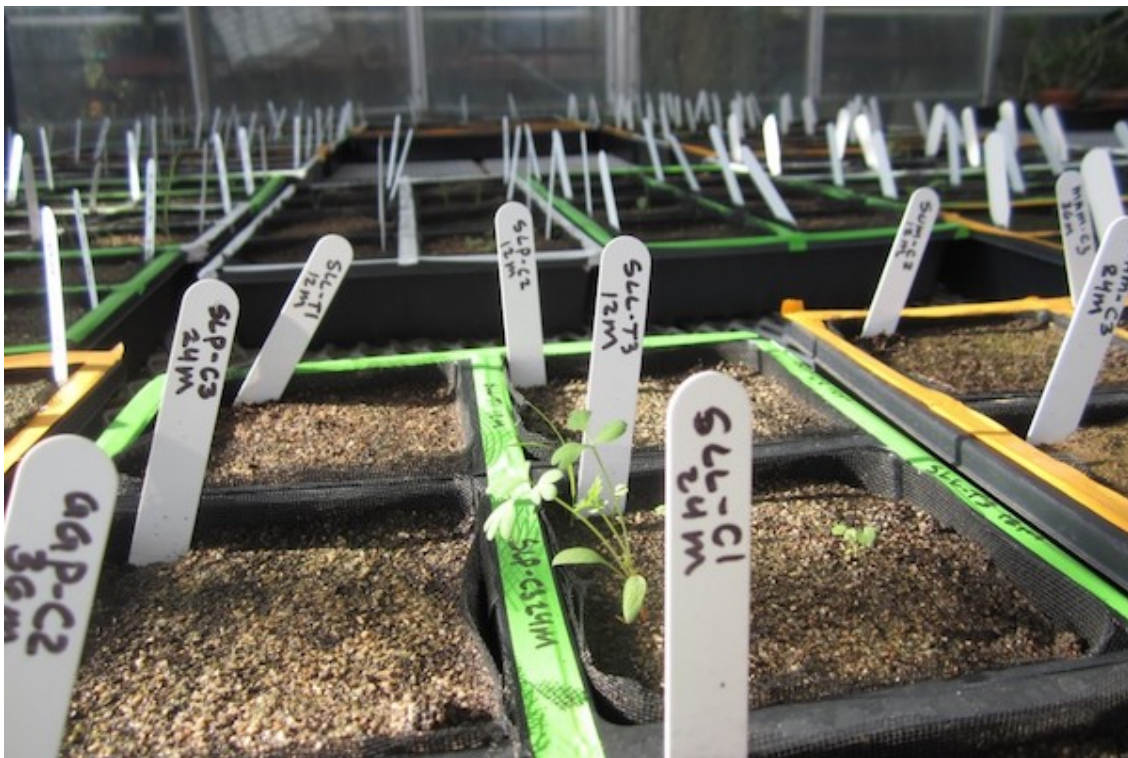


[View this email in your browser](#)

# Southwest Climate Hub Bulletin

*News and events for the Southwest Hub region*

**February/March 2021**



## The Hidden World of Soil Seed Banks may Help Restore Western Rangelands

New research is showing that arid and semi-arid rangeland soils contain surprisingly biodiverse and abundant seed banks; these seeds persisting in the soil may provide a natural resource to help restore degraded rangeland sites that are of economic and ecological importance. Joseph Knelman reflects on seed bank research conducted by Kirsten Romig at the Jornada Experimental Range in southern NM. [Read more >>](#)



## Drought Monitoring and Reporting in Utah

Drought impacts information helps the State of Utah in drought monitoring, planning and response efforts, and U.S. Drought Monitor authors in categorizing drought severity. However, drought impacts in Utah have historically been under-reported, meaning that important information does not consistently reach decision-makers or Drought Monitor authors. The Southwest Hub and Drought Learning Network partners delivered an online workshop for land and natural resource managers, Extension, ranchers, farmers and others to learn about evaluating, measuring and reporting drought. Access workshop materials and [learn more >>](#)



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## at the Colorado State Forest

