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# Southwest Climate Hub Bulletin

*News and events for the Southwest Hub region*

**May/June 2021**

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## Carbon Pools and Decision Support Tools in New Mexico

The Southwest Climate Hub and New Mexico Department of Agriculture working lands group synthesized carbon information to investigate how commonly used tools measure up to observed data. Join us for a virtual [scientist-stakeholder conversation](#) on **June 2nd, 2021 from 9:00-11:30 am MT**.

[Register here!](#)







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“Tools for the Beef Industry”, aka TOBI, searches a database of over 550 decision support tools published by cooperative extension, domestic and international universities and government agencies, NGOs, and private developers. [Read more >>](#)

## Tools for the Beef Industry (TOBI)








A library of decision support tools for beef cattle production and management

**PLATFORM**

 Application (0)	 Hardware (0)	 Reference Material (0)	 Software (0)	 Spreadsheet (69)	 Website (1)
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**TOPIC**

 Animal and Feed Performance (69)	 Crop Management (4)	 Environmental Quality (0)	 Finance (55)	 Livestock Management (20)	 Natural Resource Management (10)	 Weather and Climate (0)
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**AUDIENCE**

 Consumers (0)	 Producers (69)	 Researchers and Technical Service Providers (2)
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CLEAR FILTERS

## Community Forests Prepare for Climate Change

Our article on community forests and climate change was selected as this month's feature article in an EOS: Science news by AGU special on urban forests. Congratulations to Courtney Peterson, Leslie Brandt, and Sarah Hurteau for their contributions to this important topic. [Read more >>](#)



Credit: Roberto Rosales

## Grass-Cast: An Experimental Rangeland Productivity Forecast

Every spring, ranchers face the same difficult challenge—trying to guess how much grass will be available for livestock to graze during the upcoming season. Since May 2019, an innovative Grassland

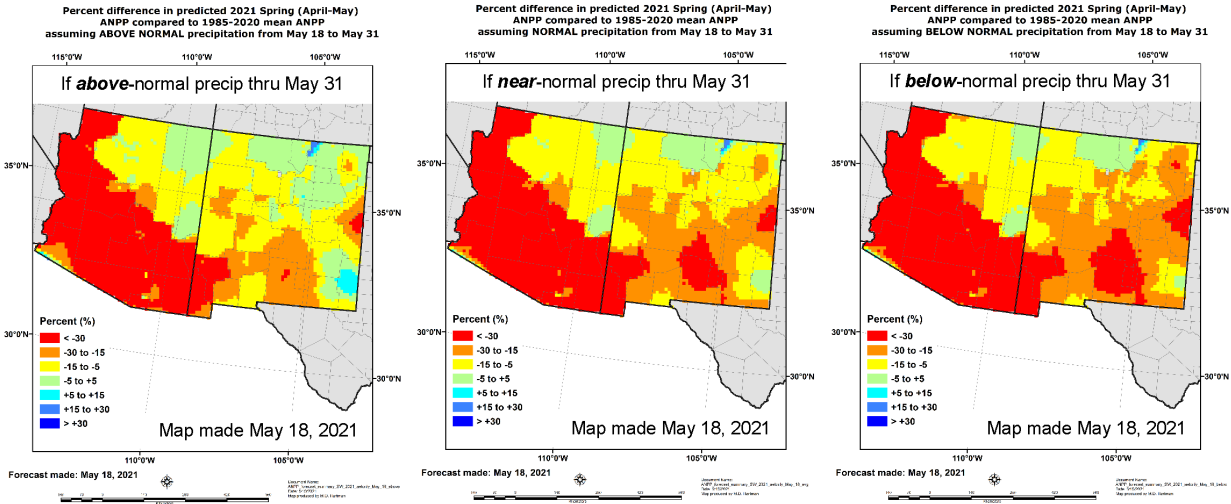
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the Southwest (New Mexico and Arizona) was released in May 2020, specifically for the spring growing season (which ended on May 31). Spring 2021 Grass-Cast maps are now available to producers throughout New Mexico and Arizona.

**% Change in Grassland Production (lbs/ac) this Spring, Compared to an Area's 36-yr Average**  
For the 3 maps below: "If precipitation between now & May 31<sup>st</sup> is above (left map), near (middle), or below (right) normal, grassland production in your grid-cell this spring (in lbs/ac on May 31) will be \_\_\_% more or less than its 36-yr avg."



