RANCHING WITH DROUGHT IN THE SOUTHWEST: A WORKSHOP REPORT AND INVITATION TO PARTICIPATE

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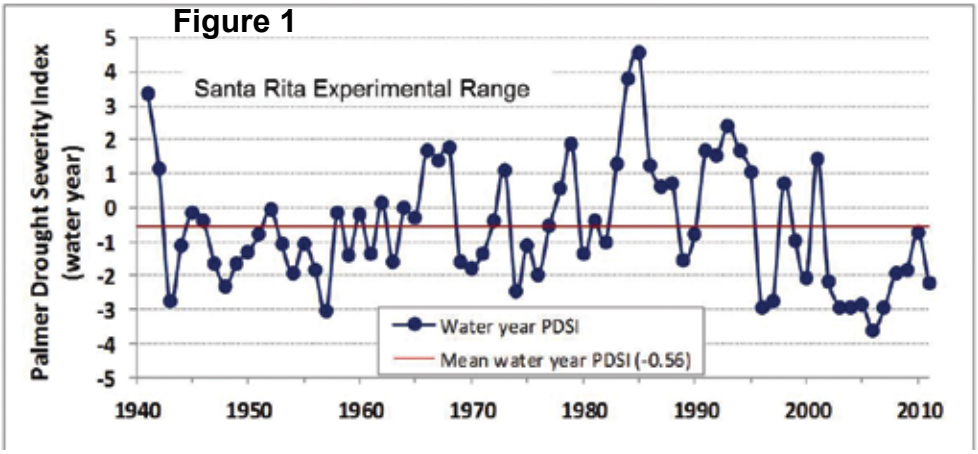
"I've had two ranching careers. One of them was from the late seventies to the mid-nineties, and the other one has been since then. They were very, very different. And I operate different. Took me – you know, it was like a two-by-four between the head the first few years – to realize this drought isn't going to go away. But I made the adjustment. If I have to do any further adjustment that could be a problem, but I'm sure we'll figure something out. But there are people who didn't. They just stuck with the same numbers and they just fed 'em and fed 'em and fed 'em, waiting for these big years to come back. And they had to sell their ranches."

Figure 1



This is a quote from a rancher who attended a workshop, called "Ranching with Drought in the Southwest: Conditions, Challenges, and a Process to Meet the Challenges," held February 27 and 28, 2013 on the Santa Rita Experimental Range near Tucson, Arizona. The quote describes the challenges that current drought conditions present to ranchers in the Southwest. The workshop was organized by the University of Arizona (UA) and attendees included ranchers from Apache, Cochise, Coconino, Gila, Pima, Santa Cruz, and Yavapai Counties, representatives from the Forest Service (USFS), Bureau of Land Management (BLM), Natural Resources Conservation Service (NRCS), and Arizona State Land Department (ASLD), program managers from USDA and National Oceanic and Atmospheric Administration (NOAA), University of Arizona research and extension scientists and students, and guests from the Southeastern US and California. This article describes the purpose of the workshop and its key outcomes, and it is an invitation to participate in a new program that address the challenges of ranching with drought in the Southwest.

Reasons for the workshop

The region is currently experiencing extraordinary drought conditions that began in the late 1990s and rival any in the instrumental record. Figure 1 shows the Palmer Drought Severity Index, a combination of precipitation and temperature, for the Santa Rita Experimental Range since 1940. It shows that ten of the fourteen driest years since 1940 have occurred since 1995. Figure 2 is the current Seasonal Drought Outlook for the region, which shows that the drought is not going to end any time soon. Projections of longer-term drought (more than 10 years) are supported by patterns of sea-surface circulation and temperatures in both the Atlantic and the Pacific oceans, which is reminiscent of conditions during the drought of the 1950s. Therefore, a decade or longer of continued drought conditions is not out of the question. While Southwest ranchers have been remarkably successful in adapting to drought, new strategies may be needed in the face of more extreme drought conditions.

Developing new strategies is challenging because ranching systems in the Southwest are extremely complex, as Figure 3 indicates. They include bio-physical and economic

