Winter 2020 - Issue 2

USDA California Climate Hub News & Notes

United States Department of Agriculture
California Climate Hub

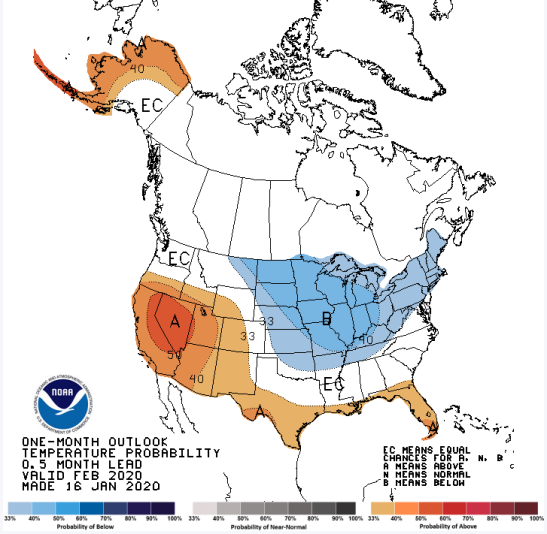
The USDA California Climate Hub within the Agricultural Research Service at the UC Davis John Muir Institute works with partners across federal and state agencies, universities, and industry to help enable climate-informed decision making and advance the adaptive capacity for California's working and managed agricultural, range, and forest lands. Through these newsletters we share news and information of relevance and interest to our stakeholders. We encourage you to get in touch with us if we can be of further service or assistance.

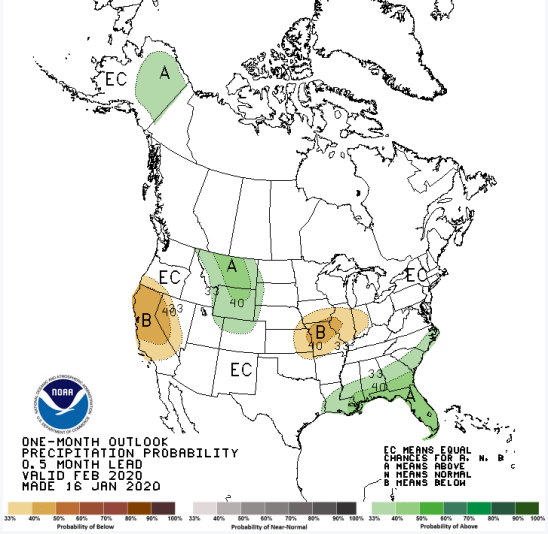
Visit the USDA Climate Hub Website

Climate-Wise Reforestation Toolkit

California's recent drought resulted in significant tree mortality and the need to reforest in areas where the overstory was lost. In partnership with the Forest Service, UC Berkeley, and the John Muir Institute of the Environment, the California Climate Hub developed a toolkit that can be used to inform reforestation decisions with climate change in mind. The toolkit's three tools can help land managers to identify priority areas for reforestation, understand current stand conditions in the aftermath of the drought, and develop a reforestation planting guide based on known best management practices. Check out the toolkit through the link below!

Climate-Wise Reforestation Toolkit





California's Wet Season: Today and Tomorrow

This Year's Dry Wet Season

Roughly 50% of California's precipitation falls between December and February, and 90% of the state's precipitation accumulates between October and April. As we near the end of the 2019-2020 wet season, California's wet season has been anomalously dry (with the exception of the southern-most reaches of the state), the state's snowpack is below normal, and warm and dry conditions are predicted for the coming weeks.

The Wet Season of the Future: Less Snow, More Floods?

Climate change projections tell us we can expect a warmer future, with lower snowpacks compared to historical conditions. A new study from researchers at Stanford shows that watersheds that receive more of their precipitation as snow rather than rain have significantly smaller peak runoff compared to watersheds that receive mostly rain. This suggests that as the climate warms, the snow line moves higher, and California's mountain watersheds receive a greater percentage of their precipitation as rain rather than snow, the risk of flooding will increase. Importantly, the study's findings indicate there is a large possibility for climate change to lead to greater flood risk, even in the absence of changes in precipitation frequency, magnitude, or timing.

In the Spotlight: Dr. Nina Bingham

Did you know that adding crushed rocks to soils can increase the ability of the soil to capture and store carbon dioxide from the atmosphere? Dr. Nina Bingham did and she is now working with the UC Working Lands Innovation Center to quantify just how much carbon can be

captured and stored in agricultural lands across California. Rocks made of silicate minerals are able to capture and store CO_2. By crushing these rocks and adding them to agricultural fields, the soils in those fields are able to trap more carbon dioxide, and the crushed rocks can also replenish some depleted soil nutrients. These types of soil amendments can be a win for the climate and a win for soil health and crop production. To read more about Dr. Bingham's research at the forefront of agriculture-based climate solutions, check out this month's Spotlight piece!

In the Spotlight: Dr. Nina Bingham

In the News

From labor to water, and regulations to climate change, check out this piece on California Agriculture in 2050 for more on where the state's ag industry may be headed.

Enjoying your tomato soup on these chilly winter days? Climate change may alter processing tomato harvest timing and force changes in supply chain management strategies. (Check out the related research article here).

California trees may move to higher, cooler zones as climate change alters where seed-carrying migratory birds congregate.

Variety selection offers some adaptive opportunities for maintaining winegrape production under future climate scenarios.

California's young, female ranchers are experimenting with climate-smart grazing practices to restore biodiversity and mitigate fire risk (with Kate Munden-Dixon and Leslie Roche in the byline!)

Upcoming Events

UCCE Sonoma County Grape Day -- February 6, Santa Rosa

Society for Range Management Annual Meeting – February 16-20, Denver, CO

California Forest Stewards Workshops -- March 7, Redding

Healthy Soils Workshops -- Multiple dates and locations

Opportunities

JOB OPPORTUNITIES

Our partners are hiring! UCANR and UC Merced Sierra Nevada Research Institute is hiring a Climate and Agriculture Project Scientist to develop locally relevant, climate-based agriculture decision support systems and dissemination processes designed to give specialty crops a competitive edge in increasing productivity and reducing risks associated with climate variability and change. Apply by February 24th!

FUNDING OPPORTUNITIES

Bureau of Reclamation WaterSmart Drought Plan Grants -- Applications due Feb 05

USDA NRCS Conservation Collaboration Grants -- Applications due Feb 07

USDA Rural Development Value Added Producer Grants -- Applications due Mar 10

USDA NIFA Beginning Farmer & Rancher Program Grants -- Applications due Mar 19

USDA Agriculture Demonstration Center Grants Program – Applications due Mar 20

Get Involved!

We would be pleased to share your newsworthy items, outputs or products, or associated resources with the USDA California Climate Hub community. If you would like to reach the Climate Hub community, provide a feature for this newsletter, or contribute content for our website, please contact Steven Ostoja, USDA California Climate Hub Director, or to Lauren Parker, USDA California Climate Hub Postdoctoral Fellow.

STAY CONNECTED