resource | media
making the environment matter

Water and Climate Change in the West

Polling and Media Analysis

March 2009

Outline

Introduction

The Intergovernmental Panel on Climate Change (IPCC) Working Group II report contains a grim prediction for western communities dependent on snowmelt for their water supply: "Warming, and changes in the form, timing, and amount of precipitation will very likely lead to earlier melting and significant reductions in snowpack in the western mountains by the middle of the 21st century." This means there will be much less water to go around for most of the West, a region that continues to see its population soar and demand for water skyrocket.

Yet adapting to the new reality of these significant changes has yet to become an integral part of water development and allocation decisions. Decision-makers have begun to discuss the linkage between climate and water in policy circles. But the connection between two of the most vexing issues facing the West is nearly invisible to the public eye.

In consultation with our partners at Exloco's Carpe Diem – Western Water and Climate Change project, Resource Media conducted a comprehensive media analysis and polling synthesis, paired with interviews with water experts from throughout the West.[1] Based on our research, we believe that a refined communications strategy can help support a fundamental shift in how decision-makers throughout the West engage the reality of climate change-induced water scarcity.

[1] Support for this project was made possible by the Alki Fund and an anonymous fund of the Tides Foundation, the Bullitt Foundation, and the Martin-Fabert Foundation. Special thanks go to our partners at Exloco's Carpe Diem – Western Water and Climate Change Project. www.exloco.org

Methodology

Polling Synthesis

We conducted a comprehensive synthesis of 16 public opinion surveys, meta-analyses and focus group reports on water and climate change in the West. All data was gathered from independent pollsters, both national and regional firms as well as universities. Most institutions shared their results with us on the condition we keep the source anonymous. The majority of the public opinion research we examined was conducted between 2004 and 2008.

Media Analysis

Our news analysis was conducted primarily using the search engine Lexis-Nexis, an online database containing approximately 5,600 current and archived newspaper and magazine publications. We searched for stories published between January 2008 and 2009 in the major daily newspapers in eleven Western states. We then grouped the results into four regions: the Pacific Northwest (Oregon and Washington), California, the Colorado Basin (Nevada, Arizona, New Mexico, Utah and Colorado) and the Northern Rockies (Wyoming, Idaho and Montana).

Interviews

We conducted 14 in-depth interviews with prominent Western water experts from throughout the region. We also interviewed two of the most well-known journalists covering the water/climate linkage.

Summary of Key Findings

Water/Climate Change Connection Nearly Invisible

The connection between climate change and water scarcity in the West is nearly invisible in the mainstream media. Nearly 5000 water stories yielded only about five hundred stories with any mention of climate change. Of those five hundred, very few articles explored the water/climate connection in any detail.

Water is a Local Story, Climate Change is not

Reporters and editors frame water conservation, conflicts over water and water rates as local issues disconnected from the global phenomenon of global warming. Climate change, conversely, is framed as a scientific, faraway, technical phenomenon that might or might not affect local communities in the distant future.

Local Connection Not Often Made by Scientists

Local weather extremes, drought, precipitation events – all these phenomena are widely reported throughout the West. But scientists, the most common messengers in our research, very rarely connect these extraordinary local climatic events to global warming.

Drought is Normal

Westerners understand drought as a regular part of life in an arid region. But this very understanding may prevent them from grasping the extreme urgency of adapting to the climatic shifts taking shape across the West.

Striking Regional Variation

Coverage of the water/climate change connection varies widely by region. A number of enterprising reporters in the Southwest have raised the issue's profile there, while in the Northern Rockies we had difficulty finding a single story making a substantive connection between the issues.

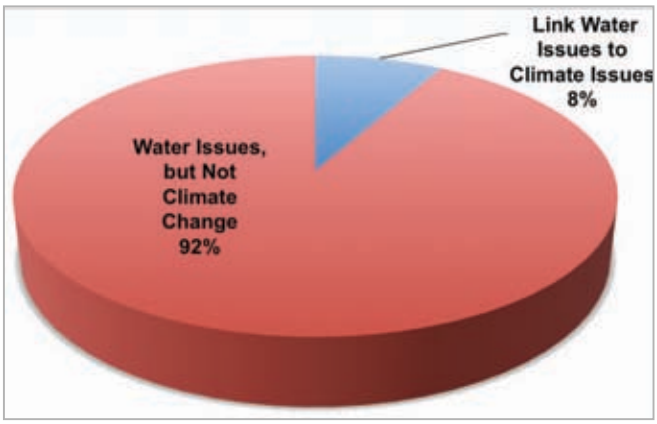
Solutions Few and Far Between

In the very few stories that do link water issues and climate change, we found almost no discussion of innovative adaptation solutions such as conservation, efficiency improvements and underground storage. Instead, these articles highlight doomsday scenarios or a dry scientific analysis of climate change impacts.

