific IFRC field offices to identify potential projects and placements. Projects can encompass, but are not limited to, topics such as the use of scientific information in decision making, communication of probability and uncertainty, perceptions of risk, and characterizing vulnerability and adaptive capacity. Placements in the field will address specific needs identified by IFRC field staff related to challenges of science communication and adaptation decision-making. Participants will participate in an informal reading group designed to familiarize them with the Red Cross/Red Crescent organization and other topics of relevance to adequately prepare for field placements. The reading group will meet 2-3 times during the Spring 2016 semester.

Participants will also be required to write six blog posts from the field during this placement, give some presentations (e.g. in ENVS, at CSTPR) upon return, and complete a report at the conclusion of their internship detailing their experience and research outcomes.

\$5,000 funding in total will be provided to offset expenses (in-country housing, food, airfare and in-country transportation). Expenses can vary widely depending on the location and nature of the placement. Interns will work with CU-affiliated travel agents to arrange round-trip airfare to their field site. Due to this \$5,000 limit, applicants are encouraged to seek additional funds from alternate sources, as expenses can exceed this budgeted amount.

This CU-Boulder program has now placed these five students in locations of eastern and southern Africa:

- Drew Zackary (Anthropology Ph.D.), Apac and Otuke, Uganda
- Leslie Dodson (ATLAS Ph.D.), Lusaka, Zambia and Capetown, South Africa
- Amy Quandt (ENVS Ph.D.), Isiolo, Kenya
- Arielle Tozier de la Poterie (ENVS Ph.D.), Soroti, Uganda
- Kanmani Venkateswaran (ENVS, MS), Lusaka, Zambia

Projects have involved topics such as analysis of uses of regional climate forecasts to trigger anticipatory humanitarian action, and examinations of ways to improve the linking of science-based forecasts with humanitarian decisions. More information on the specifics of all these placements and activities can be found here: <http://sciencepolicy.colorado.edu/students/redcross>.

### Application Details

Criteria: Successful candidates will have a demonstrated interest in the Southern and/or East African regions, as well as demonstrated interest in one or both topic areas (environmental communication and adaptation decision-making), as evidenced by any of these elements: courses completed/underway, past work, volunteer and/or research experience, MS/Ph.D. thesis direction.

Successful candidates must be self-starters and capable of

# CENTER NEWS

adapting to independent working conditions. Students must have the consent of their graduate advisor to participate. A detailed terms of reference tailored to each intern will be developed by the intern and the relevant contacts in the months leading up to placement in the field.

## Application Requirements (all submitted as separate pdf files):

- Up to 1000-word statement about interest (geographic and/or topical) in the internship program, as well as a description of: a) how participation would fit into graduate study, b) how previous experience and current skills would help the RCRCCC to achieve its mission, c) preferred focus of work or topic of study, d) previous international experience and d) future career goals and objectives. Please be sure to specifically describe why and how the internship will be a mutually beneficial opportunity for both the CU student and the RCRCCC.
- Statement of availability between May and August 2016
- Current C.V.
- One page letter/statement of graduate advisor support
- Unofficial transcript(s) from graduate work at University of Colorado-Boulder

## Notification and Planning timeline:

- February 1: Applications due to [redcross@colorado.edu](mailto:redcross@colorado.edu)
- Week commencing February 15: Interviews with finalist internship candidates
- Week commencing February 22: applicants informed of internship placement decisions
- March 1: Deadline for internship invitees to accept/decline offer (at this stage, offer is not a guarantee until final placement is confirmed by IFRC in Spring 2016)
- March/April 2015: Participants will participate in reading group sessions



RCRCCC intern Amy Quandt in Isiolo, Kenya.

- March/April 2015: Final matching and placement decisions will be completed by IFRC
- Summer 2016: students will be placed in Southern and/or East African regional field offices

## Contacts

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*These internships are made available through support by the Environmental Studies program (ENVS) and from the Cooperative Institute for Research in Environmental Sciences (CIRES) Center for Science and Technology Policy Research (CSTPR).*

# GRADUATE STUDENT, VISITOR AND ALUMNI NEWS



Center graduate student Elizabeth Koebele ([http://sciencepolicy.colorado.edu/about\\_us/meet\\_us/elizabeth\\_koebele](http://sciencepolicy.colorado.edu/about_us/meet_us/elizabeth_koebele)) was awarded a \$1000 grant from the Arkansas

River Basin Water Forum to use toward her dissertation research.