Managers are looking for innovative ways to adapt diverse forest ecosystems to climate change. The Adaptive Silviculture for Climate Change (ASCC) Network is a collaborative effort between managers and scientists exploring robust examples of how to integrate climate change adaptation into silvicultural planning and on-the-ground actions. But what does this look like for local forest ecosystems, such as the high-elevation spruce-fir ecosystems of the Colorado State Forest? [Read more >>](#)



## Bridging the Gap Between Scientists and Secondary Teachers

Educators from the Asombro Institute for Science Education, are both teachers and scientists who are skilled at translating scientific findings into engaging education activities. In December 2020, they showcased three of the 17 lessons available in the Southwest Climate Hub's climate change education units at the American Geophysical Union (AGU) annual meeting. [Read more >>](#)

## Come Rain or Shine!

On our latest episode, [Talking Wine, Weather, and Science: Part 1](#), we sit down with three scientists who specialize in viticulture and the cultivation of wine-grapes. Dr. Kerri Steenwerth, with USDA-ARS in California, Dr. Andy Walker, from UC Davis, California, and Dr. Jeremy Weiss, from the University of Arizona, tell us why the study of viticulture is important to them, how they got into the field, and what they do in their professional calling. Be sure to listen to [Part 2](#) as well, where we delve into how our changing climate might affect wine production in the future. You can find our previous episodes [here](#).



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## Short videos by Hub Team at the Jornada Symposium 2020

The Southwest Climate Hub team prepared short, on-line presentations to describe weather and climate challenges and our adaptation solutions for agriculture, natural resources, and communities in the southwestern United States. Please take a look to [learn more](#) about what we are up to.

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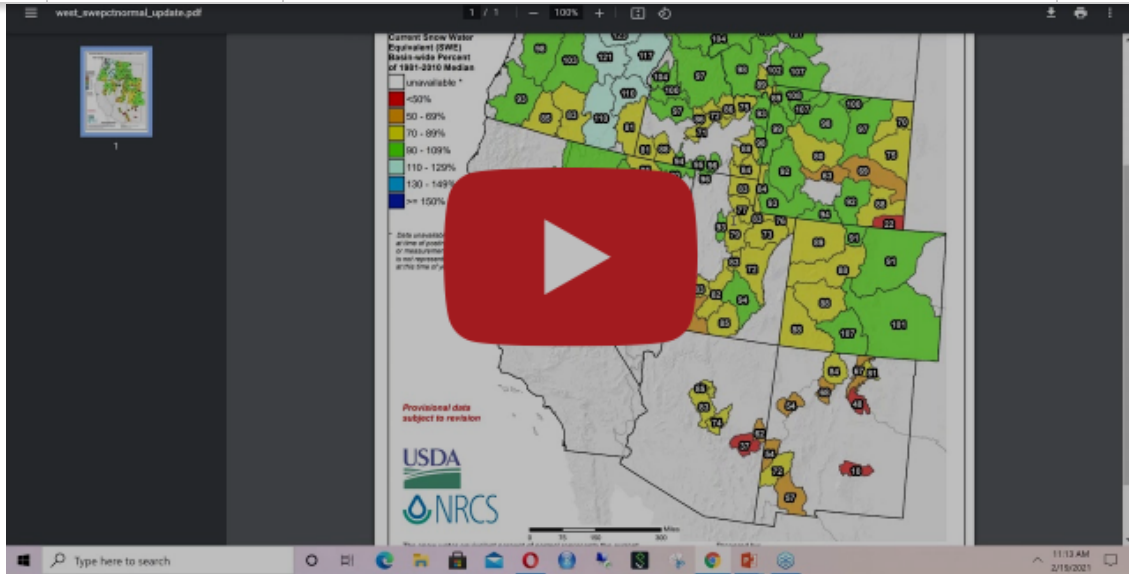
## Air Quality and Production Agriculture

Air quality experts have been working to understand agriculture, air quality, and climate change in the Southwest and Southern Plains Climate Hub Regions. Workshop presentations and briefs are shared here, as well as a roadmap to guide the next decade of regional air quality, agriculture, climate research, and management activities. [Read more >>](#)

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## Southwest Drought Briefing

This webinar provided an update of the February 2021 drought conditions and forecasts for Arizona, Colorado, New Mexico, Utah, and Nevada.