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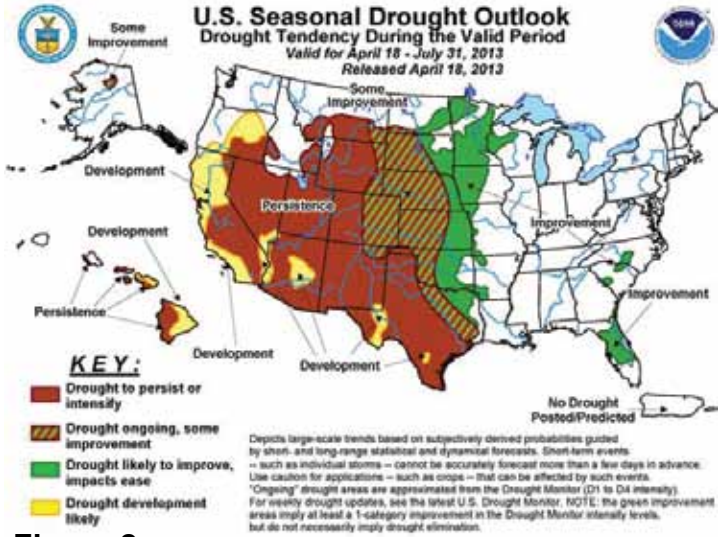
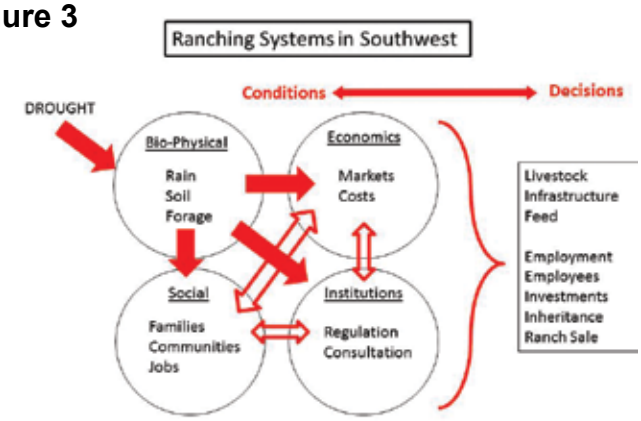


Figure 2

...Continued from page 17 Range Workshop

Figure 3



factors, such as rain, forage, and markets, as well as the government institutions responsible for managing public lands, and the livelihoods of rural communities that provide employees, schools, and other services, all of which are impacted by drought. Decisions about livestock management include not only the rancher, but the public land management agencies (USFS, BLM, and ASLD), as well as the consultative and cost-sharing providing by the NRCS. Developing new strategies to improve preparation for and response to drought will require the participation and collaboration of all parties - ranchers, land management agencies, extensionists, and scientists – in a "co-development" process that will ensure the relevance, usefulness, and viability of these strategies (Figure 4). Including all these parties in the co-development process provides a format where all can learn from 1) the ranchers' long-term experience of meeting challenges of drought, 2) the land management agencies' requirements in their decision processes, 3) the coordinated planning cost-sharing expertise of the NRCS, and 4) the new information available from research and extension. The workshop brought these parties together to begin to design and initiate a co-development approach to developing strategies for ranching with drought in the Southwest.

The workshop was organized as informal discussions in which ranchers, agency managers, and other participants shared their experiences with the challenges of drought and then used this understanding to begin to describe what a co-development process for ranching with drought in the Southwest would look like. As a way of introduction, the workshop included presentations by two groups of researchers, extensionists, and farmers from the Southeastern US and California who had experiences with similar processes. In addition, managers from funding programs in USDA and NOAA were invited to suggest where the group might obtain funds to support the process.

Workshop outcomes

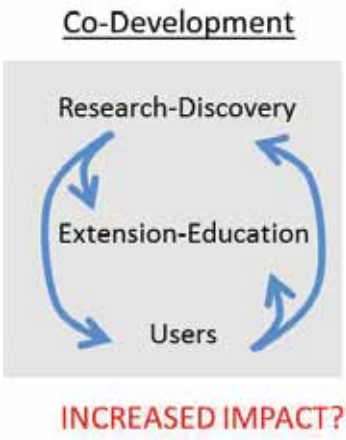
The key outcome was that improving preparations for and responses to drought will require developing better communication and relationships among ranchers and agencies. One way to do this would be "scenario planning," in which ranchers and agency personnel consider and discuss possible actions that could be taken under a range of possible future drought conditions and how to be prepared to take those actions. Some participants compared this to emergency preparedness training where hospitals, police and fire departments coordinate their responses to a simulated disaster, and lessons from the simulation are used to improve existing infrastructure as well as procedures for responding to future disasters. With the understanding gained from scenario planning, it would be possible for ranchers and agencies to co-develop drought management plans for the lands managed by the agencies, reducing the uncertainty that both ranchers and agencies face under drought conditions.

Participants also identified other activities that a co-development group could address, including

- learning how to interpret seasonal and longer-term weather forecasts;
- identifying trigger points for action in drought plans;
- developing and sharing a list of drought planning and response tools; and
- performing research to evaluate innovative practices applied by ranchers.

Finally, participants felt that there is an urgent need to encourage and support the next generation of ranchers, agency managers, extensionists, and researchers, and that including them in a co-development process would provide mentorship and continuity of place-based knowledge within agencies and the ranching community.

Figure 4



Next steps

The workshop organizers – Mitch McClaran, University of Arizona (UA) Professor of Range Management and the Director of Research at the Santa Rita Experimental Range; George Ruyle, UA Range Management Extension Specialist; Mike Crimmins, UA Climate Science Extension Specialist, and Julie Brugger, a social scientist with UA Climate Assessment for the Southwest – are now in the process of evaluating the workshop and considering next steps.

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