To check the precipitation outlook between now and May 31<sup>st</sup> for your specific location, please visit NOAA's outlooks at: <https://www.cpc.ncep.noaa.gov/products/forecasts/>

FUNDED BY:  
**USDA** United States Department of Agriculture  
Natural Resources Conservation Service  
Agricultural Research Service  
Climate Hubs

Find current maps at: <https://grasscast.unl.edu>  
See NOAA outlooks at: <http://www.cpc.ncep.noaa.gov/products/forecasts/>  
For additional drought info & resources: <http://drought.unl.edu/>



USDA is an equal opportunity provider, employer, and lender.

To see which map (scenario) is more likely to occur in your area, please visit NOAA's precipitation outlooks at: <https://www.cpc.ncep.noaa.gov/products/forecasts/>

Grass-Cast uses over 30 years of historical data about weather and vegetation growth—combined with seasonal precipitation forecasts—to predict if rangelands are likely to produce above-average, near-average, or below-average amounts of forage in the upcoming growing season relative to their area's 30+ year history.

This experimental grassland forecast is the result of collaborations between the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS), Climate Hubs, and Natural Resources Conservation Service (NRCS); the National Drought Mitigation Center (NDMC); Colorado State University and the University of Arizona. Funding from USDA ARS and NRCS, as well as NDMC and the USGS has supported Grass-Cast's expansion to the Southwest region.

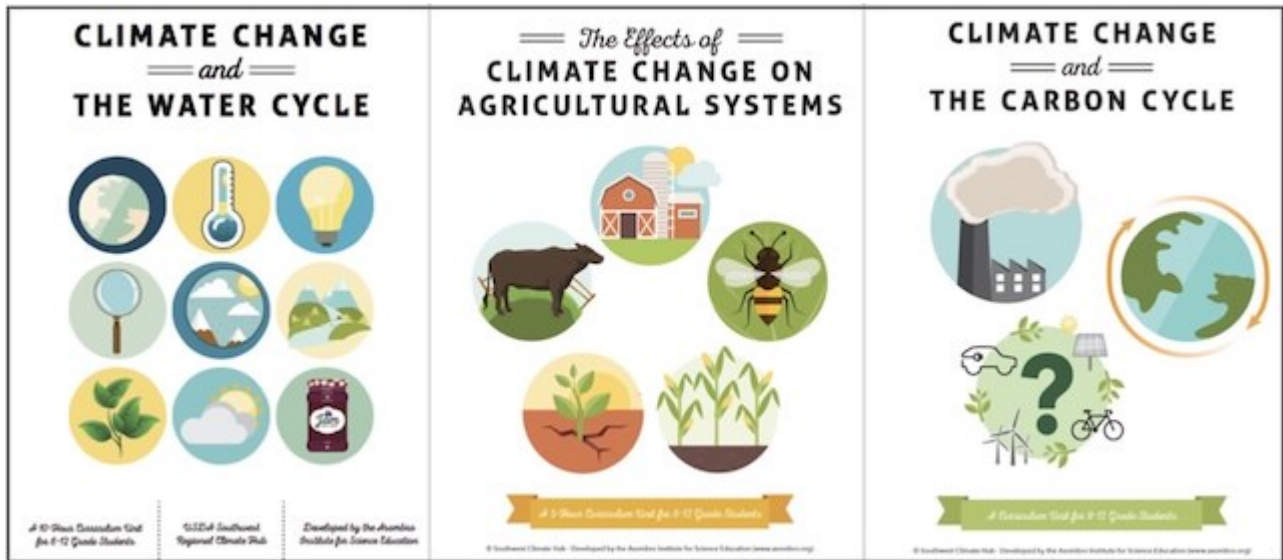
Visit the Grass-Cast website (<https://grasscast.unl.edu>) for updates, the latest maps, and other resources.

**Grass-Cast contact:** Dannele Peck, Director, USDA Northern Plains Climate Hub, [dannele.peck@usda.gov](mailto:dannele.peck@usda.gov)

## Upcoming Virtual Climate Teacher Workshops: Opportunities for Educators Throughout the Southwest

The Asombro Institute for Science Education invites educators to attend free virtual climate change workshops this summer! **Climate Change in the Southwest** is a series of four workshops on **June 21, 23, 28, and 30** (4:00 pm - 5:30 pm) for 6th-12th grade teachers showcasing the USDA Southwest Climate Hub education units. Educators from throughout the southwest may attend one or all workshops.