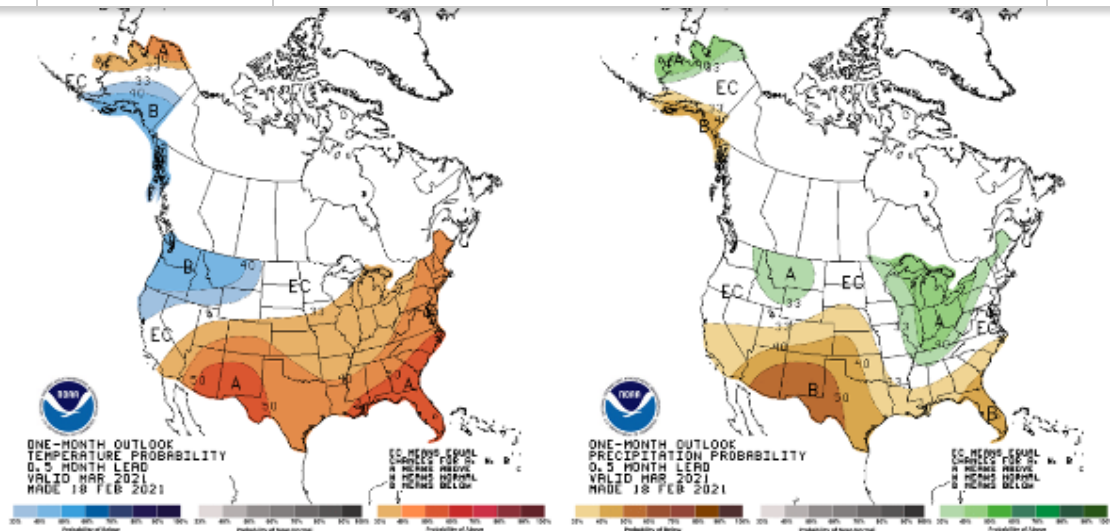
## Climate Reporting for the Southwest

### El Niño/Southern Oscillation (ENSO)

As of February 11, 2021, the ENSO alert system status is still in **La Niña Advisory** and there is a 60% chance of La Niña conditions to switch to ENSO Neutral during the spring. Learn more about additional ENSO perspectives and analysis available at the NOAA [ENSO Blog](#) and the [ENSO Tracker - February 2021](#), an analysis by [CLIMAS](#).

### 1-month outlook

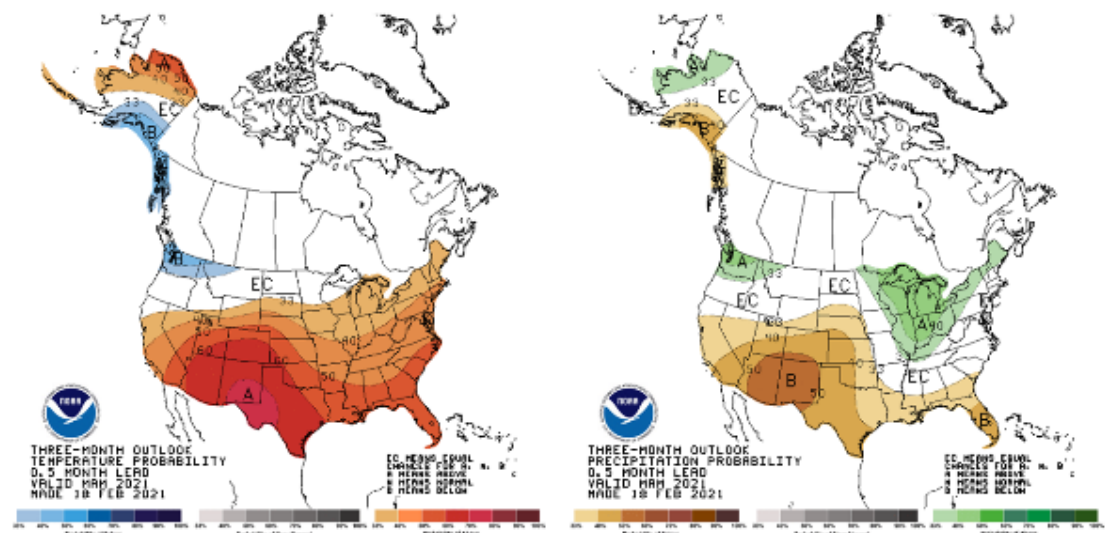
As of February 18, the **one-month outlook** for March shows a 33-50% chance for above-normal temperature for much of the southwestern U.S and an equal chance of above-normal or below-normal temperature for the Great Basin region. There will be a 33-50% chance for below-normal precipitation for southern Nevada, Utah, Arizona, New Mexico and an equal chance of above-normal or below-normal precipitation for northern Utah and Nevada.