# CENTER PUBLICATIONS (CSTPR authors bolded)

## Communicating Mega-Projects in The Face Of Uncertainties: Israeli Mass Media Treatment of the Dead Sea Water Canal

by Itay Fischhendler, Galit Cohen-Blankshtain, Yoav Shuali, and **Maxwell Boykoff**, Public Understanding of Science, October, vol. 24 no. 7, 794-810, 2015.

**Abstract:** Given the potential for uncertainties to influence mega-projects, this study examines how mega-projects are deliberated in the public arena. The paper traces the strategies used to promote the Dead Sea Water Canal. Findings show that the Dead Sea mega-project was encumbered by ample uncertainties. Treatment of uncertainties in early coverage was dominated by economics and raised primarily by politicians, while more contemporary media discourses have been dominated by ecological uncertainties voiced by environmental non-governmental organizations. This change in uncertainty type is explained by the changing nature of the project and by shifts in societal values over time. The study also reveals that 'uncertainty reduction' and to a lesser degree, 'project cancellation', are still the strategies most often used to address uncertainties. Statistical analysis indicates that although uncertainties and strategies are significantly correlated, there may be other intervening variables that affect this correlation. This research also therefore contributes to wider and ongoing considerations of uncertainty in the public arena through various media representational practices. Read more: [http://sciencepolicy.colorado.edu/admin/publication\\_files/2015.47.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2015.47.pdf).



## Environmental Rulemaking Across States: Process, Procedural Access, and Regulatory Influence

by **Deserai A. Crow**, Elizabeth A. Albright, and **Elizabeth Koebele**, Environment and Planning C: Government and Policy, DOI: 10.1177/0263774X15606922, 2015.

**Abstract:** Rulemaking is central to policymaking in the United States. Additionally, regulatory authority is devolved to the states in many instances. However, our knowledge of state-level rulemaking is not as advanced as that related to federal rulemaking. To advance the scholarship on state rulemaking, this study compares environmental rulemaking across three environmental issues (renewable portfolio standards, concentrated animal feeding operation regulations, and hydraulic fracturing disclosure rules) in five states (California, Colorado, Michigan, North Carolina, and Pennsylvania) to understand procedural and stakeholder participation commonalities among the cases. Using data from public rulemaking documents, stakeholder comment during rulemaking, and in-depth interviews with agency staff and stakeholders, the findings suggest that there are common patterns of pre-process informal stakeholder consultation, public comment and outreach mechanisms, and corollary issues related to stakeholder access across these



cases. These findings advance our knowledge of state-level rulemaking as it relates to public input and procedural equity for stakeholders. Read more: [http://sciencepolicy.colorado.edu/admin/publication\\_files/2015.52.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2015.52.pdf).

## Information, Resources, and Management Priorities: Agency Outreach and Mitigation of Wildfire Risk in the Western United States

by **Deserai A. Crow**, **Lydia A. Lawhon**, **Elizabeth Koebele**, **Adrienne Kroepsch**, **Rebecca Schild**, and **Juhi Huda**, Risk, Hazards & Crisis in Public Policy, Vol. 6, No. 1., 2015.

**Abstract:** States in the American West are experiencing significant population growth and exurban development, in addition to a longer fire season and a changing climate. These factors contribute to the increasing difficulty of managing wildfire in the Wildland-Urban Interface. Using data collected through a survey of fire professionals, this research investigates the strategies that agencies use to promote wildfire mitigation on private property within the WUI, fire professionals' sense of the effectiveness of those strategies, and support among fire professionals for various regulatory approaches to wildfire mitigation. The findings indicate that fire professionals are keenly aware of the constraints imposed by the political context and acceptability of some tools that they could use to promote more aggressive mitigation on private property. Recommendations based on these findings suggest that fire professionals should consider capitalizing on citizen network approaches to outreach in order to build trust between agency personnel and homeowners and to cope with limited support for regulatory mandates for wildfire mitigation. Read more: [http://sciencepolicy.colorado.edu/admin/publication\\_files/2015.44.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2015.44.pdf).



## Catching Fire? Social Interactions, Beliefs, and Wildfire Risk Mitigation Behaviors

by **Katherine Dickinson**, **Hannah Brenkert-Smith**, **Patricia Champ**, and **Nicholas Flores**, Society & Natural Resources, Volume 28, Issue 8, 2015.