Media Analysis Findings

Big Picture: Where's the Connection?

Our research showed that the connection between climate change and water scarcity in the West is a blip on the media radar. Of 4952 water stories culled from eleven states across four regions, we located only 506 stories that mentioned the key words "climate change" and "water". Of those 506 stories, 50 articles, or nearly 10%, made no connection at all between the two issues.



Stories don't make the connection.

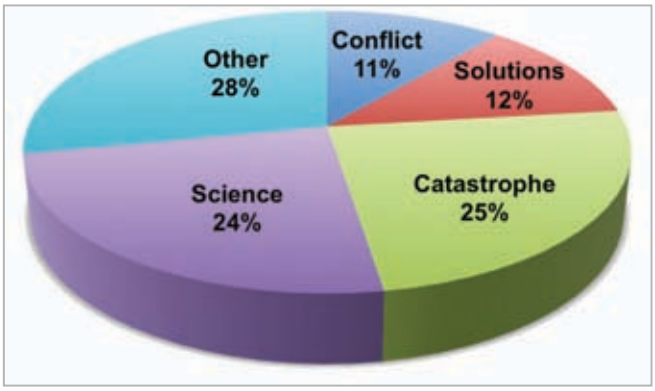
Across all four regions of the West, our analysis made clear that the growing scientific and policy consensus among most water experts is not trickling out into the public domain. The absence of coverage connecting these two issues is troublesome, because the need for publicly supported solutions is so urgent. But it also provides an opportunity to shape emerging frames in the months and years ahead.

Regional Variation

Our audit unearthed marked regional variations in the climate change and water coverage. While coverage of the nexus is sparse across all regions, the dearth is extreme in the Northern Rockies, where only 3% of water stories even mentioned climate change. In that region, though we searched back to 2007, we did not find a single story linking the two issues in any depth. In the Southwest, however, three reporters write regularly on the water/climate connection, producing in-depth stories with some frequency. And in California, one reporter has penned a series of exemplary stories that detail the local impacts of global warming on the economy and people of the Sierra Nevada.

Big Picture: Science and Catastrophe Frames Dominate

How a story is framed – its setting, voices and central messages – inform the extent to which a reader connects with the story. Despite the complexity and the diversity of the articles we analyzed, we found that water and climate change stories are told using essentially four frames: "science," "catastrophe," "solutions" and "conflict." From our sample, "science" and "catastrophe" frames were the most common, at 24% each. Stories featuring a solutions frame made up just 12% of our sample, while "conflict" stories made up 11%. The remaining 28% of stories were characterized as



"Catastrophe" and "science" most common story types.

"other;" many of these stories mentioned water and climate change only in passing.

Science Frame

Science articles are usually triggered by the release of a new report. They feature scientists as messengers, and frame the issue of water and climate change as a dry, technical problem using scientific language. "Science" stories almost never highlight the voices of community members or those directly affected by existing and predicted droughts across the West, nor do they localize the problem of climate change.

Catastrophe Frame

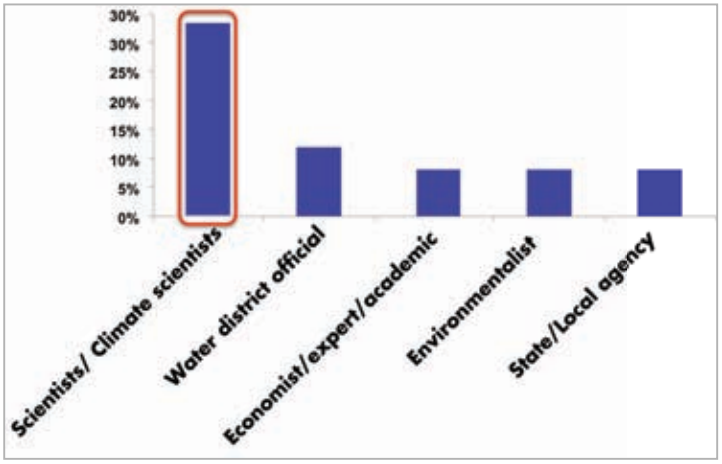
Catastrophe articles focus on the apocalyptic, worst case scenarios envisioned by water planners and climate scientists. They tend to use inflammatory language and feature scientific voices. These alarmist stories, while scintillating reading, tend to induce a kind of fatalism in readers. By focusing on portents of doom, "catastrophe" stories leave very little space for discussion of the readily available, innovative conservation solutions.

