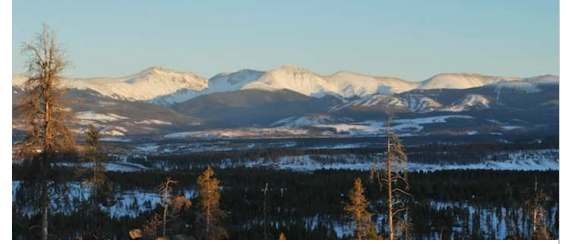


CLIMATE CHANGE

Engaging Future Uncertainty and Climate Skeptics in the American West



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Though global climate trends are well established and some places are experiencing substantial impacts already, there is still considerable uncertainty at the local level about the future implications of climate change. Even more problematic, climate change adaptation research and practice still confront widespread skepticism and denial of climate science, particularly in the US. In this short report we briefly describe how an ethnographically inspired method called “Multi-scaled, Iterative Scenario-Building” (MISB) allowed us to find new pathways to engage communities in imagining futures under uncertainty and forge past politically-charged denial and skepticism towards adaptive engagement in the American Intermountain West.



Fraser Vally, CO. Photo courtesy Carina Wyborn

The research method we developed grew out of an effort by the USDA Forest Service and specifically the Rocky Mountain Research Station to assess community vulnerability and adaptive capacity to climate change. Through a series of workshops and discussions, we highlighted the need for a research agenda that: (1) integrates various forms of knowledge, (2) orients our concern towards the future of climate change, (3) works across scale both ecologically and socially, and (4) permits emergence and embraces uncertainty. Lastly, we also privileged a landscape focus. In other words, rather than zeroing in on a specific hazard or a vulnerable group, we sought to represent the pervasive, potentially transformative threat that climate change poses in specific places. As a result of these guiding principles, we designed a research methodology that engages community members of various stripes in a scenario-building process, a kind of collaborative story-building in which constraints and opportunities, dispute and synergy unfold in locally meaningful ways.

The process began with the development of three probable narratives of future landscape change by a team of bio-physical scientists including expertise in climatology, hydrology, and aquatic and terrestrial ecology. These landscape specific narratives were then presented to various representative participants in our two research sites, communities of Grand County, Colorado, and communities of the upper Big Hole Valley, Montana. Participants were asked to describe how these changes might impact their communities and how their communities might respond. These responses were then written back into the narrative in concert with the bio-physical team to reflect the kinds of socio-ecological feedback and path dependencies that might emerge. The rewritten narratives were then presented to separate focus groups of ranchers, outfitters, federal and state agency representatives, small business owners, and community members. These focus groups reflected on and revised the narratives, which were then finally presented to a broader community meeting.

In our analysis, we found not only considerable differences between the way the two communities engaged the scenarios, we also found that each scenario unfolded in radically different ways even within the same landscape. For instance, in the Big Hole, one of the scenarios posed a threat to the community's continued existence while another was widely viewed as an opportunity for community growth. In Grand County, we found that although water concerns exhibited a centripetal pull on the direction of the process, each scenario resulted in a different set of concerns for the various constituencies. Moreover, one of the interesting findings of the research was that we found that climate deniers and skeptics were willing to engage in this process.

Perceptions of climate change among the research participants, much like the rest of US society, ranged from furious denial to apathy to unquestioned embrace

but all participants recognized the changing climate that drove the scenario narratives. In these initial impressions, participants mobilized a variety of frames for interpreting the climate change they saw in the narratives. For instance, though some participants utilized popular media frames, we found that most, even skeptics and deniers, filtered these changes through their own experiences. Some described the lack of deep winter temperatures, reduced snowpack, and shifts in wildlife such as the sudden arrival of pronghorn and the disappearance of moose in the Big Hole. In other instances, participants dismissed the change by identifying the descriptions as analogs of past or current conditions. Participants in Grand County, for instance, argued that “we’ve been there, done that” and its “the roller coaster we have ridden for years”.