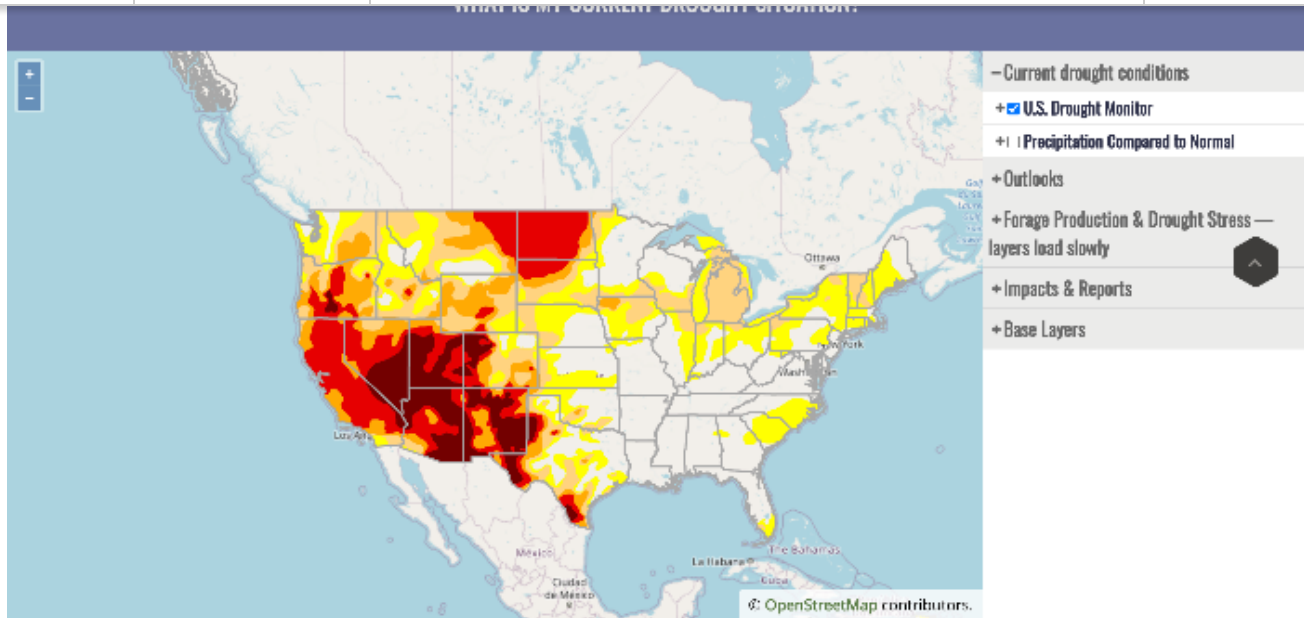
During New Mexico Climate Champions on **July 7-9** (9:00 am - 12:00 pm), 5th-8th grade teachers in New Mexico will learn to empower students to turn climate knowledge into action. For information and to sign up, visit: [asombro.org/teacher-workshops](https://asombro.org/teacher-workshops).



## New Drought Monitoring Dashboard Addresses Ranchers' Key Questions

When the rain stops, ranchers have questions. The new Ranch Drought Monitoring Dashboard helps them find answers. [Read more >>](#)



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#### Other Resources

[Maps and Data on U.S. Commodities In Drought](#)

## New Case Studies on Drought Adaptation Now Available

One goal of the Drought Learning Network includes showcasing transferable stories of drought adaptation. Through partnership with the Collaborative Conservation and Adaptation Strategies Toolbox (**CCAST**), these case studies are crafted into online Story Maps and accompanying 2-page PDFs. Four new case studies are available online:

- [An Analysis of Drought Exposure, Impacts, and Adaptation in the South-Central U.S.](#)
- [Developing Tools for Improved Water Supply Forecasting in the Rio Grande Headwaters](#)
- [Decision-Making in Snow-Fed Arid-Land River Systems](#)
- [Rangeland Restoration Following the Martin Fire in Reno, Nevada.](#)

These case studies, and others, can be found on the [CCAST Case Study Dashboard](#).

