

[View this email in your browser](#)



Southwest Climate Hub Bulletin

News and events for the Southwest Hub region

December 2022

Happy Holidays from the Southwest Climate Hub Team

We made great strides this year in climate-related research, decision-support, and convening to advance climate resilience in the Southwest and Hawaii. I am deeply grateful to work with bright, dedicated professionals towards our common goal of resilient landscapes and communities despite changing conditions. My sincere thanks to our team, co-directors, steering committee, and partner climate-service agencies.

Some of you will remember Dr. Al Rango, the first Southwest Climate Hub Director. Among other things, Al researched snow and at this time of year, as snow begins to fall in the high-mountains of our region, I send thoughts of gratitude to him for his leadership and kindness. It's true that no two snow crystals are **alike**. And if you wonder at your own statistical chances of snow on December 25, **this historical probability** may be of interest.

Most of you will have seen this iconic "blue marble" image of our global home, but did you know that this was **taken 50 years ago by two NASA astronauts** and given to us on December 24, 1972?



Wherever you may travel this holiday season, we wish you a joyful, relaxing break and New Year.

Sincerely,

Emile Elias and the Southwest Climate Hub Team

Welcoming New Interns to the Drought Learning Network

Maude Dinan

Thanks to funding from the National Drought Mitigation Center, the Drought Learning Network's Sharing Management Practice team welcomes two interns, Jackie Alessi and Erin Connolly. They will research and develop Collaborative Conservation and Adaptation Strategy Toolbox (CCAST) case studies on drought and climate adaptation. Meet them [here!](#)



Megadrought and Aridification in the Southwest United States

Caiti Steele



Precision Ranching Technology meets the K-12 Classroom

Kelly Steinberg

Students are exploring the pros and cons of high-tech tools to make ranching in the Southwest more sustainable with two new lessons from Asombro in partnership with the USDA's Sustainable Southwest Beef project. In a 5th-grade lesson, students investigate the challenges of herding cattle through physical and virtual fences using a model involving marbles and popsicle sticks. Meanwhile, high school students race to complete some of a rancher's daily tasks, then access technological solutions to make those tasks simpler. Asombro has created 11 lessons about the project's research themes, findings, and team members for students of all ages, several lessons can be accessed for free at [Asombro.org/free](https://asombro.org/free), and other lessons are available to classrooms in the Las Cruces areas: <https://southwestbeef.org/education>.



The 4 Directions Projections

Melanie Kirby

Across Turtle Island, and the globe, the richly diverse tapestry of First Peoples and First Nations continues to survive and thrive from the passing on of ancestral knowledge and continuity. The continuance of place-based purpose and traditions, passed from one generation onto the next is a legacy that allows us to exist, adapt, and recreate the promises and dreams that our cultural knowledge inspires. This legacy will outlive each of us yet. Its perpetual ability to weave our diverse cultural and individual heritage threads into a mosaic tapestry of reverence and gratitude unites us.

The IAIA Land-Grant Program has been recently redesigned to further promote and support the mosaic of Traditional Knowledge (TK) systems (ecological and technical) as it nurtures IAIA's mission, "To empower creativity and leadership in Indigenous arts and cultures through higher education, lifelong learning, and community engagement." We invite those interested in hearing, seeing, and learning more from our relatives in each of the directions to join us for our Spring Webinar Series, "The 4 Directions Projections: Sharing traditional and contemporary Indigenous knowledge to nurture people, revere places, and promote purpose." Each episode in the series highlights Indigenous stewards, scholars, artists, leaders, and their diverse stories. The series also includes an episode in participation of World Wide Climate Teach-In Day (March 29, 2023), a global event raising awareness and encouraging global community engagement.

www.iaia.edu/cecourses

A New Normal For Irrigated Agriculture To Sustain The Ogallala Aquifer


Skye Aney

The Ogallala Aquifer underlies 45 million hectares, providing water for approximately 1.9 million people and supporting the robust agricultural economy of the US Great Plains. Water in the Ogallala Aquifer has been severely depleted, particularly in the southern end. Continuing with business-as-usual water withdrawals puts the aquifer and the agricultural economy that is built upon it, at risk. The [Sustainable Southwest Beef Project](#) presents a new [policy brief](#) that highlights


Sustainable Southwest Beef Project

Beef Brief:

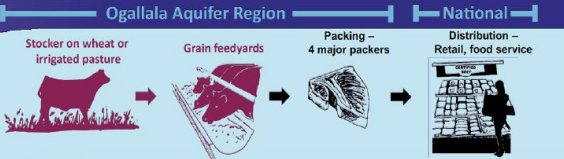
A NEW NORMAL FOR IRRIGATED AGRICULTURE TO SUSTAIN THE OGALLALA AQUIFER



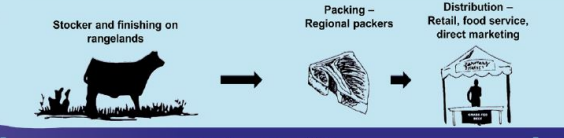
Southwestern Rangelands
Cow - Calf



Ogallala Aquifer Region National



This brief relates to the red-shaded portions of the supply chain.