Solutions Frame

Solutions stories highlight answers to the questions posed by the science and catastrophe articles. They feature discussions of storage as well as conservation solutions.

Conflict Frame

Conflict articles center on the long-running, and recently heightened, conflicts over water among states and water districts throughout the West. Our sample included surprisingly few of these stories. It is not that water conflict stories are rare. Rather, our research shows that the many stories that do feature conflict over water are not discussing those conflicts in the context of climate change.



Scientists were the most common messenger.

Messengers: Scientist Voices Are Most Common

Who is doing the talking can often determine how a message is received. And the overall cast of characters that populate an article can set the story's tone. For example, an article containing the voices of "real" everyday people – i.e. people with whom the reader can identify – are typically more engaging to the average reader than articles quoting only technical experts and policy officials.

The coverage of water and climate change in the West features a strikingly high proportion of science voices - fully 32% of all messengers are scientists or climate scientists. Not surprisingly,

these messengers are most often quoted on scientific matters. The result of this skewed distribution of messengers and messages is both positive and problematic. Scientists, in general, are among the most trusted messengers. However, in this case, scientists are generally unwilling to make the connection between climate change and local water supply. Only 8% of all scientist messages link climate change and drought, for example. The result is that the connection between the "global" issue of climate change and the "local" issue of water scarcity is not spelled out. Until that connection is explicit, audiences will not fully understand that water scarcity is not a sporadic concern but a new reality. For that reason, they are less likely to support innovative solutions to the adaptation challenge.

In contrast to scientists, while water managers represent only 10% of all messengers in this sample, they explicitly connect the dots between climate change and drought more frequently than any other group of messengers. Polling also shows that water managers and engineers are among the public's most trusted messengers on water issues.

Water managers and engineers are among the public's most trusted messengers.

It is also worth noting which voices are almost entirely missing from climate change/water coverage: water consumers, community members, farmers, recreationists, healthcare workers and Native Americans, the very people who can most credibly convey coming water scarcity by tapping into core public values such as safety, health and family.

Messages: Technical Messaging Crowds out Values

In this audit, 23% of all messaging centers on climate change and science, by far the largest percentage of messages in a very scattered field. Again, while scientists are trusted messengers, in this case, their messages are problematic. Technical messaging on climate change and climate science is, by definition, remote from core values. It is not only inaccessible to most readers, but often obscures the local impacts of global warming on water scarcity

Only 4% of all messages in our audit center on water conservation. Among those conservation messages, policy-focused messages predominate, while positive, values-based conservation technology messaging is less than 1/8th of all conservation messages. The conservation messages stressing sacrifice are more frequent, with about ¼ of all conservation messages framed in this way. Solutions messages are also remarkably rare in this sample. Even in stories identified as falling into the "solutions" frame, only 9% of all messages even mention solutions.

Digital Media Audit

Our digital media audit demonstrated that the very low profile of the climate/water nexus in the news media corresponds with an even lower profile in the blogosphere and social media worlds. Aside from technical discussion on blogs, and a low level of discussion of catastrophe stories, we found very little conversation around the water/climate linkage. Again, this relative dearth of discussion points toward an opening for advocates to harness the power of the social media world to inform, educate and galvanize natural constituencies for solutions-oriented water policies.

Polling Synthesis

Our synthesis of existing public opinion data illuminates the public opinion landscape, and informs what current media coverage means to most Westerners. Given that so little coverage exists, through what lens do Westerners perceive the current coverage, and how can resonant messaging be crafted?

