

Workshop to Build Expertise in Understanding the Social and
Communication Impacts of Climate Change

South Central Climate Science Center

Texas Tech University

FINAL REPORT

1) PROJECT ADMINISTRATIVE INFORMATION

Project Title: Building CSC expertise in understanding the social and communication impacts of climate change

Short Description: We brought together expertise in the social and communication sciences from targeted academic institutions, particularly experts and scholars who are affiliated with the nation's Climate Science Centers, by means of an invited workshop. The purpose of this effort is to bring together such a group but also to focus experts in the nation's Climate Science Centers on how these Centers' affiliates can more effectively communicate the science of this important but often misunderstood problem and meaningfully inform effective policy in each region.

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Agreement Number: Sub-award 2-13-14

Actual Project Cost: \$31,492.03

Time Period Covered by Project: October, 2012 to March 31, 2014

Project Completion Date: March 31, 2014

2) PUBLIC SUMMARY

This workshop involved formal power point presentations from experts in a variety of disciplines on the problem of climate change and how to more effectively communicate the science of this problem. Specifically, the presentations focused on the scientific, policy, and

political aspects of climate change and how to communicate its scientific essentials, as well as, its implications to the general public and policy makers, both bureaucratic and elected. Presenters were scientists and social scientists with expertise in climate change, communication sciences, public opinion analysis, disaster management, public policy, and the politics of climate change. Presenters also included an environmental photographer who offered a visual presentation of the realities of climate change.

The results of these presentation can be captured in four summary conclusions. First, climate change has and continues to occur and, as a result, is a true problem that needs to be addressed. However, there is much more that can be done to communicate this problem to the general public and policy makers. Second, we need to focus on and be more careful about how the science of this problem is communicated. Climate change and its deleterious impacts can be better communicated by enlisting the assistance of better (famous and even celebrity) spokespeople, by being more careful about the choices of words that scientists employ, including the avoidance of unnecessarily technical language, and by greater employment of visual aids to offer undeniable evidence of the physical changes that climate change has brought. Third, there are policy approaches that can be employed even in the context of such intractable political divisions and guidance for these specific approaches is based on the implementation of successful programs already in use. One of these involves the training of local public administrators, like disaster management and community/city planners, to be better prepared for the deleterious impacts of climate which will negatively affect what they already do. Fourth, the political aspects of this problem are very divisive as there is an active and wealthy climate change denial industry in the U.S. that funds both political campaigns and think tanks, which help sustain the persistence of beliefs that contravene solidly established scientific evidence. There is also an educated portion of the public that has already decided that climate change is either not a problem or a very exaggerated problem and that it is not caused by human activity. This group constitutes less than 30% of the American public and, as a result, the majority of Americans either do not know the details of the science of climate change but are most likely to accept the science on this problem. Consequently, the only practical solution to the policy and communication of climate change is to embrace the politics of this problem and turn it into an issue that is either electorally irrelevant or one on which those seeking office can be electorally successful.

3) TECHNICAL SUMMARY

The purpose of this grant was to hold an expert workshop on the communication and policy aspects of climate change. This workshop was held on February 6-7, 2014 at the Trinity River Audubon Center in Dallas, TX. There were six formal panel sessions with question, answer, and comment sessions after. There was also a formal presentation over the lunch period of the first

day and there was also a wrap-up session after the last presentation on the second day. The presentations that were held, including the presenters and their affiliations, are as follows:

February 6, 2014

8:30-9:15

Opening Session/Refreshments
Welcome, Dr. Dennis Patterson, TTU
Opening Remarks and Introductions: Dr. Katharine Hayhoe
Preliminary Remarks SC-CSC Director, Dr. Kim Winton

9:15-10:30

Morning Session I
Dr. Susan Hassol, Climate Communication and
The National Climatic Data Center (Asheville, North Carolina)
Telling the Climate Change Story: How Not to Talk Like a Scientist.

This presentation was very specific in its providing techniques that would help climate scientists and other specialists working on this problem to better frame and communicate this problem. Recommendations included not only appropriate framing advice and word choices but also how choosing the correct messenger could assist in the communication aspects of the science of climate change.