Yet beyond these initial impressions of the climate change driving the narrative, we learned that skeptics and deniers, like other participants, found entry points in which to interpret and respond to the broader changes presented to them. In particular, the specificity of the landscape changes described in the initial scenarios were meaningful to participants because they were recognizable. In other words, rather than an amorphous, image-driven threat of global climate change, participants could see how the descriptions of change matched their landscape. In fact, a common refrain from participants, even deniers and skeptics, was that “there is truth” in the narrative descriptions. Additionally, we found that as the process moved forward, particularly in the second round of focus groups, many of the participants as well as deniers and skeptics become increasingly engaged. In particular, we found that impacts to community, landscape aesthetics, and place attachment served as key points of entry for participants.

For example, participants from the Big Hole stated that given the conditions described in one of the scenarios (deep summer drought, reduced snowpack) the loss of forage production for summer grazing and water production for flood irrigation of hayfields would reduce the carrying capacities of the ranches resulting in a cascading series of effects including the consolidation of ranchland, the loss of small ranching, subdivision, reduced employment, collapse of small businesses, and the retraction of government services including schools and postal service. In short, participants saw community collapse with one participant stating, “it would no longer be the Big Hole.” Across the interviews participants also articulated a wide-scale unraveling of the relationships that make up the character of the community both in material and non-material ways. One participant argued that the Big Hole consisted of “symbiotic” relationships and the conditions described in the scenario would put the balance of those relationships at risk. Others pointed out that those conditions would sever their historical engagement with and attachment to the land. In Grand County, given the tourism base of their economy, we found landscape aesthetic played a similar role.

However, there were limits to some participant’s engagement. Though most were willing, we also found this was less the case in Grand County. Participants there seemed less capable of envisioning the timescales in the narrative, whereas residents of the Big Hole eagerly engaged in responding and articulating the implications of those responses. Some of this was due to more ardent skepticism and denial of climate change in Grand County, but overall we hypothesize that the distinctions between the two communities, one comprised of multi-generational family ranches reflecting deep engagement with the land (Big Hole) and the other comprised primarily of recent arrivals (Grand County), resulted in these differences. Moreover and perhaps more importantly, we also found that an individual’s capacity to engage in this process was mediated by other factors including how they are positioned as decision-makers and their capacity to perceive and respond to risk and uncertainty in general.

Participants across the case study sites were capable of recognizing a variety of threats and hazards, identifying the socio-ecological relationships that were vulnerable, and assessing the capacity of various actors and agencies, across scales, to respond to them. However, we found that the practical, everyday space in which participants make decisions greatly impacted their ability to deepen their engagement as the process progressed. For instance, some participants, namely ranchers, were particular adept at delineating the risks posed by the described conditions and were creatively pro-active in their responses. In contrast, we found that representatives from state and federal management agencies were considerably risk averse and not proactive offering passive responses such as “we need more science”. Moreover, we found that the biggest obstacle in building the scenarios occurred when bureaucratic risk aversion was coupled with climate change denial and skepticism.

Overall, skeptics and deniers engaged the process because it reflected uncertainty, empowered them to play a creative role in their own futures, and because as the scenario process unfolded, the implications of not responding or not engaging were great. Most importantly, the process was meaningful because it reflected threats to the immediate world in which they are enmeshed. Given these findings, we think research on skepticism itself might be less critical than previously thought. In fact, we found other issues to be more salient problems such as a sense of response paralysis primarily due to scalar barriers, obstacles, and uncertainties related to governance. This suggests that improved science and science communication, though important, might not be as necessary for communities to navigate uncertain climate futures as is currently assumed, though it is critical at the bureaucratic level. As a result, we argue that, in some places, adaptive action can likely be achieved without sufficient agreement on the nature or cause of a changing climate and that refinement of science should not come at the expense of action.

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