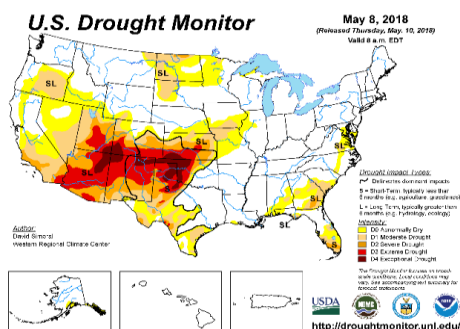


Summary: Drought was identified by the CSU Extension Range Technical Team as a high priority for workshop topics in 2017. The drought committee worked to develop and implement five range drought management workshops in Western Colorado/New Mexico in the winter of 2017/18. We focused on drought management skill-building for ranchers (managing extensive rangelands/farmlands, including both private, public lands) and other range managers. Skills covered included preemptive (planning for drought and maintaining flexibility), real-time (employing adaptive strategies during drought), and post-drought adaptation. Over 185 ranchers, public land managers, and other community members attended the five, 3 hour workshops.



Workshops Completed (Number attending)

- San Juan Basin Beef Symposium, Farmington, NM (70)
- Rifle, CO (18)
- Montrose, CO (15)
- Durango, CO (70+)
- Dove Creek, CO (12)

CSU Range School Drought Workshops Report May, 2018

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COLORADO STATE UNIVERSITY
EXTENSION

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USDA Northern Plains Climate Hub
U.S. DEPARTMENT OF AGRICULTURE

FIND WORKSHOP MATERIALS ONLINE:

[HTTP://RANGEMANAGEMENT.EXTENSION.COLOSTATE.EDU/DROUGHT-
WORKSHOP-MATERIALS-2-0/](http://rangemanagement.extension.colostate.edu/drought-workshop-materials-2-0/)

Tech Team drought committee:

Chairs: Retta Bruegger (CSU),
Hailey Wilmer (NPCH)

CSU and CSU Extension: Anna
Clare Monlezun, Paul Meiman,
Bruce Fickenscher, Caitlin Horne,

Kevin Jablonski

NRCS: Julie Elliott

Forest Service: Sheila Lamb



Darrin Parmenter, La Plata
County Extension, CSU
Durango, CO

David Nix, Administrative
Officer, USDA-FSA/USDA-
Northern Plains Climate Hub

Jenny Beiermann, Agriculture
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Specialist- Western Region, CSU
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Marcella Fremgen, Private
Lands Range Ecologist, Bird
Conservancy of the Rockies,
Montrose, CO

Robin Young, Archuleta County
Director, CSU Extension

Additional Collaborators:

Amber Wyndham, Soil
Scientists, USDA-
NRCS/Southwest Climate Hub

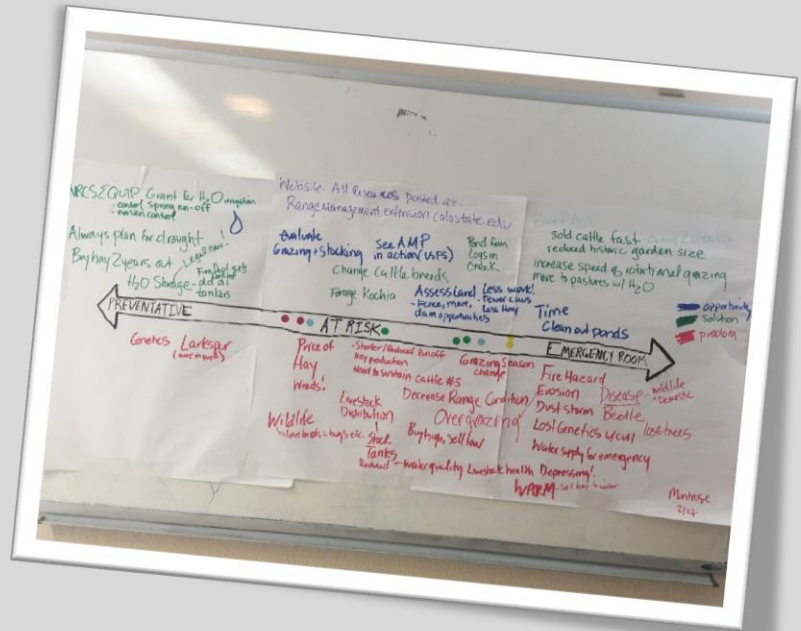
Bonnie Hopkins, Agriculture
Agent, San Juan County, NM
Brian Miller, North Central
Climate Adaptation Science
Center, CSU

Dannele Peck, Director USDA-
Northern Plains Climate Hub

Participant learning objectives:

- **Describe** 2 possible scenarios for drought in your area and then **investigate** how those drought scenarios might impact your ranch at different time scales and with other uncertainties.
- **Describe** 2 "triggers" or indicators of drought on your ranch.
- **Identify** 2 resources and/or tools that exist for drought planning and risk reduction.
- **Write** one goal and one objective related to drought management on your ranch.
- **Identify** strategies that can help reduce risk before, during or after drought (1 each).
- **Identify** 2 example thresholds for decisions in drought management.
- **Describe** the steps for drought planning and discuss how you might apply them to your operation.

