








The Drought Learning Network and Transboundary Drought




1 October 2020
Emile Elias
USDA Southwest Climate Hub

North American Drought Monitor

August 31, 2018

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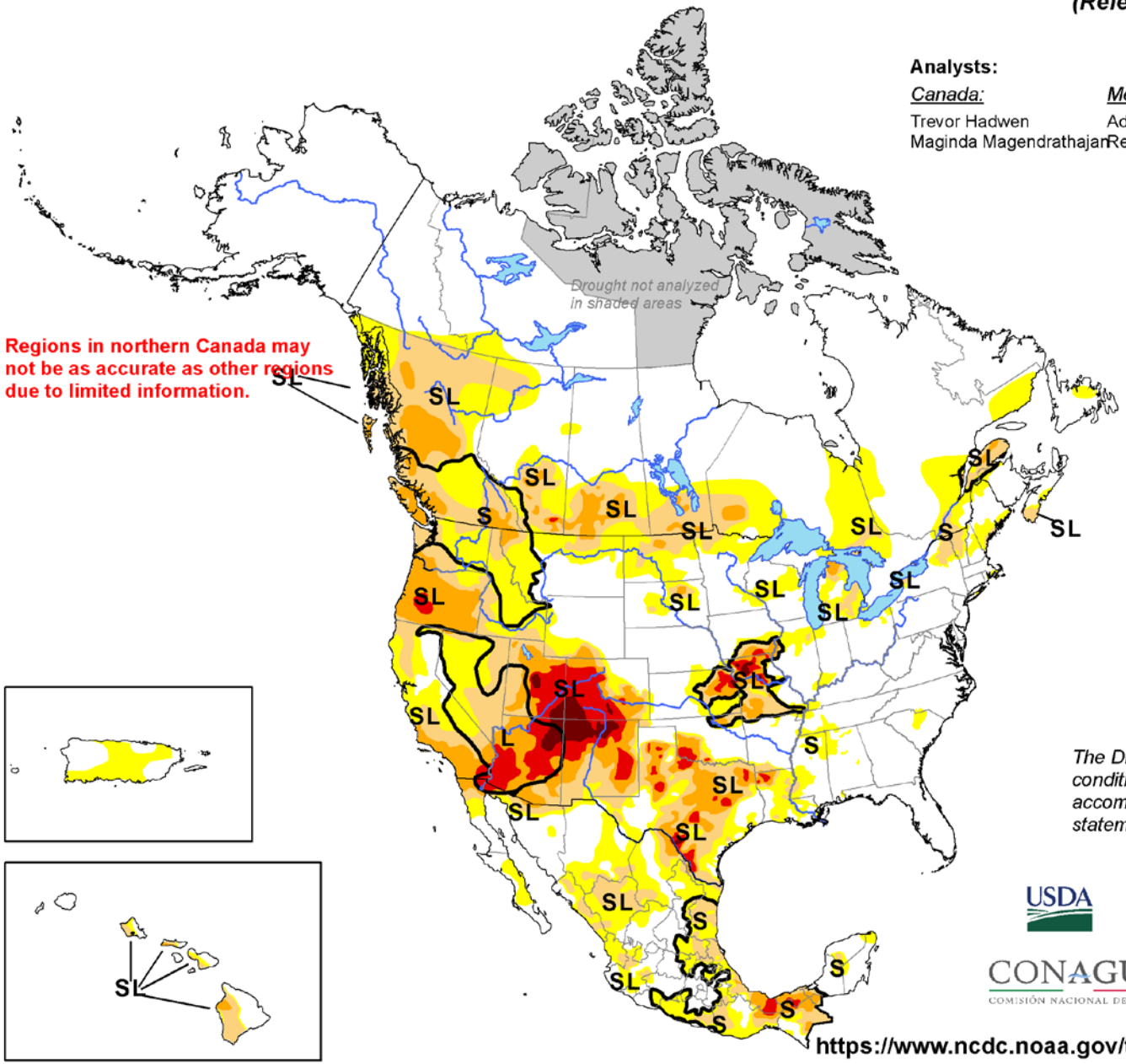
Analysts:

Canada:	*Mexico:*	*USA:*
Trevor Hadwen	Adelina Albanil	Jessica Blunden*
Maginda Magendrathajan	Reynaldo Pascual	

(Responsible for collecting analysts' input & assembling the NA-DM map)*



Intensity

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

Drought Impact Types:

Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

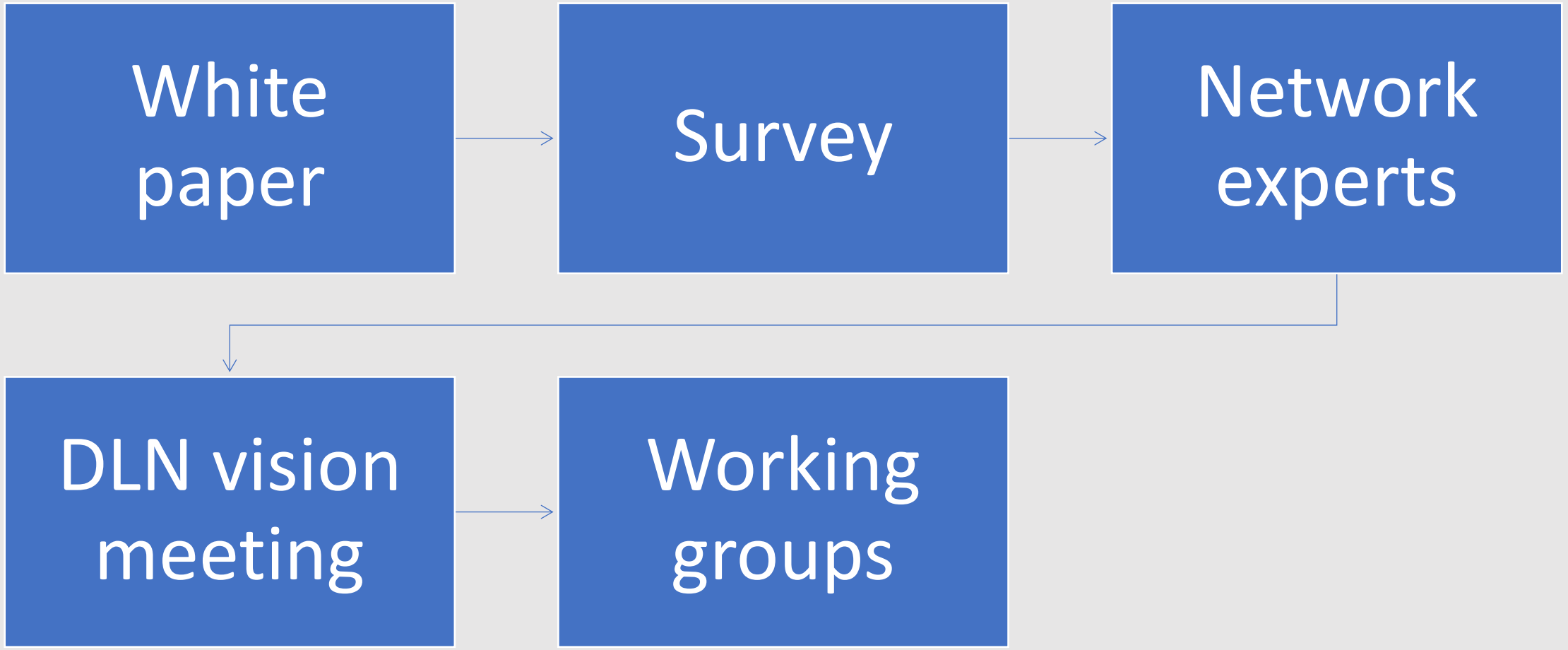
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