**Abstract:** Social interactions are widely recognized as a potential influence on risk-related behaviors. We present a mediation model in which social interactions (classified as formal/informal and generic/fire-specific) are associated with beliefs about wildfire risk and mitigation options, which in turn shape wildfire mitigation behaviors. We test this model using survey data from fire-prone areas of Colorado. In several cases, our results are consistent with the mediation hypotheses for mitigation actions specifically targeting vegetative fuel reduction. Perceived wildfire probability partially mediates the relationship between several interaction types and vegetative mitigation behaviors, while perceptions of aesthetic barriers and lack of



# CENTER PUBLICATIONS

information play a mediating role in the case of fire-specific formal interactions. Our results suggest that social interactions may allow mitigation and prevention behaviors to “catch fire” within a community, and that wildfire education programs could leverage these interactions to enhance programmatic benefits. Read more: [http://sciencepolicy.colorado.edu/admin/publication\\_files/2015.41.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2015.41.pdf).

## Exploring Multiple Ontologies of Drought in Agro-Pastoral Regions of Northern Tanzania: A Topological Approach

by Mara J. Goldman, Meaghan Daly, and Eric J. Lovell, *Area*, 10.1111/area.12212, July 24, 2015.

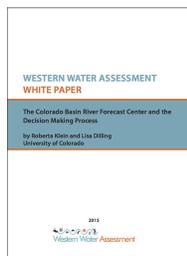
Abstract: There has been increased focus within the human dimensions of climate change on understanding the complex and multiple ways of ‘knowing’ climate. While these discussions are important in recognising different ways of knowing the climate and climate change processes already underway, we argue that this epistemological approach is limited and challenging. It begins with an assumption that there is one world (climate) out there that can just be known differently, and that knowledge can be isolated from ways of being and acting in the world. This often results in a distilling of complex knowledge practices into information for the purposes of integration. Drawing from a material-semiotic approach from Science and Technology Studies (STS), we propose a shift of focus to ontology, with an emphasis on the enactment of knowledge and reality (climate) simultaneously. We present ethnographic data from two drought events (2008/2009 and 2010/2011) among Maasai pastoralists in Northern Tanzania in East Africa to illustrate the value of such an approach, using multiple topologies (regional, network, fluid) for thinking through and following multiple enactments of drought in practice. Read more: <http://onlinelibrary.wiley.com/doi/10.1111/area.12212/full>.



## The Colorado Basin River Forecast Center and the Decision Making Process

by Roberta Klein and Lisa Dilling, *Western Water Assessment White Paper*, 2015.

This study investigated characteristics of the users or potential users of Colorado Basin River Forecast Center (CBRFC) forecasts and their decision making contexts, and analyzed the utility of a Western Water Assessment project quantifying the contribution of tree death due to bark beetle infestation along with desert dust deposition on snowpack on streamflow. Read more: <http://www.colorado.edu/publications/reports/2015.01.pdf>.



## Assessing Outputs, Outcomes, and Barriers in Collaborative Water Governance: A Case Study

by Elizabeth Koebele, *Journal of Contemporary Water Research and Education*, 155, 63-72, 2015.

Abstract: As freshwater supplies become increasingly threatened by overuse, pollution, and changes in climate, governing bodies have begun to recognize the urgent need for flexible, sustainable solutions to water use and management. Collaborative governance of water resources has arisen as a widespread strategy to develop such solutions in a way that integrates diverse stakeholder needs and works to create consensus-driven management actions. Directly linking the outputs of collaborative processes to improved water sustainability is difficult even on a local scale. However, examining diverse collaborative governance processes, particularly the outputs and outcomes produced and barriers faced, is necessary as these processes continue to flourish at a multitude of scales and settings. In 2005, the state of Colorado initiated a collaborative governance process to assess its existing water resources and future water needs; the information gathered through this endeavor is now being used to inform the creation of Colorado’s first statewide water plan. Using data from 28 in-depth interviews with key participants in this process, this paper highlights not only what outputs and outcomes may be produced through a high-stakes collaborative process, but also what barriers exist to producing desired outputs (and therefore, consequent outcomes). Read more: [http://sciencepolicy.colorado.edu/admin/publication\\_files/2015.51.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2015.51.pdf).



## Wildfire Outreach and Citizen Entrepreneurs in the Wildland-Urban Interface: A Cross Case Analysis in Colorado

by Elizabeth Koebele, Desera A. Crow, Lydia A. Lawhon, Adrienne Kroepsch, Rebecca Schild, and Katherine Clifford, *Society & Natural Resources*, July 13, 2015.