Southwestern U.S.

Two New CCAST Case Studies Cover Post-Fire Forest Resilience and Water Rights for Environmental Flows

Maude Dinan

Fire has the potential to change a forest ecosystem, but how does fire severity and number play a role in forest resilience? And water users often operate under the premise of "use it or lose it," but water policy is changing across the west to ensure allotted water can remain in-stream to protect environmental flows. Learn more from the two latest **CCAST** case studies developed by the **Drought Learning Network**: *Measuring the Effects of Fire Severity on Forest Resilience in the Santa Catalina Mountains* and *Five-Year Lease of Water Rights for Environmental Flows along the Rio Chama*.



Come Rain or Shine Podcast

Reanna Burnett

The Come Rain or Shine Podcast reports actionable science to facilitate adaptation and resilience in the Southwest. Here's a look at some of our most recent episodes:

Rangelands and Climate change, a conversation with Dr. Joel Brown to learn more about ecological site descriptions, transitions and transformations, and some thoughts about rangeland ecology under a changing climate.

Teaching Science Through Agriculture and Place Based Learning, a discussion with Dr. Stephanie Bestelmeyer and Dr. Kristy Ehlers to learn about how they

Subscribe

Past Issues

Translate

RSS

Precipitation Intensity: Research, Challenges, and Opportunities, Dr. Dave Goodrich and Dr. Eleonora Demaria, hydrologic modelers, discuss their research on intense precipitation events, as well as some of the implications of observed trends.

Find us on Buzzsprout at: <https://rainorshine.buzzsprout.com/>

Want to know when a new episode is released? Sign-up for email alerts [here](#).



Help us improve our Website

We are in the process of reviewing our website so that we can better deliver our products to our broad and diverse range of USDA Climate Hub website users. We have developed a brief **survey** (OMB control number 0503-0024) that will help us update and improve our information delivery. We welcome any and all users of the site to participate. The eight short questions should only take a few minutes to complete.

Climate Reporting for the Southwest

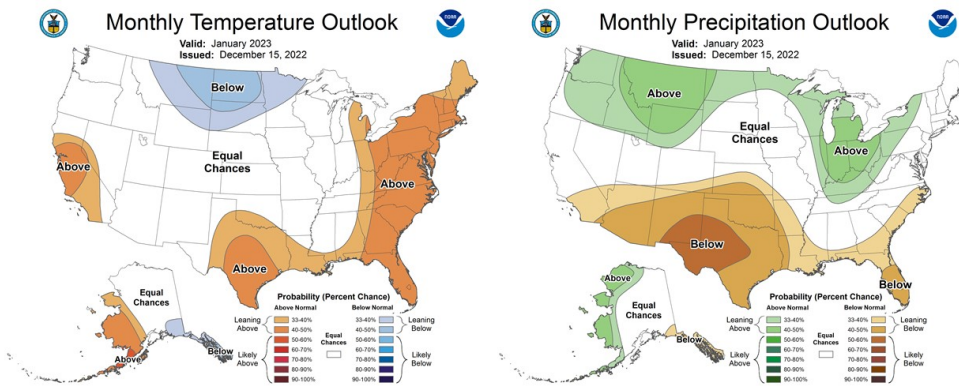
El Niño/Southern Oscillation (ENSO)

As of December 8, 2022, the ENSO alert system status is **La Niña Advisory**. Forecasters predict La Niña to continue and predict an equal chance of La Niña and ENSO-neutral in January-March 2023. Learn more about additional ENSO available at the NOAA [ENSO Blog](#).

National Weather Service Climate Prediction Center Outlooks

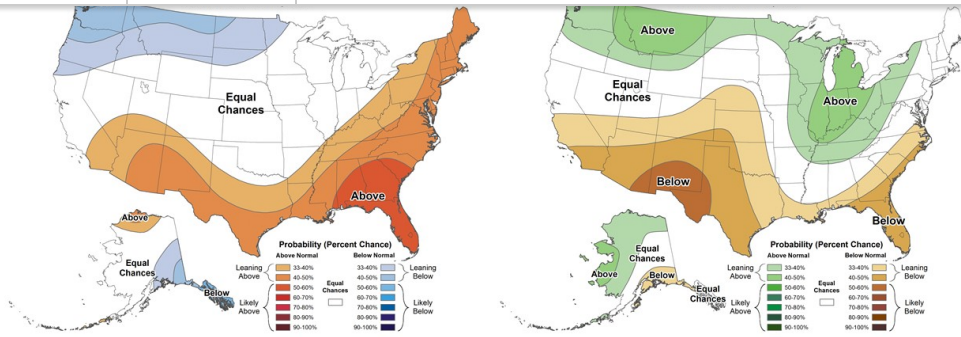
1-month outlook

As of December 15, the **one-month outlook** for January 2023 shows an equal chance of above-normal or below-normal temperatures for the southwest. There will be a 33-60% chance for below-normal precipitation in New Mexico and Arizona. An equal chance of above-normal or below-normal precipitation for Utah and Nevada.