	AZ	CO	NV	NM	UT	WY	**REGION**
Reality	54%	47%	48%	48%	45%	38%	**49%**
Unproven	43%	47%	44%	44%	47%	53%	**46%**

From a 2008 poll asking if respondents felt global warming was a proven reality or not yet proven.

Westerners: Global Warming is Not a Threat

Our polling synthesis is definitive: Westerners are evenly divided on the reality of anthropogenic global warming and do not see climate change as a threat to their communities. Looking at the American population more broadly, this percentage holds true. Recent focus groups with local officials from throughout the Southwest indicate that these policymakers are acutely aware that their constituents do not understand the reality of climate change. As one Phoenix official said, "I just want to mention again that…'climate change,' that phrase is an obstacle. It's too big. It has to be [called] 'sustainability' at the smallest level and probably up to the regional level."

Drought is Normal

Westerners clearly understand that water is scarce throughout the region. In one recent West-wide survey, over 50% of respondents believe that water supplies will not meet future needs. But Westerners may understand drought too well – as a fact of life in our arid region – instead of as a growing, climate-change-induced threat to our economy and communities. According to poll after poll, Westerners do not prioritize dealing with drought. In a recent Nevada survey, only 3% of respondents thought drought and water should be state government's top priority. This paradox presents a key challenge: how to shift public understanding from a view of droughts as routine, passing events to a critical, possibly permanent regional hazard.

Climate/Water Linkage Weak but Growing

Despite the paucity of media coverage linking global warming and drought, some Westerners are starting to make the connection between the two. One recent survey found that California residents blame natural weather patterns – not global warming - for the state's current drought by 50% to 40%. However, another statewide poll shows that 62% of respondents believe that global warming *may* cause a reduction of the state's water supply. This data is reflected in other statewide polls; Westerners can imagine that climate change will have an impact on water supplies in the future, even if it does not today.

"I just want to mention again that…'climate change,' that phrase is an obstacle. It's too big."

Phoenix Local Official

Water Limits are Popular

Polling results strongly suggest that Westerners do support limits on water

availability, especially for those who do not already have access. One 2004 Nevada poll showed 75% support for existing drought restrictions, and even higher levels of support for limiting new construction until drought restrictions eased. Similar results held in an Arizona poll.

Westerners Misunderstand Existing Allocation, Support Conservation

There is a fundamental misunderstanding of the existing water allocation throughout the region. One 2008 survey showed Westerners believing that households and industry use over 43% of Western water, to irrigated agriculture's 20%. Support for various conservation measures is strong, however, with nearly 70% of Westerners supporting restrictions on public and private landscape irrigation for short term conservation. For longer term water savings, Westerners show moderate support for increases in storage capacity, as well as for limits on landscaping.

Powerful Messengers: Earthquake, Water Engineers and Farmers

According to a recent California-wide survey, water and earthquake engineers and family farmers are the most persuasive messengers of water issues. This opinion may not hold in other states, where further research should certainly be done, but it suggests an important consideration in selecting messengers for possible water/climate policy initiatives.

Key Questions/Recommendations

Deploy Values-Based Messaging

Messages that speak to the core values of family, health, safety and prosperity resonate with audiences. In contrast, messages centered on science and policy, without a connection to underlying values, do not. Framing all climate/water messaging in terms of core values – for example linking climate change-induced drought to threats to the livelihoods of recreationists and local business people - will be especially valuable in this context, where the linkage between the two issues is so underdeveloped.

De-normalize drought

An understanding of drought as a regular, and therefore not particularly threatening, part of Western life lies at the heart of Westerners' current understanding of water use in the region. In order to galvanize public understanding of, and support for, adaptations to climate change, this perception must shift. How to catalyze that shift is a key question for advocates, water managers, conservationists and decision-makers. From a communications standpoint, however, one thing is clear: telling the stories of local impacts will be essential.

Bring Local Impacts Home

The public at large cannot be expected to understand the linkage between climate change and water scarcity without compelling, visual, values-based storytelling.

Drought is currently devastating parts of the West, but the global warming dimension of this narrative is obscured. Communications strategies and policy initiatives can highlight this devastation, empower the voices of those who are experiencing it every day in their communities, and strengthen the connection in the public mind between climate change and water scarcity. As importantly, climate research at the local level can be deepened to support these efforts, and to help Western communities prepare for changing weather.