Abstract: Due to rapid growth in the wildland-urban interface (WUI), the risk to lives and property from wildfires is increasing in the western United States. While previous studies have identified factors that influence residents’ perceptions of wildfire risk and responsibility for mitigation, less research has been conducted on how mitigation information is disseminated to residents or the most effective strategies for doing so. During an examination of two case studies of catastrophic wildfires in Colorado, an important actor involved in wildfire outreach emerged that we label the citizen entrepreneur. Citizen entrepreneurs are highly motivated community members who can help resource-constrained wildfire agencies encourage mitigation on private property by directly engaging with WUI residents. Using data from interviews with wildfire professionals and focus groups with residents, this research note introduces the concept of citizen entrepreneurs and provides an initial examination of the important role they can play in wildfire outreach. Read more: [http://sciencepolicy.colorado.edu/admin/publication\\_files/2015.33.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2015.33.pdf).



# CENTER EVENTS

September 29 Noontime Seminar

## Chief Scientific Adviser in the European Commission: Results of an Experiment

by Dr. Jan Marco Müller, Policy Officer for International Relations, European Commission's Joint Research Centre

Drawing on his experience as office manager of the European Commission's first Chief Scientific Adviser Professor



Dame Anne Glover, Dr. Jan Marco Müller presented why and how the role of Chief Scientific Adviser to the President was implemented in the European Commission, how it was perceived both internally and externally and which factors led to the dismantling of the role after only 3 years of existence. The talk presented achievements and failures as well as lessons to be learned for science advisory structures. View presentation here: <http://cirescolorado.adobeconnect.com/p9qzbu2wd1r/>.

October 9 CIRES Distinguished Lecture Series

## The Quest for Evidence: An insider's View on Science and Politics in Europe

by Dr. Jan Marco Müller, Policy Officer for International Relations, European Commission's Joint Research Centre

The disappearing of the Chief Scientific Advisor post in the European Commission in November 2014 has put the role of



science in European policy-making into the spotlight. While the Commission in the frame of its better regulation agenda is setting up a new science advisory mechanism based on a high-level expert panel and input provided by national science academies, discussions about the future role of the Commission's in-house science service, the Joint Research Centre (JRC), and other evidence providers such as the EU Agencies have also gained a new dynamic. Based on his experience as Assistant to the former Chief Scientific Advisor Professor Dame Anne Glover, the lecturer put the ongoing debate around institutional structures into the wider context of the complexity of European policy-making and the role given to science in political decisions, including on controversial topics such as GMOs. View presentation here: <http://cirescolorado.adobeconnect.com/p6ww6m1pxgq/>.

November 19 at 12:00 pm

## The Art of Communicating Science to Decision-Makers

by Dr. Jan Marco Müller, Policy Officer for International Relations, European Commission's Joint Research Centre

*Sponsored by the Forum on Science Ethics and Policy, The Institute of Arctic and Alpine Research, and Center for Science and Technology Policy Research*

While policies both in the US and Europe are committed to be evidence-based, in practice political decisions are often not based on sound science. This is because science is just one element in the policy-making process, which follows also social, economic, and ethical / religious considerations to name just a few. The lecture analyses the relationship between science and policy and gives recommendations on how to enhance the impact of science on policy-making. Watch the webcast (12PM MST): <http://cirescolorado.adobeconnect.com/cstpr-muller-11-19-2015/>.

December 1 Noontime Seminar

## Climate Change in an Amazon Town: Media and Environmental Perceptions in Ever-Rising Waters

by Sam Schramski, Visiting Postdoctoral Scholar, Federal University of Amazonas in Manaus, Brazil

Dr. Schramski will present findings on his work on climate change perceptions among rural communities in the Brazilian Amazon. He will focus on the relationship between the role of news media as a national purveyor of information in the context of limited regional media outlets, as well as the lived experiences of individuals with whom he conducted research. Exploratory in nature, this talk will expand upon frameworks discussed in media theory and policy formation. It will attempt to shed new light on how we discuss climate change, particularly variability, in highly dynamic systems. Watch the webcast (12PM MST): <http://cirescolorado.adobeconnect.com/cstpr-seminar-schramski-12-1-15/>.