USDA NDMC CONAGUA COMISIÓN NACIONAL DEL AGUA Agriculture and Agri-Food Canada Agriculture et Agroalimentaire Canada Environment and Climate Change Canada Environnement et Changement climatique Canada

https://www.ncdc.noaa.gov/temp-and-precip/drought/nadm/

Development Process



Components to consider

- Case studies: For managers who recently experienced extreme/exceptional drought.
- Resilience reporter for communities and managers: A place for land managers to report efforts structured with specific information, including cost, efficacy and evaluation.
- Hivemind listserv: Ask An Expert forum, with rapid responses from the community, for members of the public and resource managers.
- Impact calendar to schedule knowledge exchange around a particular topic.
- Workshops and webinar presentations and workshop summaries.
- Drought management database.

Survey of Southwest U.S. Natural Resources Managers Administered January 2020 (est. 35% response rate)

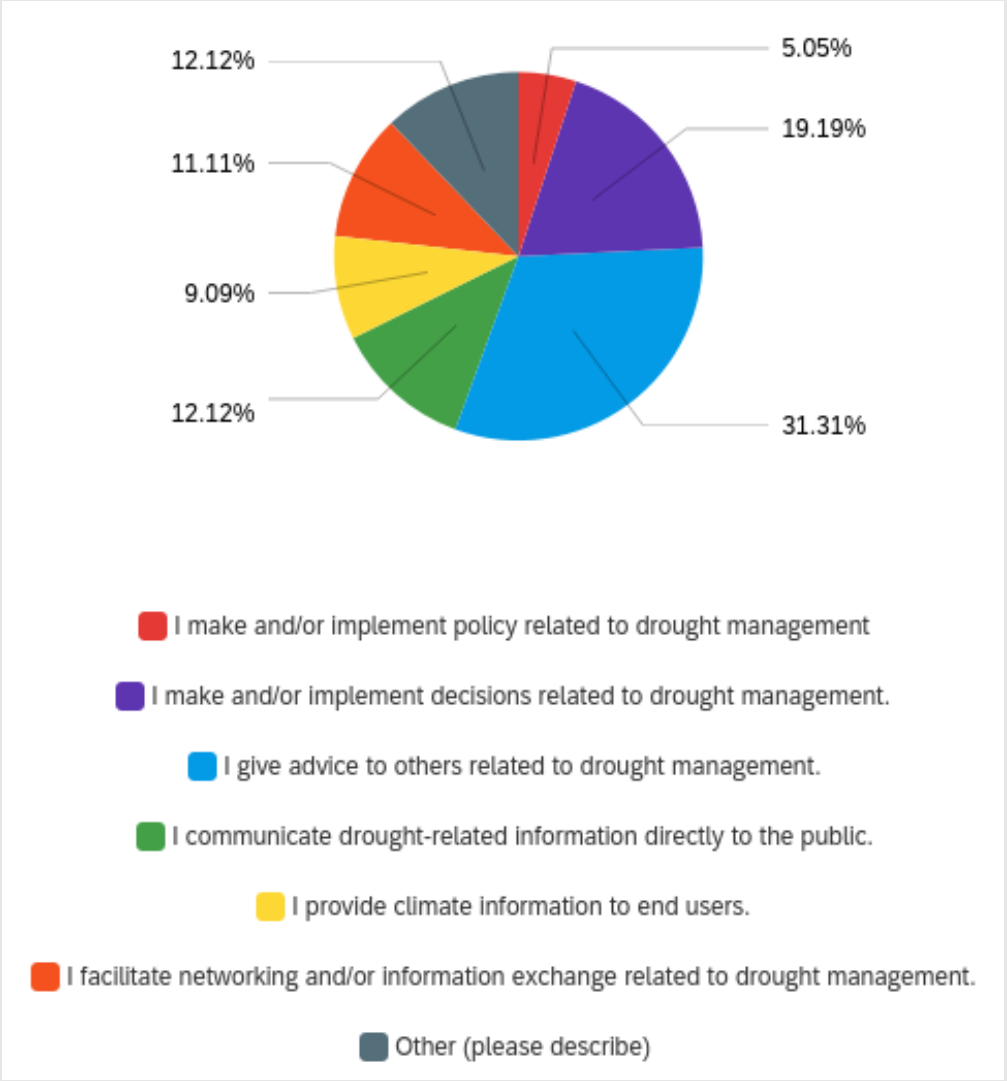
About the Respondents (n=60):