10:45 – 12:00

Morning Session II
Dr. Teresa Myers and Dr. Justin Rolfe-Redding
George Mason University
Public Opinion Messaging on Climate Change.

This presentation provided an in-depth and technical analysis of the most up to date public opinion data on attitudes toward climate change in the United States. The data the presenters included in their power point presentation revealed that there are six Americas with respect to climate change, all with different opinions that range from being alarmed about climate change to not believing that it is a problem at all. What was unique about this presentation and the research that went into it is how the presenters showed that members of the denial group are educated, informed, and politically engaged and, thus, solidly committed to its political position of opposing any policy action on climate change. This means that the probability of changing their minds about this issue is pretty low. In spite of this, those who are uninformed or accepting of climate change constitute a majority of Americans, which means that initially that is where communication efforts must be targeted.

12:00 – 1:30

Lunch/Speaker
Dr. Riley Dunlap, Oklahoma State University
The Climate Change Denial Movement.

This presentation was the product of extensive research on identifying and tracking the climate change denial movement in the United States. It revealed the origins of this movement, including that it is a well-funded, multi-level effort with financial support that is connected to conservative think tanks, like Heritage Foundation, where position papers are produced that counter the positions taken by climate change scientists and policy makers. Based on the data presented, the conclusion is that this denial movement is not likely to disappear any time soon. As a result, it can only be counteracted by a similar level of organization and effort.

1:30 – 2:45

Afternoon Session I

Gary Brasch, Environmental Photographer and Author
Photographing Climate Change: The Effectiveness of the Visual Image.

This presentation by one of the country's most seasoned environmental photographers. It was a very convincing presentation of a photographic documentation of climate change and its rapid progress in recent years. Moreover, the visual images presented, most of which were pairs of photographs taken at two different time periods, Time t and Time t+k, proved to be very effective offering effective evidence of climate change even to those who might be difficult to convince or who are without detailed knowledge of this important problem.

3:00 – 4:15

Afternoon Session II

Dr. Elizabeth McNie, Western Water Assessment,
University of Colorado, Boulder
Stakeholder Outreach and Engagement: Lessons Learned from the NOAA RISA Program.

This presentation documented the successes and challenges associated with efforts to engage stakeholders with respect to NOAA's RISA program. It offered insights into how associates of the SC-CSC and other Climate Science Centers can deal with stakeholders, especially those who may not be convinced that climate change is their concern or even a real phenomenon as well as those who may be opposed to any government intervention in this area or in any areas of concern. Two themes were repeated more than any other, communication that is frequent and communication that is effective.

February 7, 2014

8:30 to 9:00

Session Remarks/Refreshments

Dr. Dennis Patterson and Dr. Katharine Hayhoe

9:00 – 10:15

Morning Session I

Dr. Brian Gerber, University of Colorado, Denver

Climate Change, Hazards, and Disaster Preparedness.

This was a convincing presentation from a disaster management expert who showed that effective action on the deleterious impacts of climate change can be taken at the present time, divisive politics notwithstanding. This conclusion was defended by the fact that many public officials serving in local and state governmental positions are already dealing with the consequences of climate change. As a result, the recommendations that were presented included detailing the kinds of initiatives that should be taken without hesitation to begin training local public officials to deal with the impacts of climate change in the same way that current efforts help prepare public administrators to deal with the management of disasters.

10:45 – 12:00

Morning Session II

Dennis Patterson, Texas Tech University

Climate Change as a Political Issue.

This presentation began with the premise that there is great science in the United States but that this commendable science does not always translate into great policy. One of the reasons for this is that political imperatives, particularly the necessity for elected officials to seek and maintain elective office, oftentimes prevent public officials from taking any long term focus on policy issues that are defined by political divisions. This is very true for climate change which is not just a divisive issue but one on which certain elected officials receive support benefits for siding with a denial view of the problem. The solution to this is to continue to communicate the science of this issue and the preponderance of evidence on which it is based to elected officials and the general public. Only in this way will climate change evolve from the position issue it currently is (one where both sides of the issue have support groups of significant size and thus generate electoral benefits to those advocating these positions) to a valence issue where the only credible position is to support policy action on this issue.