## 2015 Mitchell Lecture on Sustainability, University of Maine When Science Meets Politics: Symphony or Slugfest

by Roger Pielke, Jr., University of Colorado

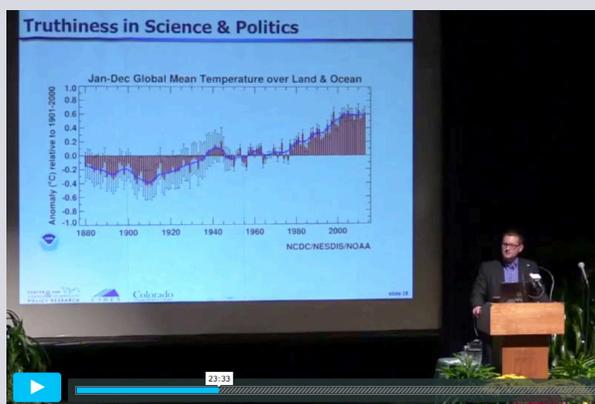
There are a range of controversies in the news these days where the role of expertise in decision making has proved challenging, from Deflategate in NFL football to the relationship of academics and industry in public debates over GMOs. Perhaps foremost among these, nations will gather in Paris in December to continue international negotiations on climate change, a generational challenge where progress has proven difficult.

## CENTER EVENTS

In this lecture, Pielke took a critical look at the contested terrain where science and politics meet. He has long studied this terrain and occasionally found himself embroiled in it. Pielke argued that science and expertise are essential to good decision making. In particular, he argued that better decision making requires more honest brokers in political

debates and less partisanship played out through science. There are strong incentives against such honest brokering – for politicians and experts alike. However, better decision making requires that we better connect science and politics. Pielke offered a hopeful message about how this might be done. View presentation here: <https://vimeo.com/143737121>.

### MULTIMEDIA HIGHLIGHT



**2015 Mitchell Lecture on Sustainability,  
University of Maine**

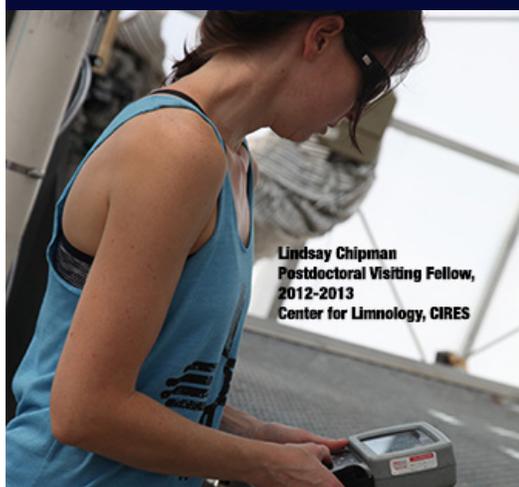
**When Science Meets Politics:  
Symphony or Slugfest**

*by Roger Pielke, Jr.*

Video [1:31:11]: <https://vimeo.com/143737121>

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

## S&T OPPORTUNITIES



**Be curious. Be interdisciplinary. Be innovative.**  
**Be Boulder.**  
**at CIRES**

### CIRES Visiting Fellowship Opportunities University of Colorado Boulder

- Post-doctoral Visiting Fellowships (Two years)
- Senior Scientist Visiting Fellowships, including sabbatical and faculty leave (3–12 months)

The Cooperative Institute for Research in Environmental Sciences (CIRES) sponsors a prestigious Visiting Fellows program, inviting scientists to join the thriving community of research scientists in Boulder, Colorado. The CIRES Visiting Fellowships are intended to stimulate interdisciplinary research within the Institute through engagement with researchers on campus and in Boulder's NOAA Laboratories. Sponsored by CIRES Fellows, Visiting Fellows work with CIRES

researchers on a wide range of environmental science topics. The CIRES Visiting Fellows Program has attracted more than 250 scientists from around the world over the past 45 years; many have gone on to lasting careers in CIRES and NOAA. Two-year Visiting Fellowships are available for postdoctoral researchers, and terms of up to 12 months are available for senior scientists on leave or sabbatical.

Go to the CIRES website (<http://cires.colorado.edu>) for more information about the Institute, and visit the Visiting Fellows page to apply: <http://cires.colorado.edu/about/institutional-programs/visiting-fellows-program>.

The deadline for application is January 11, 2016.

## Job Opportunities



Please see the Center's Jobs Page for a list of job opportunities:

<http://sciencepolicy.colorado.edu/students/jobs>

## ABOUT US

Ogmios is the newsletter of the Center for Science and Technology Policy Research. 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.

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