Strengthen the Messengers

The power of messengers lies not only in their resonance, but in the role they can play in any given frame. In the current landscape of climate change and water coverage, scientists, though essential, must be supported by a diverse cast of messengers. Only a wide range of voices - particularly community members, business people, farmers, engineers and water managers - can powerfully convey the notion that global warming is changing the terms of the debate of over water use in the West.

Frame: Climate or Sustainability

Given the low level of understanding of global warming among Westerners, a real question arises about whether to present water scarcity in the West within the climate change frame. Framing the water scarcity issue as a global warming problem might hurt its profile, and the ability of policy makers and the public to understand its scope and support solutions. However, not framing the issue as one of climate change means advocates would miss an opportunity to drive home its local impacts. The frame in which to present the climate/water nexus is an important strategic question for

stakeholders to examine as specific policy initiatives move forward.

Tap the Power of Social Media

The water and climate conversation is missing from social media world of Facebook, MySpace and the blogosphere. But social media outlets are prime territory for grassroots outreach to non-traditional allies and local voices throughout the West. Skiers, businesspeople, recreational boaters, innovative farmers, hunters and anglers – there are many natural constituencies that are already highly active in the social media world.

Conservation Frame: Sacrifice or Technology

How conservation is framed will inform how the public understands sustainable solutions to the climate/water crisis. Americans have a deep and abiding faith in technology and the can-do spirit. Animating conservation messages with this core value will increase their traction. Conversely, framing conservation as a sacrifice is not likely to galvanize public support, and may increase the fatalism associated with attitudes toward climate change.

Harnessing the American Conservation Ethic

Our polling synthesis bears out what many water agencies already know: when Americans "get" conservation, they not only practice it, they believe in it. Further research could unearth a deeper understanding of what motivates Americans to conserve, and thus strengthen efforts to increase conservation. Polls clearly show that the era of unlimited water for all who want it is over in the West. The power of the American conservation ethic can be harnessed and magnified by smart messaging and strategic use of messengers.

Appendix 1 – Outlets Searched

California
The San Francisco Chronicle
The Los Angeles Times
The Contra Costa Times
The Sacramento Bee
The San Diego Union-Tribune

Colorado Basin
Arizona
The Arizona Republic
Colorado
The Rocky Mountain News
The Denver Post
New Mexico
The Albuquerque Journal
Utah
The Salt Lake City Tribune
Nevada
The Reno Gazette
The Las Vegas Review-Journal

Northern Rockies
Idaho
The Idaho Statesman
Montana
The Missoulian
The Billings Gazette
Wyoming
The Laramie Boomerang
The Caspar Star Tribune
The Cheyenne Tribune Eagle

Northwest
Oregon
The Oregonian
The Salem Statesman-Journal

Washington
The Seattle Post-Intelligencer
The Seattle Times
The Spokane Spokesman Review

Appendix 2 – Search Terms

California: Water and Drought and Climate Change
Colorado Basin: Water and Drought and Climate Change
Northwest: Water and Policy and Climate Change
Northern Rockies: Water and Climate Change, Water and Global Warming

Appendix 3 – Interviews

Sarah Bates – Senior Fellow, Public Policy Research Institute, University of Montana.
Carl Bauer – Associate Director, University of Arizona Water Resources Research Center
John Fleck – Science Reporter, Albuquerque Journal
Pat Ford – Executive Director, Save Our Wild Salmon
Gregg Garfin – Deputy Director, Science Translation and Outreach, Institute for the Study of Planet Earth, University of Arizona
Sterling Grogan – Biologist/Planner, Middle Rio Grande Conservancy District (Ret.)
Lillian Kawasaki – Director, Water Replenishment District of Southern California, former Assistant General Manager, Department of Water and Power
Doug Kenney – Director, Western Water Policy Program, University of Colorado
Shaun McKinnon – Reporter, Arizona Republic
Philip Mote – Climate Impacts Group, University of Washington
Jonathan Overpeck – Co-Director, Institute for Environment and Society, University of Arizona
James Pritchett – Associate Professor, Department of Agricultural and Resource Economics, Colorado State University
Bradley Udall – Director, Western Water Assessment, NOAA Earth Science Research Laboratory
Anne Watkins – Special Assistant to the State Engineer, New Mexico Office of the State Engineer (Ret.)