1:00 – 2:45

Wrap Up Session/Q&A

Panel Composed of Each Session Leader/Presenter

And Dr. Katharine Hayhoe

These sessions were followed up with a wrap-up sessions where two further topics were discussed. The first was the invitation for presenters to turn their presentations into a book chapter. All the presenters except Elizabeth McNie have agreed to this and are in the process of finalizing their book chapters. These first drafts are due to the P.I.s by the third week of August. The second topic was for groups of attendees and presenters to come up with collaborative research topics that could be turned into proposals for further funding. A list of these is as follows:

- Applications for projects where there are mutual scientific interests
- Identifying and Understanding Stakeholders
- Visual art projects (photographs in climate science PICS)

- Humanizing scientists
- Rhetoric and statistics
- Climate 101 for tribes across SC, and others
- Challenges in engaging stakeholders despite LCCs, separation from RISAs
- Training “climate 101”, coordinating w/ Water Resources Research Institutes and RISAs and collaboration on RFP process
- Using the arts to communicate climate awareness and change
- Training Public Administrators for the impacts that will be attendant to Climate Change
- Formal and informal education, climate literacy (re: CLN network, CLEAN resource collection, all
 - peer-reviewed resources by both scientists and educators) – adding cultural aspects for
 - specific communities (e.g. tribes) needs and opportunities and potential chapter
- CSC training at MPA programs
- How can we open and prepare PhDs for working in state and local government
- How to communicate weather extremes
- Designing Experiments to test the words and photos that can help people better understand and thus, believe the science of climate change
- Determine which message content is more effective at educating the public on climate change
- Designing and conducting Public Opinion Studies to investigate how the public understands the issue of climate change and what language is most effective at helping voters support effective policies.
- How to design the best educational messages and promotional materials to more effectively communicate the problems associated with global climate change.

4) PURPOSE

Good policy requires good science; however, even the best science does not necessarily lead to good policy. Indeed, even though good scientific information may exist on a problem of public interest, there is no guarantee that this information will be effectively communicated to the public and to policy makers and thus serve as the basis for sound public policies. If relevant scientific information is not thoroughly communicated to the public, it is very unlikely to be part of the public discourse and, thus, will not be considered by policy makers. The result then will be no effective policy action and, thus, no effort to mitigate any deleterious impacts that may be attendant to this scientific issue. While there are many problems that fit this description, none is more relevant or urgent than that of climate change and its deleterious impacts at all levels of analysis. Climate change carries the potential for significant negative impacts for the quality of human life and the sustainability of the natural environment. Knowledge of these potentially deleterious impacts are the result of the high quality scientific research that has been conducted and continues to be conducted on the problem of climate change and its impacts. We know from

this research that, in the U.S., climate change is expected to impact agriculture, energy, and infrastructure as well as ecosystems, water, and health. Again, we are certain these impacts will occur because of the accumulating base of scientific information that supports such a conclusion.

Despite this certainty, however, a very low amount of valid scientific information about global climate change and its deleterious impacts has been absorbed by some segments of the general public and exerted a positive impact on the policy process. While the precise level is debatable, we know it is well below that necessary to lead to an informed public that understands the issue, and to policy makers who are motivated to incorporate the issue of climate change into future planning for adaptation and mitigation. Consequently, it is imperative that the work on climate change address this problem. As a result, we brought together experts in the social and communication sciences from targeted institutions affiliated with the nation's Climate Science Centers by means of an invited workshop. These experts made presentations that will be organized into an edited volume and presenters as well as attendees produced a list of potential collaborative research projects with potential funding sources. The research projects as well as the edited volume will help ensure that the science of this increasingly important but often misunderstood problem is effectively communicated so that the expertise gathered for this workshop can help inform effective policy on climate change in each region.