### 3-month outlook

As of February 18, the **three-month outlook** (Mar-Apr-May 2021) shows a 33-70% chance of above-normal temperatures for the southwestern U.S. There will be a 33-50% chance of below-normal precipitation for the southwestern U.S.

These outlooks are created monthly by NOAA Climate Prediction Center and based on departures from the 1981-2010 base period. To view more short-term outlooks, please visit the [NOAA's National Weather Service Climate Prediction Center](#).



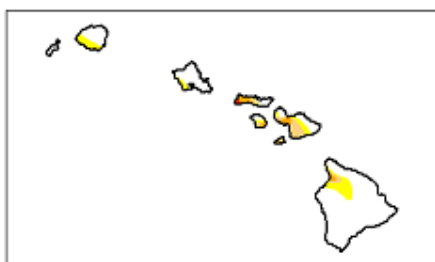
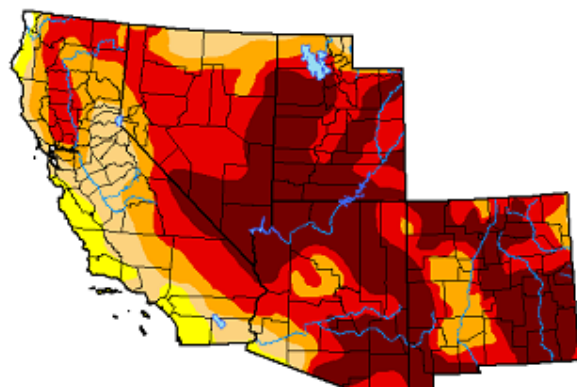
### Drought

Drought conditions have remained across the southwestern U.S. In Hawai'i, drought conditions have slightly improved in some areas 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 over a period of time. For a more detailed drought summary, visit the U.S. Drought Monitor [website](#).

# USDA Southwest Climate Hub

(Released Thursday, Feb. 18, 2021)

Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	1.02	98.98	94.81	84.83	68.19	35.67
<b>Last Week</b> 02-09-2021	1.01	98.99	94.88	85.12	68.92	37.59
<b>3 Months Ago</b> 11-17-2020	4.31	95.69	91.54	78.19	59.92	19.67
<b>Start of Calendar Year</b> 12-29-2020	0.69	99.31	97.70	89.79	70.04	39.26
<b>Start of Water Year</b> 09-29-2020	4.30	95.70	90.15	70.64	46.91	4.14
<b>One Year Ago</b> 02-18-2020	46.45	53.55	20.61	5.42	0.00	0.00