3-month outlook

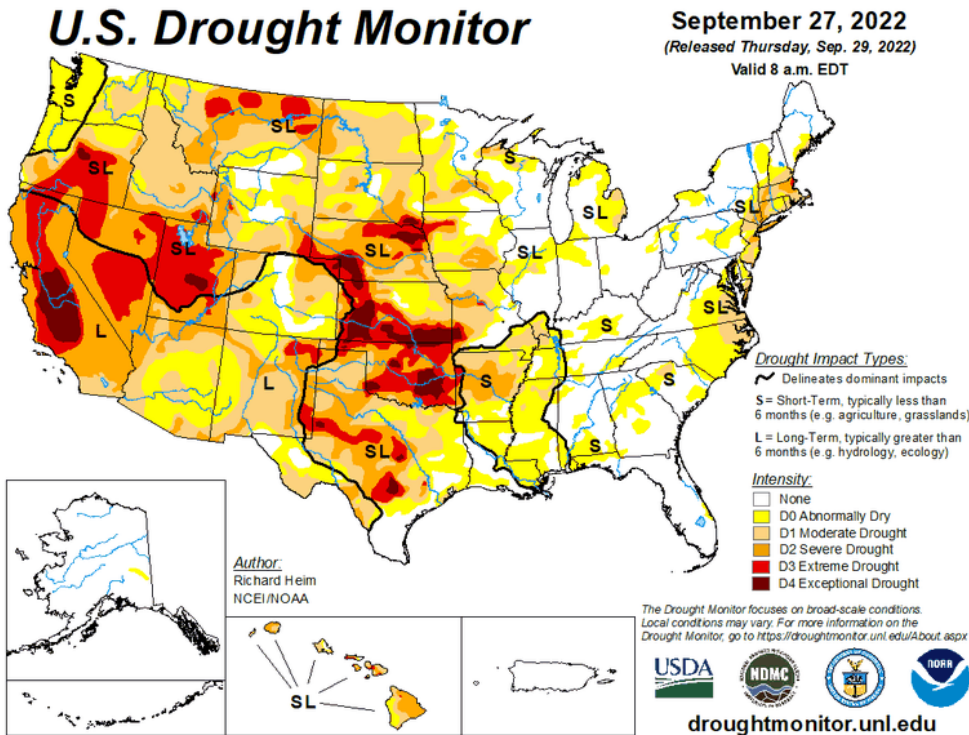
As of December 15, the **three-month outlook** (Jan-Feb-Mar 2023) shows a 33-50% chance of above-normal temperatures for Arizona and New Mexico. An equal chance of above-normal or below-normal temperatures for Utah and Nevada. There will be a 33-60% chance of below-normal precipitation for New Mexico and Arizona and an equal chance for precipitation for much of Utah and Nevada. To view more short-term outlooks, please visit the [NOAA's National Weather Service Climate Prediction Center](#).



Drought

The [animation map](#) is a compilation of the past 12 weeks of the drought monitor maps. The [change map](#) illustrates the difference in drought class changes for the past 12 weeks. There are 1-2 class improvements for portions of the southwest and Hawaii. For a more detailed drought summary in your area of interest, visit the U.S. Drought Monitor [website](#).

Animation Map (September 27 - December 13, 2022)