5) ORGANIZATION AND APPROACH

The workshop was divided into several panel sessions that were headed by experts in the field of communication studies and the policy aspects of climate change. These sessions were conducted in thirty-minute segments with power point presentations which were then followed by question, answer, and comment sessions. The first sessions were preceded with remarks that spoke of the goals of these presentations as were the second day's sessions. The workshop ended with wrap-up sessions that focused on future projects and sources of funding. The approach was first to map the current state of research on the problem of communicating climate change and its policy aspects with the goal being to set out a research agenda that presenters and attendees could collaborate on. Any collaboration would involve seeking funding for further research and then the publication of papers, reports, and data that are generated as a result of subsequent collaborations. The approach was also to disseminate relevant research on the social and communication aspects of the problem of climate change with the goal of experts in different research areas collaborate with other experts so that more collaborative and trans-disciplinary research can be put together and be moved forward. Again, it is the intention that these collaborative research projects will be supported with outside funding.

6) PROJECT RESULTS

In light of this, the deliverables from this workshop are twofold.

- 1) A set of specific research proposals related to the Workshop's overall theme but then connected to the specific themes dealt with in each panel session. The content of these proposals has been listed as part of this final report in Section 4 above.
- 2) A set of academic papers that will be edited (Dennis Patterson) and then combined into an academic volume that contains an introduction and conclusion (Dennis Patterson and Katharine Hayhoe) that is then published by a reputable university press. First drafts of these papers are due by the third week of August.

7) ANALYSIS AND FINDINGS

On February 6 and 7, 2014, a USGS supported workshop was held at the Trinity River Audubon Center in Dallas on the Communication and Social aspects of Climate Change. The workshop included seven sessions led by nationally-recognized speakers in the areas climate change and its communication, social, and policy dimensions. The workshop's attendees included representatives from 7 out of the 8 Climate Science Centers. The only unrepresented CSC was that from the Pacific Islands. The target outcomes of this workshop were first a series of concrete proposals for research projects that have high probability to be supported without funding. The list of projects that presenters and audience members came up with are listed at the end of Section 4 above. In addition to this, the presentations and the comments that presenters received will lead to a series of first-rate academic papers that, when compiled into an edited volume, will further efforts to help the CSCs better address the problem of climate change once published. First drafts of completed chapters are due to the P.I. by the third week of August.

Based on presentations, question and answer sessions, and the wrap-up session at the end of the event, participants agreed on several findings. Climate change is a serious problem that needs more attention, particularly on its social and communication aspects. Specifically, those involved in the research enterprise surrounding climate change need to do more to see that their research findings reach a broader audience. This will require more attention to dissemination strategies as well as to how the substance of the research findings is communicated. It will also require direct efforts to work with the policy establishments at all levels of government. At the local level, such efforts will be most effective if they involve the training of local officials who are already involved in planning and implementation activities that are manifestly affected by the consequences of climate change. This group can be approached through special training programs so that they are better prepared to deal with the deleterious consequences of climate change. For those at higher levels of government, there will be no substitute for simply embracing the politics of this divisive issue. Efforts to embrace the politics of climate change should be cognizant of two factors. First, those of us who will embrace the politics of climate change must find a way to address the problem with a positive

political spin, that is, one that avoids the position aspects of the issue and emphasizes the valence part of climate change. This means presenting this problem as an issue where all involved win by addressing the problem. Second, the other aspects of this is an effort that emphasizes solutions that are cost effective and do not necessarily involve an aggrandizement of government institutions and regulations. We have witnessed these kinds of solutions in action already, specifically, in the kinds of water conservation, fisheries preservation, and other common pool resource problems that Nobel Laureate, Elinor Ostrom wrote about in the book, *Governing the Commons*.

8) CONCLUSIONS AND RECOMMENDATIONS

Based on the presentations and findings stated above, there are several conclusions that can be stated and coupled with specific recommendations.

1) Collaborative work will be absolutely necessary in all of our efforts to effect and realize the mission of the country's Climate Science Centers. As a result, all experts and affiliates involved are encouraged to continue to work collaboratively across disciplines and across the country's Climate Science Centers to see that this mission—regardless of how missions of the different CSCs are defined—is realized.