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>

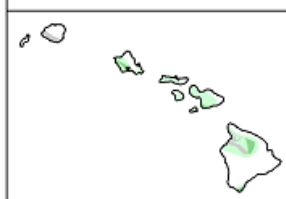
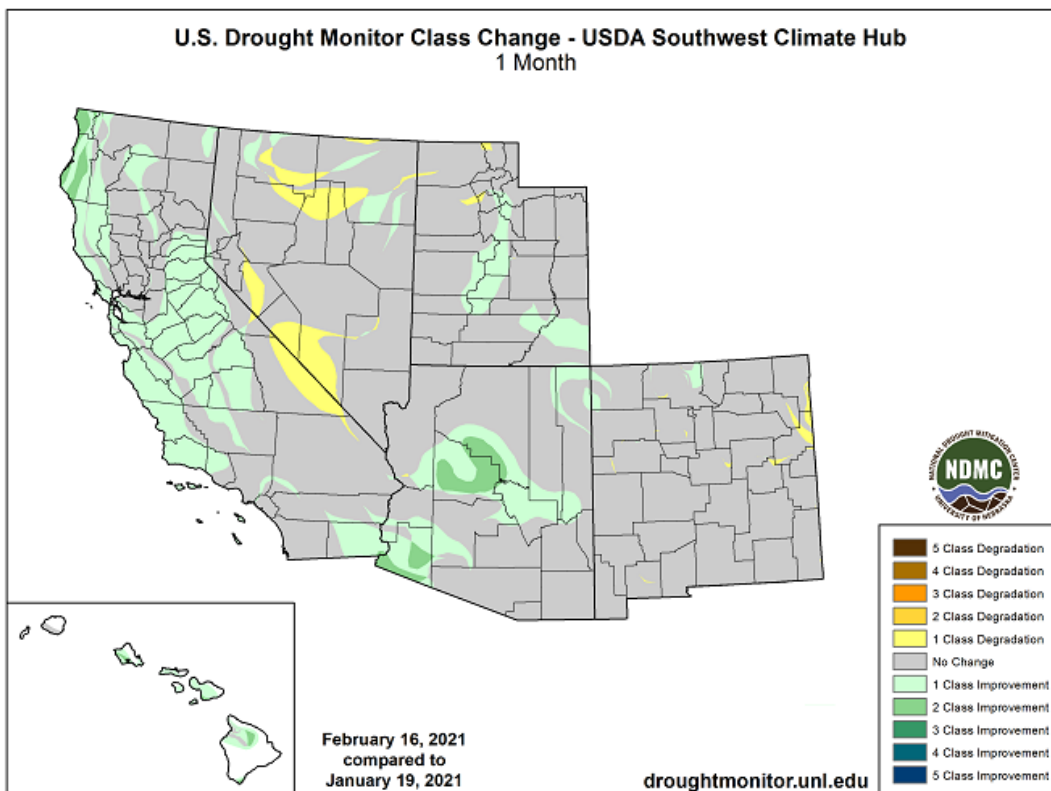
Author:

David Miskus  
NOAA/NWS/NCEP/CPC



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

## U.S. Drought Monitor Class Change - USDA Southwest Climate Hub 1 Month



February 16, 2021  
compared to  
January 19, 2021

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



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

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## Southwest Drought Learning Network Annual Meeting

March 3-4, 2021

1:00 - 5:00 pm MST

We invite you to a virtual annual meeting to continue building a regional network designed to support communities learning from communities in coping with drought. The meeting goal is to convene drought management leaders and resource managers from the Southwest to continue the Drought Learning Network (DLN) activities in supporting peer-to-peer and community-to-community knowledge exchange.

Meeting Objectives include:

- Review first-year accomplishments and begin planning second-year team goals, objectives, and activities.
- Foster connections within the teams and future projects.
- Strengthen participation and deepen understanding of producer and natural resource manager's needs.

[Register here!](#)

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## Accessing Rangeland Knowledge with LandPKS: 3-Part Series

The Land Potential Knowledge System, or LandPKS, supports ranchers, rangeland managers, and other land managers with open-source tools that allow them to easily access knowledge and information and to collect, share, and interpret their own soil, vegetation cover, and management data. This webinar series targets rangeland managers and others who are interested in learning how to use LandPKS and in exploring the app's new Habitat and Soil Health modules in a rangeland management context.