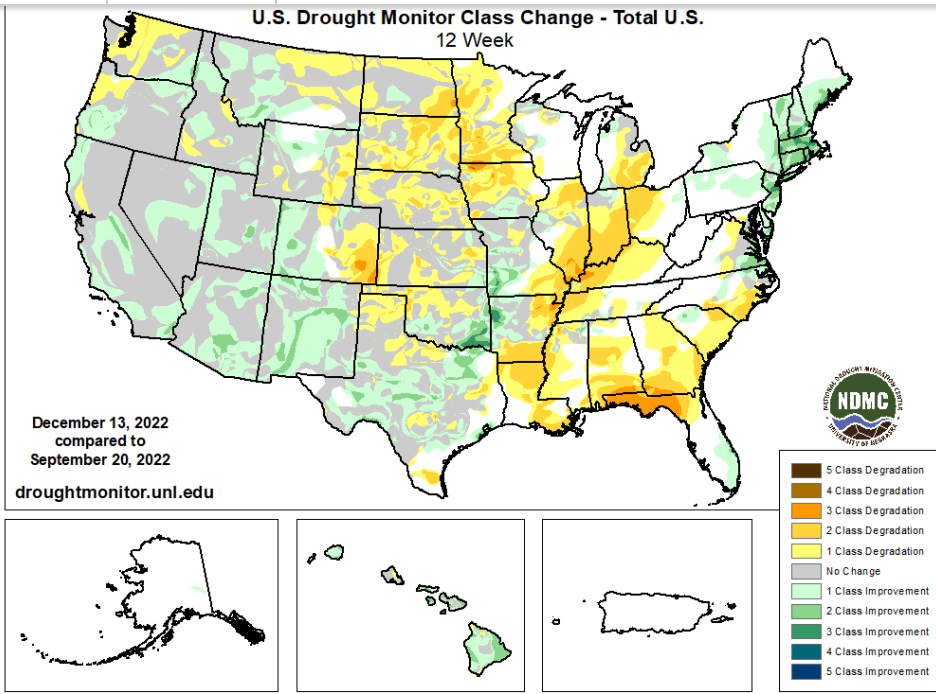


Subscribe

Past Issues

Translate ▾

RSS



Announcements

Translating Climate Science into Action with the USDA Climate Hubs

Come see us at our session at the American Meteorological Society - Translating Climate Science into Action with the USDA Climate Hubs - on Tuesday, January 10, 2023. Follow this link for more information <https://ams.confex.com/ams/103ANNUAL/meetingapp.cgi/Session/61901>

Fifth National Climate Assessment Public Comment

USGCRP is pleased to announce that a draft version of the Fifth National Climate Assessment (NCA5) is now available for public review and comment period. Additional information on this request can be found in the [Federal Register Notice](#) and in this [USGCRP Open Notice](#).

Reviews are a vital part of the NCA5 development process. In addition to this public comment period, NCA5 is being reviewed by a committee of the National Academies of Sciences, Engineering, and Medicine. All of the feedback received through these processes will be considered by the chapter authors for future drafts of the assessment. The final version of NCA5 is expected to be released in late 2023.

This review is free and open to everyone. People who wish to review and comment on the draft report can do so via the [USGCRP Review and Comment System](#) (registration required). Instructions for comment submission are available on that site and in this [brief recording](#). **Please note that this is a draft document and it should not be cited, quoted, or distributed for purposes beyond this review.**

All comments must be submitted by 11:59 PM ET on January 27, 2023 via the [USGCRP Review and Comment System](#).

2023 Society for Range Management

The [Sustainable Southwest Beef Project](#) will have a booth at the Society for Range Management Annual Meeting's trade show on February 12-16, 2023. If you're planning to attend, be sure to stop by our table and say hello!

On-Ranch Demonstration

The Sustainable Southwest Beef Project invites you to an On-Ranch Demonstration at the Corta Madera Ranch in Pine Valley, CA, on May 4, 2023. This will be an opportunity to see some of the ranch management technology we are researching in action, and also hear from a rancher who has been raising Raramuri Criollo for some time now.

Please note that this will be an in-person event only. Registration is not open yet; to receive a notification when registration opens, please enter your contact information [here](#). Please direct any questions to [Skye Aney](#).

[Subscribe](#)

[Past Issues](#)

[Translate](#) ▾

[RSS](#)

Funding Opportunities

[Water Conservation Field Services Program: Financial Assistance for Fiscal Year 2023](#)

Deadline: January 31, 2023

Award Ceiling: \$50,000

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

Deadline: February 13, 2023

Award Ceiling: \$325,000

[Food Safety Outreach Competitive Grants Program](#)

Deadline: February 16, 2023

Award Ceiling: \$550,000

[Agriculture Innovation Center Grant Program](#)

Deadline: March 6, 2023

Award Ceiling: \$1,000,000

[Partners for Fish and Wildlife FY23](#)






Deadline: September 30, 2023

Award Ceiling: \$750,000

Events

- January 8-12, 2023 - [American Meteorological Society](#)
 - January 24, 2023, 1:00 PM - 1:35 PM MST - [Southwest Drought Briefing](#)
 - February 12-16, 2023 - [Society for Range Management Annual Meeting](#)
 - May 9-11, 2023 - [Climate Prediction Applications Science Workshop](#)
 - June 13-15, 2023 - [UCOWR/NIWR Annual Water Resources Conference](#)
-

Join our mailing list

-  [Southwest Climate Hub](#)
-  [Email](#)
-  [SW Climate Hub](#)
-  [Come Rain or Shine](#)
-  [@USDAClimateHubs](#)

Copyright © 2022 USDA Southwest Climate Hub, All rights reserved.

Want to change how you receive these emails?
You can [update your preferences](#) or [unsubscribe from this list](#).