Introduction | Key Issues and Goals | Project Highlights | Lessons Learned | Next Steps | Resources

Water for the Seasons was a four-year research project funded by the National Science Foundation (NSF) and the United States Department of Agriculture (USDA) with the purpose of examining and connecting hydroclimatic, surface, and groundwater models with decision-making on snow-fed, arid-land river systems under different climate scenarios. The project focused on improving decision-making when faced with extreme drought and flood scenarios. The project team consisted of physical and social scientists, specifically engineers, hydrologists, hydrogeologists, extension educators, policy analysts, and economists, partnered with stakeholders representing interests from the headwaters to the terminus. The goal of this approach was to co-develop scenarios and resources to inform water management



### Intern Highlight: Emily Bickle

We'd like to extend gratitude and best wishes to Hub research assistant, Emily Bickle! Since developing case studies of drought adaptation with the Drought Learning Network, Emily continues to support community resilience through her work and goals for the future. [Read more >>](#)

### Come Rain or Shine!

For the **Drought, Snowpack, and Streamflow** episode, we interview two water and climate scientists to learn what streamflow forecasts are predicting for the upcoming summer, and to learn more about an emerging area of research, termed snow drought. Here they share with us insights such as why 100% of the historic snow-pack doesn't always translate to 100% of the historic runoff, the challenges of "weather whiplash", options for water management on the watershed scale, and what gives them hope for the future even in the face of some pretty grim predictions. You can find our previous episodes [here](#).



### Climate Reporting for the Southwest

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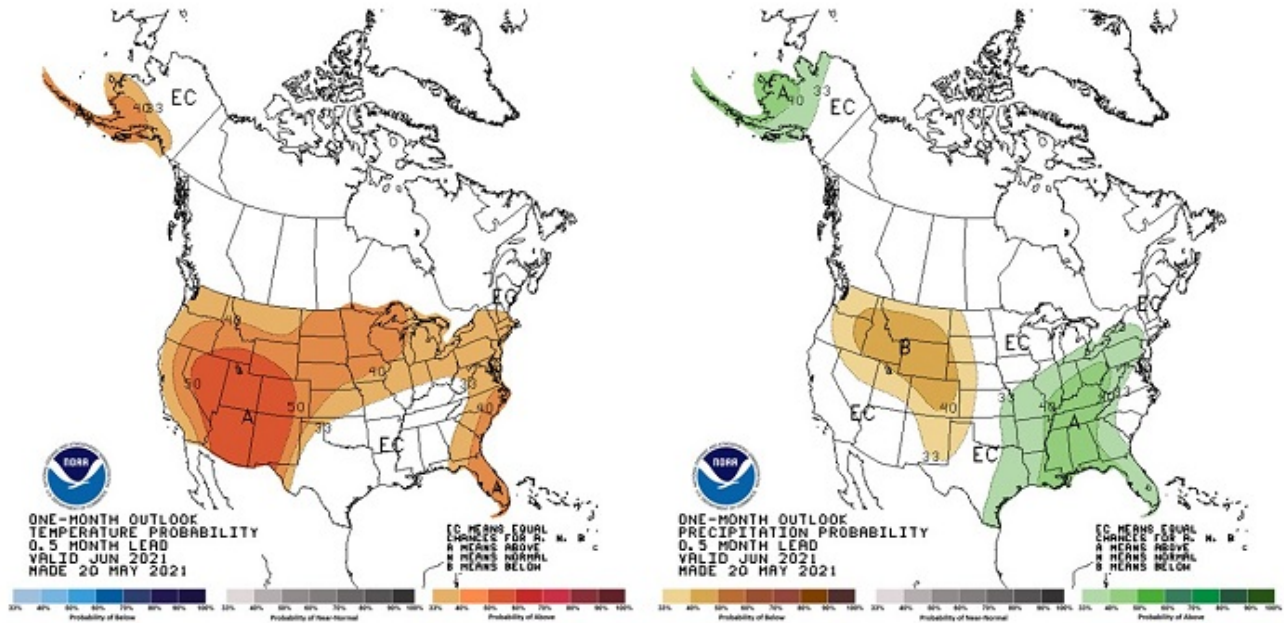
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As of May 13, 2021, the ENSO alert system status was **Final La Nina Advisory**. Forecasters predict there will be a 67% chance for ENSO-neutral likely to continue through the summer in June-August 2021. Learn more about additional ENSO perspectives and analysis available at the NOAA [ENSO Blog](#) and the [ENSO Tracker - May 2021](#), an analysis by [CLIMAS](#).

### 1-month outlook

As of May 20, the **one-month outlook** for June shows a 33-50% chance for above-normal temperature for the southwestern U.S. There will be a 33-40% chance for below-normal precipitation for northern Nevada, northern Utah, eastern New Mexico, and an equal chance of above-normal or below-normal precipitation for the rest of southwestern U.S.