Part 1: Learning about your Land and its Potential with LandPKS  
Tuesday, March 2nd, 2021 at 1:00-1:45 pm MST

Part 2: Monitoring Vegetation and Understanding Habitat with LandPKS  
Tuesday, March 9th, 2021 at 1:00-1:45 pm MST

Part 3: Monitoring Soil Health with LandPKS  
Tuesday, March 16th, 2021 at 1:00-1:45 pm MST

[Register here!](#)

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## Partners' News

### 2021 Virtual SW Adaptation Forum, April 6-8, 2021

The Southwest Climate Adaptation Science Center is proud to host the virtual **2021 Southwest Adaptation Forum (SWAF)** in partnership with the **Climate Science Alliance**. SWAF 2021 will build on takeaways from the **2018 forum**, and will bring together leaders, practitioners, and researchers from across the Southwest to explore efforts that are advancing climate change adaptation including hands-on activities, networking, and professional training. See the breakdown of the schedule by day [here](#). Due to the limited capacity of our digital platforms and overwhelming interest in past events, attendance at the 2021 Southwest Adaptation Forum is by application only. However, this limited-capacity event is free for accepted applicants. Apply [here](#) today! The application period closes March 17th.

### 2021-22 NRWD Fellowship Request for Applications



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dissertation-granting programs at the seven SW CASC consortium institutions (see map above). One applicant from each institution will be selected to take part in each fellowship cohort. Fellows will work as a team to conduct research focused on this year's science theme: endangered streams--building strong and authentic bridges between science and practice to understand impacts of future water flows on aquatic ecosystems. Funding for successful applicants includes a stipend of \$5,000, with an additional travel allowance of \$1,000 for each Fellows cohort meeting that occurs away from their home campus. Learn more about the fellowship and apply [here](#).

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## Funding Opportunities

### [Crop Protection and Pest Management Competitive Grants Program](#)

Award Ceiling: \$900,000

**Deadline: March 15, 2021**

### [New Beginning for Tribal Students Programs](#)

Award Ceiling: \$500,000

**Deadline: March 15, 2021**

### [Equipment Grants Program](#)

Award Ceiling: \$500,000

**Deadline: March 16, 2021**

### [WaterSMART Grants: Small-Scale Water Efficiency Projects](#)

Award Ceiling: \$75,000

**Deadline: March 18, 2021**

### [Climate Adaptation Science Centers \(CASC\) Research Funding Opportunities](#)

Statements of Interest for projects to be initiated in Fiscal Year 2022 are being accepted for the Alaska, Midwest, North Central, Northeast, Northwest, Pacific Islands, South Central, Southeast, and Southwest regional Climate Adaptation Science Centers. Solicited projects should address high-priority natural or cultural resource management issues that can benefit from climate-informed planning and adaptation management. Specific science priorities and needs for each CASC can be found in the [CASC FY22 Funding Opportunity document](#).

**Deadline for Statements of Interest: Friday, March 19, 2021**

### [Beginning Farmer and Rancher Development Program](#)

Award Ceiling: \$600,000

**Deadline: March 25, 2021**

### [Supplemental and Alternative Crops Competitive Grants Program](#)

Award Ceiling: \$225,000

**Deadline: March 30, 2021**

### [Program to Support Tribal Climate Resilience Grants and Ocean and Coastal Management Planning Grants](#)

Award Ceiling: \$150,000

**Deadline: April 23, 2021**

### [2021 NOAA Hawaii Bay Watershed Education and Training Program](#)

Award Ceiling: \$150,000

**Deadline: April 23, 2021**

### [Agriculture and Food Research Initiative Competitive Grants Program Sustainable Agricultural Systems](#)

Award Ceiling: \$10,000,000

**Deadline: July 01, 2021**

### [Agriculture and Food Research Initiative - Foundational and Applied Science](#)

Estimated Total Program Funding: \$290,000,000

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## Upcoming Events

[Virtual Range Livestock Workshop](#), March 9-11

[11th Annual Northwest Climate Conference](#), April 6-8

[Southwest Adaptation Forum](#), April 6-8

[Biochar Opportunities in the Southwest: Extension Workshop](#), April 7-9

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