75% USDA and 7% Tribal agency

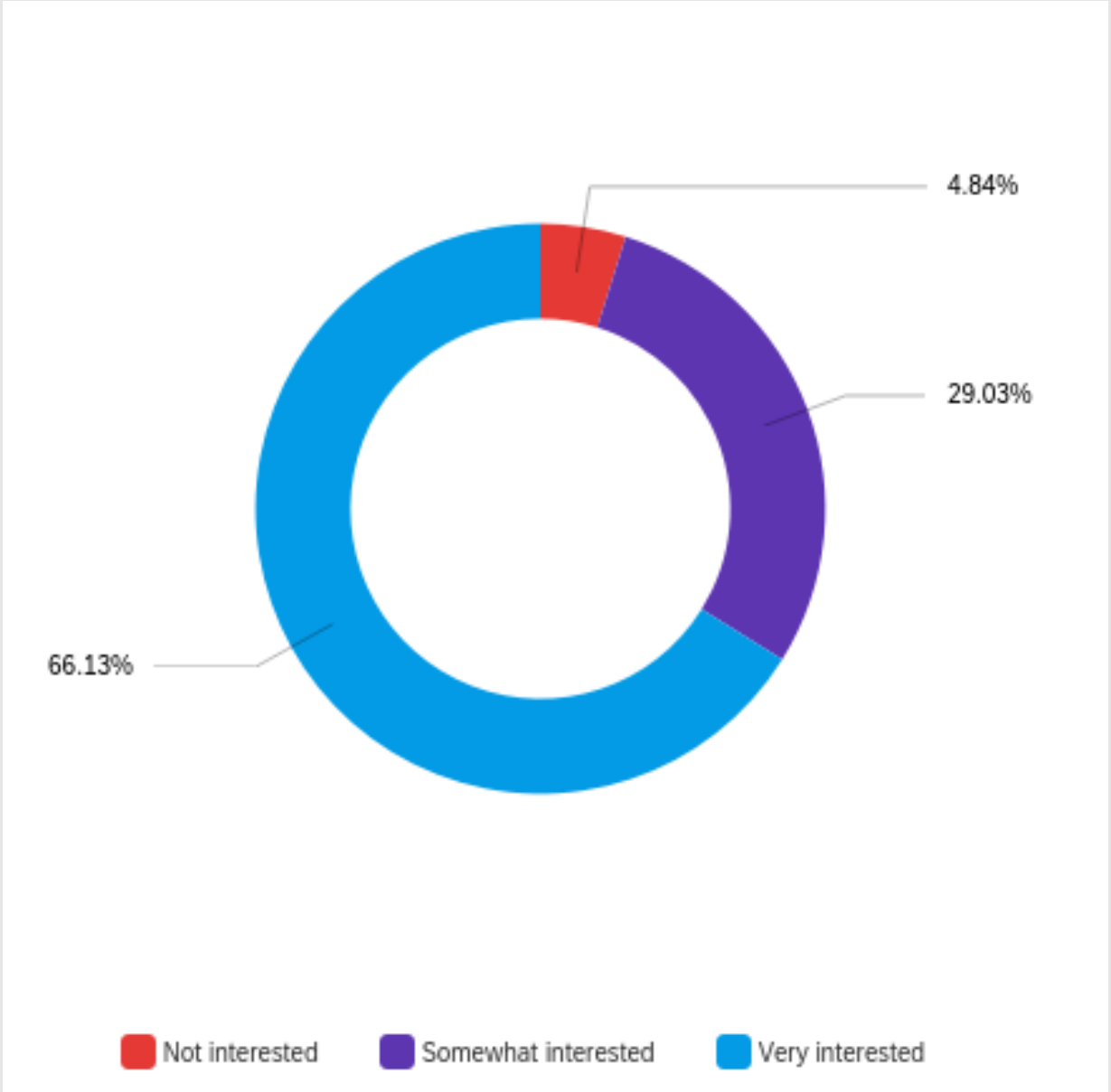
Representing New Mexico & Arizona
(+ some Colorado, Idaho, Nevada etc.)