2) Climate change is and will continue to be a political issue and the divisiveness to which it is attendant will not go away, at least in the near future. As a result, it is recommended that we, as affiliates of the country's many CSCs, embrace the politics of this problem. This can be accomplished in an effective manner if two simultaneous paths are followed:

a) the training of public officials (particularly at the state and local levels) who will be affected by climate change and, as a result, will definitely need to understand better how climate change affects what they normally do on a daily basis;

b) the design and promulgation of solutions for the management of the atmosphere as a common pool resource (CPR) so that stakeholders and other interested parties can apply the same techniques that stakeholders applied in the areas of fisheries so that this vitally important CPR can be better protected. This means offering management solutions that are not just effective but also implementing these kinds of solutions that are evolved more by stakeholders than by the interventions of government agencies with rules and regulations that lead to an aggrandizement of institutions.

3) The communication, political, and policy aspects of this issue that were discussed at this workshop need to be more broadly communicated. This will require more collaborative research and better strategies for communicating the science of this problem. The recently aired Showtime special, "Years of Living Dangerously," with such famous actors as Don Cheadle and Harrison Ford is a true step in the right direction. More follow up is also needed.

9) OUTREACH

It is first necessary to mention that outreach, defined as an effort to make contact and collaborate with colleagues affiliated with the other U.S. CSCs was a principal goal of this workshop. In light of this, three follow up efforts can be pursued to be certain that the outreach aspects of our efforts is effective. The first involves a simple follow up to all presenters and attendees to determine the state of the follow on research projects that were listed above in Section 4 of this final report. Second, all presenters and attendees should be briefed on progress for the edited volume so that they can see where the efforts of this workshop and the P.I.s stand and that they can have the opportunity to acquire and read the edited volume when it is published. Third, we should keep in contact with presenters and participants in this workshop to encourage them to hold a similar workshop at their respective CWC, so that the themes of this workshop are passed on. We are motivated to continue with these efforts because of the tremendously positive feedback we received from participants at this workshop held in Dallas. We provide a selection of these comments below.

Thank you for the opportunity to attend the workshop. I enjoyed getting to know the other participants and, despite the wintery weather, the setting at the Audubon facility was lovely.

We owe you a big thanks for an excellent workshop. You had an ideal mix of physical scientists, social scientists and communication experts, so the cross-fertilization was outstanding. The setting was ideal, even with the subfreezing weather outside, and you had all the logistical details covered (testimony to your planning, as those things don't just happen). The workshop was well worth the trip.

You guys organized a fantastic workshop. I haven't stopped thinking about it. I'm definitely looking forward to the future conversations that will follow from those started at the workshop.

Thank you for organizing such an informative workshop. I learned a great deal from the speakers and other attendees. It is rare for so many representatives from different disciplines to come together around one topic.

It was a really interesting and valuable workshop, and a great group of people! All of the presentations were really informative. I plan to follow up with a few people about potential project ideas that came out of the meeting, so it was certainly useful for me. You guys did a great job with organizing the meeting, and I think everyone really enjoyed the setting and great food!

I learned a lot and benefited professionally by attending. I think the CSCs are at an exciting point in their development and have the opportunity to shape their research goals in exciting ways.

I had a great time at the workshop and learned a lot -- I'll definitely be in touch with some of the people I met about future collaborations.

It was a great workshop -- it was incredibly valuable for me, that's for sure. I am really excited -- the workshop gave me a lot of ideas for future work.

The sessions definitely opened my eyes to just how much I don't know yet about communicating climate science. I look forward to learning more!

The workshop was a wonderful experience. I am grateful to you both for the opportunity to meet so many potential collaborators and I am excited to begin new project ideas generated by the workshop.

I'm really glad I was able to attend the workshop, and I hope I can continue to be involved in the conversation. I learned a lot and was happy to have the chance to meet such an interesting group.

Thanks so much for a wonderful and insightful workshop. We talk a lot about the importance and need for social scientists to be part of our research agenda, but save for a few notable exceptions, we don't do it. Our discussion last week was an important (and perhaps a milestone-like) event in that regard.