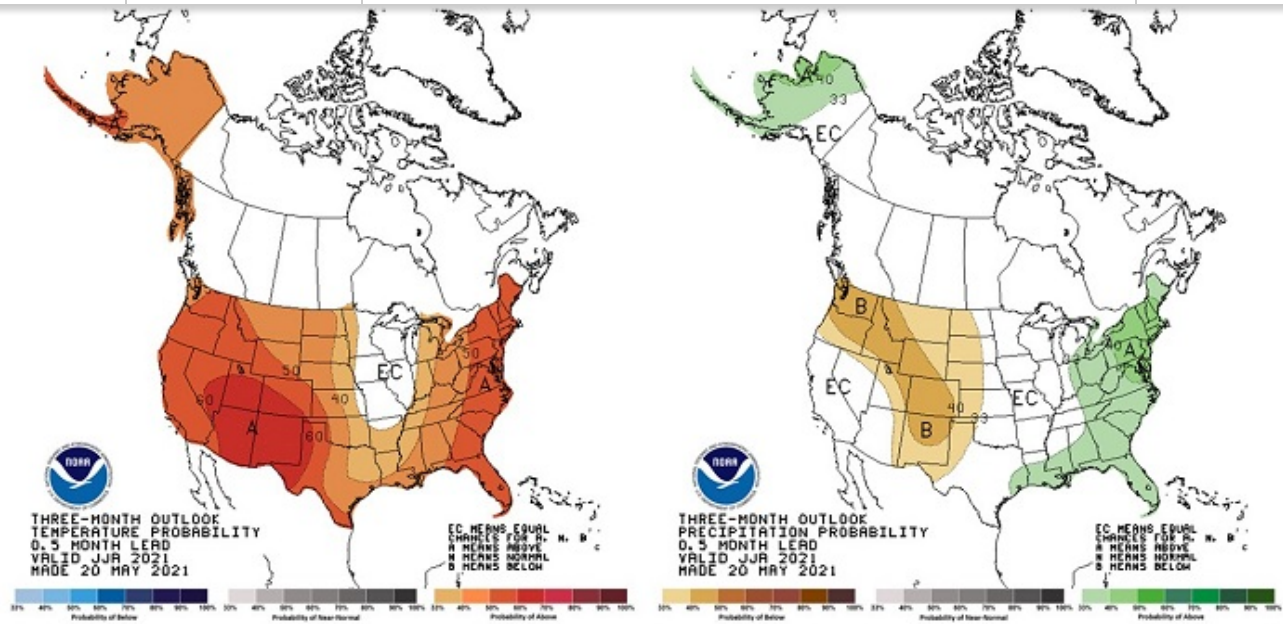
### 3-month outlook

As of May 20, the **three-month outlook** (Jun-Jul-Aug 2021) shows a 50-60% chance of above-normal temperatures for the southwestern U.S. There will be a 33-40% chance of below-normal precipitation for New Mexico, parts of Arizona, Utah, and Nevada. These outlooks are created monthly by NOAA Climate Prediction Center and based on departures from the 1981-2010 base period. To view more short-

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## Drought

Drought conditions have remained across the entire southwestern U.S. In Hawai'i, drought conditions have spread across the islands compared to last month's drought map. You can also view the [U.S. Drought Monitor Class Change map](#) to see how conditions have improved or degraded in your area



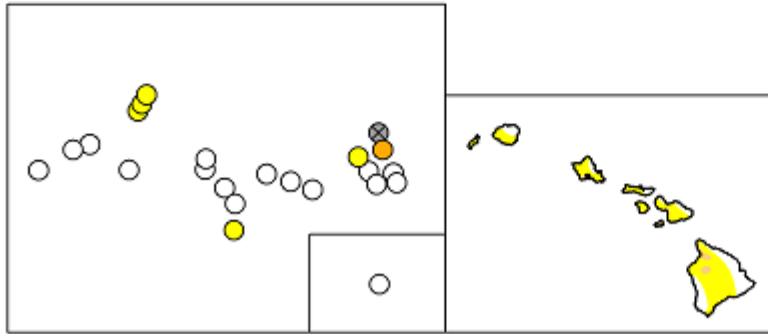
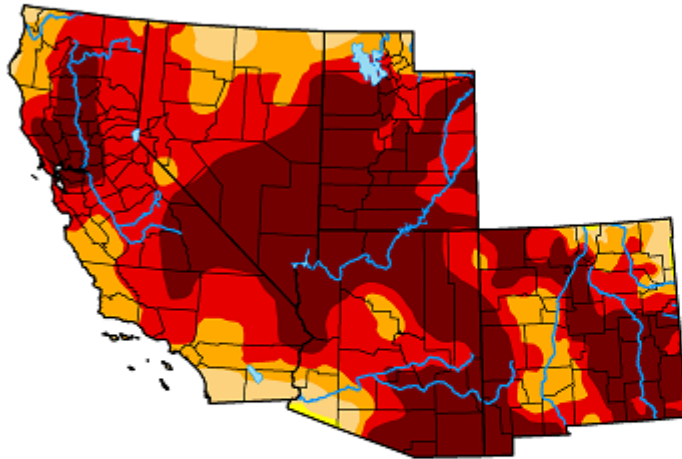
U.S. Drought Monitor