Drought Spectrum (right): The workshop format was iterative and adapted throughout the winter. To connect with participants' existing knowledge and experiences in drought, we started with a discussion of the local drought memories, including challenges and solutions. We recorded the discussion on chart paper at the front of the room. Next, the group identified current drought conditions ("wet year", "at risk" or "emergency room") and we began our presentations at that place on the drought spectrum.



Workshop Content:

Pre-workshop self-evaluation of drought preparedness (not collected)

Group identification of local drought conditions, issues, and solutions

Flexible grazing strategies

Weather and climate decision-tools

USDA programs

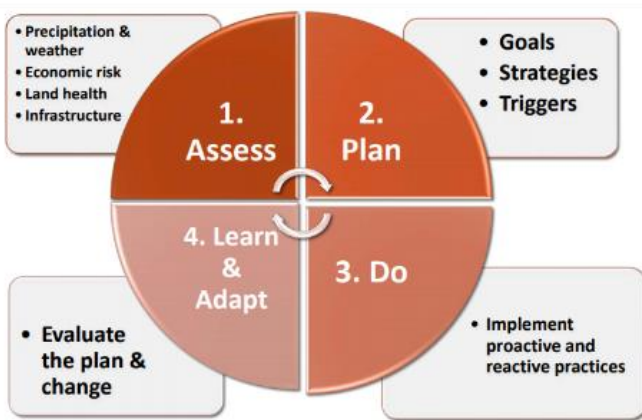
Goal setting and drought planning

Triggers and threshold identification for drought management

Risk management decision-tools (Jenny Beiermann)

Post-workshop self-evaluation (not collected) and CSU evaluation

Making a drought plan



Drought planning process (above) includes iterative steps to improve learning and adaptation to complexity.

NEXT STEPS: Because drought is an anticipated challenge in Colorado ranching, we would like to continue to improve and deliver high quality drought management programming across the state. In the next year we plan to:

- Implement evaluation feedback and work to improve evaluation processes.
- Implement Eastern Colorado workshops (Summer/Fall 2018).
- Host a NPCH "Flexible Stocking Summit" in Nunn (August).
- Integrate drought planning process into Collaborative Adaptive Rangeland Management Experiment (Ongoing with ARS, Nunn).
- Launch a social media campaign (NPCH mini grant).
- Collaborate with University of Wyoming and Montana State Extension to pilot short course on adaptation planning (Winter 2018/19) (if funded).
- Create opportunities for additional collaboration with Extension educators around Colorado as local needs arise.

EVALUATION SUMMARY (Montrose, Rifle, Dove Creek and Farmington)



Fig. 1 Participant (n=34) self-reported knowledge of drought management topics before and after the CSU Drought workshop. (1=no knowledge, 5=expert knowledge).

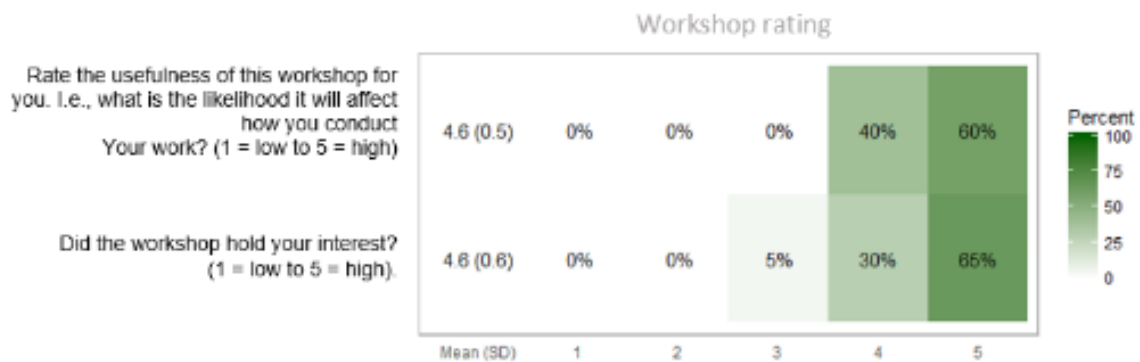


Fig. 2 Participant (n=34) workshop ratings.