Average of 18 years' experience (2-40 yrs)

Advice-givers (31%)
Decision-makers (19%)
Communicators (12%)



Interest in accessing information about best practices and lessons learned by other resource managers during recent droughts



Drought Learning Network Goals

a) foster knowledge exchange between managers and climate service providers in learning about community and researcher needs, resources, responses and knowledge gaps;

b) support the creation of self-directed peer-to-peer learning networks;

c) establish structures that are co-led by users to support the efficient and effective function of DLN to best respond to future drought.

Initial Working Groups

Sharing projections for management decisions

Case studies and best practices

Weather and climate resources for tribes

Beginning farmers and ranchers

Enhancing drought response in Utah

Case Studies

- Drought Mitigation through Land Management and Water Distribution for Wild Horses
- Rancher to Rancher: Building a Community for Conservation in Montana
- Heritage Cattle Genetics for Drought Resilience (Raramuri Criollo at the Corta Madera Ranch)
- Rangeland Restoration following Martin Fire in Reno, Nevada
- Decision-Making in Snow-Fed Arid-Land River Systems (Water for the Seasons project)
- Community Resilience to Drought Hazard: An Analysis of Drought Exposure, Impacts, and Adaptation in the South Central U.S.
- Native Waters on Arid Lands project
- Traditional Knowledge to Develop Habitat Restoration Plan (Shoshone Tribe at Boa Ogoi, Utah State U. students)

CCAST Case Study Dashboard

Select a category to filter the Case Studies.

Filter Case Studies by...

Topic

None

Stressor

None

Management Strategy

None

Ecosystems

None

Use Tabs to navigate Charts

Remember to deselect/clear filters

86

Total Case Studies

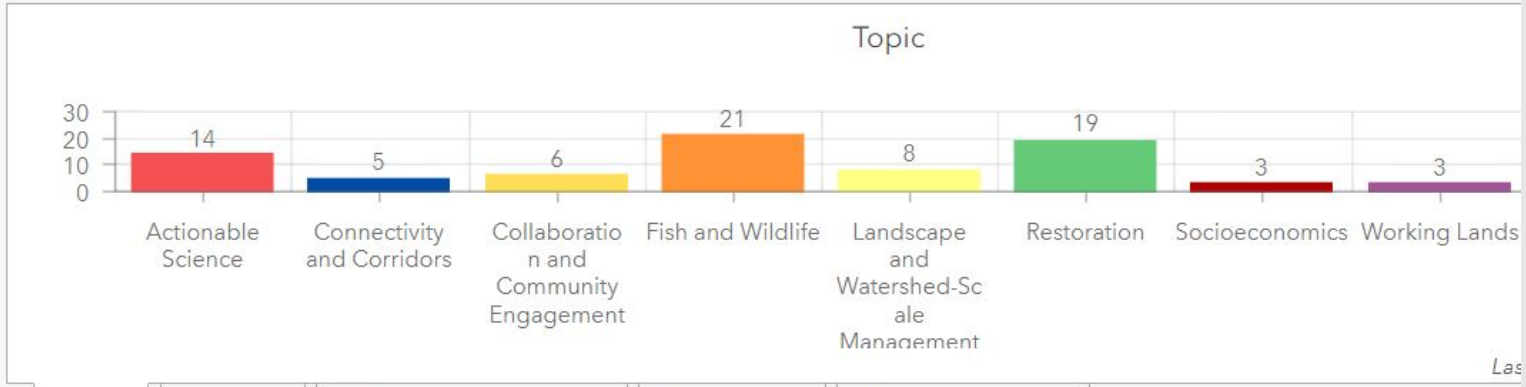
Last update: 2 minutes ago

6

New Case Studies

Salt and Verde River Reservoir Operations Pilot Study: Using Observed and Projected Climate