USDA Southwest Climate Hub

May 25, 2021

(Released Thursday, May 27, 2021)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.33	99.67	98.72	94.06	78.56	43.92
Last Week 05-18-2021	0.33	99.67	98.74	94.40	78.74	40.97
3 Months Ago 02-23-2021	1.03	98.97	94.83	84.87	67.79	37.92
Start of Calendar Year 12-29-2020	0.67	99.33	97.80	89.82	70.06	39.27
Start of Water Year 09-29-2020	4.30	95.70	90.16	70.65	46.92	4.14
One Year Ago 05-26-2020	37.86	62.34	48.38	16.94	1.70	0.00

Note: Statistics do not include areas represented by points.

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

U.S. and Puerto Rico Author:

Adam Hartman  
NOAA/NWS/NCEP/PCP

Pacific Islands and Virgin Islands Author:

Ahina Sanchez-Lugo  
NCEI/NOAA



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Announcements

Colorado Plateau Climate Adaptation Pre-Workshop webinar

National Park Service Southeast Utah Group, U.S. Geological Survey, Northern Arizona University, and the Northern Institute of Applied Climate Science are offering an initial one-hour virtual science webinar where we will get updates from USGS on the vulnerabilities posed by climate change in the grasslands in your Parks on Thursday, June 17 at 10:00 am - 11:00 am AZ / 11:00 am - 12:00 pm MT.

This webinar is open to anyone who is interested. Please email [Molly McCormick](mailto:Molly.McCormick@usgs.gov) for more information.

Job Opportunity Program Manager – Arizona Meteorological Network

University of Arizona Cooperative Extension invites applicants for an Associate in Extension/Program Manager position to direct the Arizona Meteorological Network (AZMET). AZMET is a real-time network of meteorological stations and is the basis for numerous agricultural and biometeorological information products that support agricultural, turfgrass, and general irrigation and water use planning across the region. The AZMET program manager will direct the program and help oversee the installation and maintenance of meteorological stations, data collection and stewardship, and development of information

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Find the posting online at <https://arizona.csod.com/ux/ats/careersite/4/home/requisition/4279?c=arizona>

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## Agriculture and Food Research Initiative - Foundational and Applied Science

**Program Area:** Extension, Education & USDA Climate Hubs Partnership

**Proposed Budget Requests:** Budgets for Grants must not exceed \$1,500,000 total per project for project periods of three to five years.

**Requested Project Types:** Extension Projects or Integrated (extension and education) Projects only

[More information >>](#)

**Application Deadlines: July 22, 2021 and October 6, 2022**

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## Funding Opportunities

### Agriculture and Food Research Initiative Competitive Grants Program Sustainable Agricultural Systems

Award Ceiling: \$10,000,000

**Deadline: July 01, 2021**

### USDA Forest Service - GLRI Forest Restoration 2021

Award Ceiling: \$300,000

**Deadline: July 8, 2021**

### Announcement for Program Funding for NRCS's Conservation Innovation Grants (CIG) Classic Program

Award Ceiling: \$2,000,000

**Deadline: July 19, 2021**

### Agriculture and Food Research Initiative - Foundational and Applied Science

Estimated Total Program Funding: \$300,000,000

**Deadline:** Dec. 15, 2021, Conference Grants - Letter of Intent required, Letter of Intent Deadline - Minimum of 195 days before the conference begins; Application Deadline Dates - Dates vary by program.

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## Events

**Water Conservation: Home, Yard, Farm & Ranch webinar series**, May 20 - June 24 at 6:00 pm MT

**Windmill Technology Certification Workshop**, June 2-5

**Drought Learning Network Quarterly Meeting**, June 14 at 1:00 pm MT

**Soil and Water Conservation Society Annual Meeting**, July 26-28

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[Tribal Water Resilience in a Changing Environment](#), August 30 - September 1

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