Last update: 2 minutes ago



Topic | Stressor | Management Strategy | Ecosystems | Major River Basin

2020 Activities

1). Projections to people: Fact-finding mission: Who uses drought products? If not, why not? Would people use the data and information if there was a tailor-made app?

2). Building a database of case studies and best practices: Build upon an existing case study database to author and deliver lessons learned to support peer-to-peer learning. Eight case studies underway.

3). Developing weather and climate resources for Tribes: Support peer-to-peer learning via weather condition webinars (5 webinars; ~300 people) *collaborative

4) Supporting beginning farmers and ranchers: Partner with the New Agrarian Program of the Quivira Coalition to host workshops with mentors and mentees on drought tools and planning.

5). Enhancing drought response in Utah: Workshop targeted to link rural drought conditions with the Utah Drought Task Force.

6). *NEW* - Responding to current drought – Eastern New Mexico- three webinars hosting farmers and ranchers (~344 people attended).

7). * NEW * - Monitoring station inventory – Pathways fellow with SC CASC

- Arizona State Climate Office
- Bureau of Indian Affairs
- Center for Climate Adaptation Science and Solutions
- City of Las Cruces
- Colorado Climate Center
- Columbia University
- Cooperative Extension
- Desert Research Institute
- East-West Center, Hawaii
- Fish and Wildlife Service
- Farm Service Agency
- High Plains Grasslands Alliance
- High Water Mark
- National Drought Mitigation Center
- Natural Resources Conservation Service
- Navajo Nation
- Nevada State Climate Office
- New Mexico Climate Center
- New Mexico Department of Agriculture
- New Mexico State University
- NOAA National Integrated Drought Information System
- NOAA National Weather Service
- NOAA RISA CLIMAS
- NOAA RISA Western Water Assessment
- Pueblo of Laguna
- Pueblo of Santa Ana
- Quivira Coalition
- Rio Grande Agricultural Land Trust
- Rio Grande Joint Venture
- South Central Climate Adaptation Science Center
- Southwest Climate Adaptation Science Center
- Texas A&M
- United States Geological Survey
- University of Arizona
- University of Nebraska - Lincoln
- University of Nevada - Reno
- US Army
- USDA California Climate Hub
- USDA Farm Production and Conservation
- USDA Forest Service
- USDA Northern Plains Climate Hub
- USDA Northwest Climate Hub
- USDA Southern Plains Climate Hub
- USDA Southwest Climate Hub
- Western Regional Climate Center

Keys to success and next steps

- Collaborative ethic
- Collaboration software
- Leveraging existing systems
- Working groups with leadership teams
- Flexibility to respond to emerging drought
- Shared ownership
- Quarterly meetings featuring one working group
- Annual meeting

Transboundary Research Collaboration

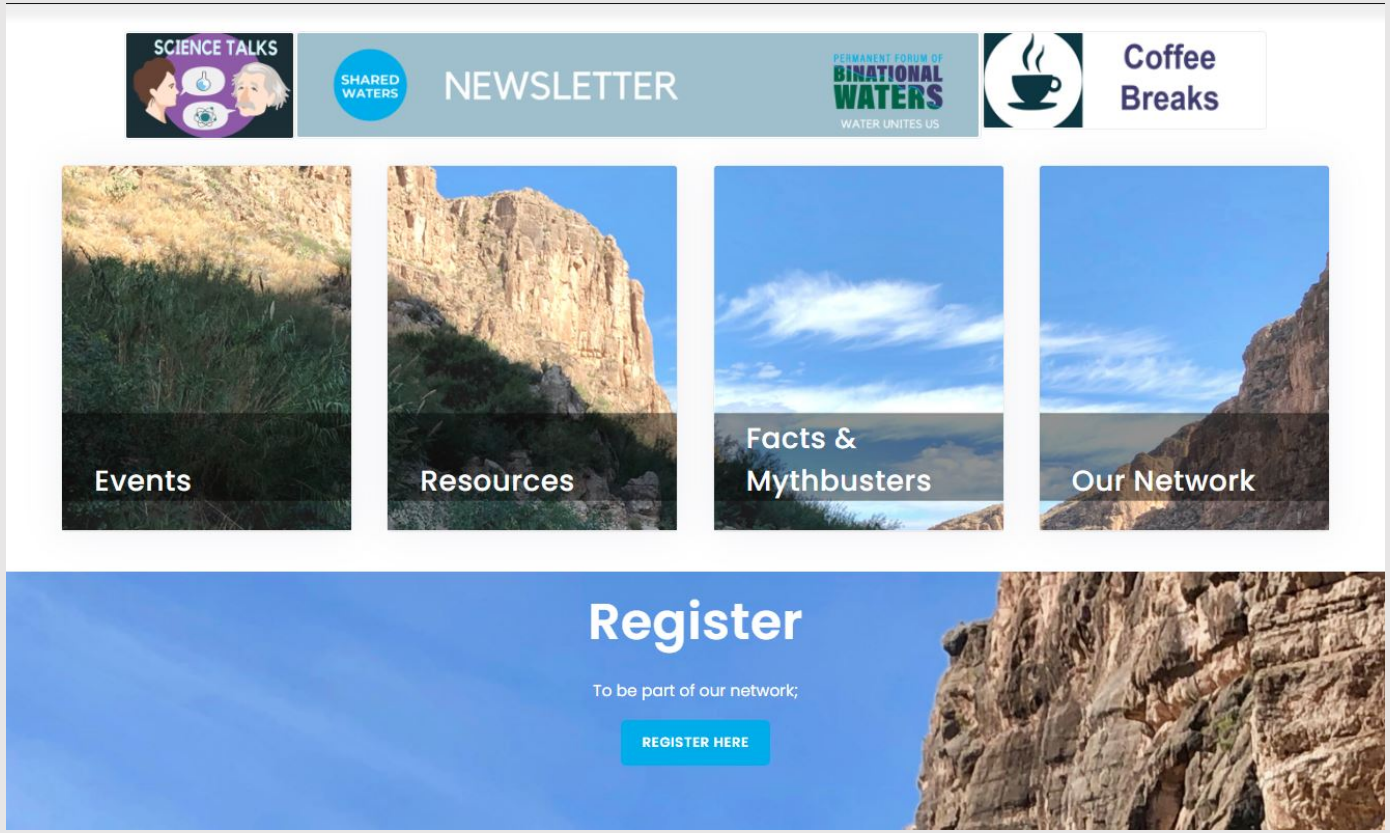
- Precipitation variability within and across years remains a major challenge for livestock producers in arid and semiarid ecosystems.
- Cattle adapted to harsh desert ecosystems may offer exciting genetic opportunities for optimizing beef production from arid ecosystems.
- A type of Criollo cattle, introduced from the Chinipas region of Chihuahua, Mexico, may provide opportunities to use cattle adapted to arid and semiarid environments that require minimal management yet provide quality beef.

Criollo cattle: Heritage Genetics for Arid Landscapes

By Dean M. Anderson, Rick E. Estell, Alfredo L. Gonzalez, Andres F. Cibils, and L. Allen Torell

Permanent Forum of Binational Waters

- a network to integrate collaboration efforts and strengthen their impact across and along the border.



https://binationalwaters.tamu.edu/











Invitation:
DLN Quarterly Meeting
30 October at 1-2 MT





DLN Annual Meeting
23-24 Feb 2021
emile.elias@usda.gov