Summer 2019 - Issue 2

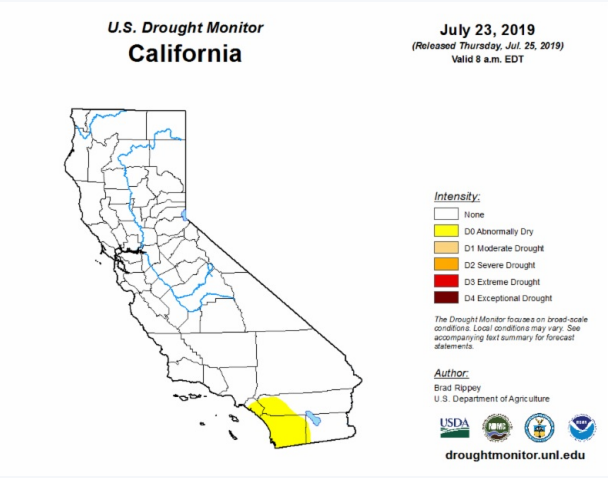
USDA California Climate Hub
News & Notes

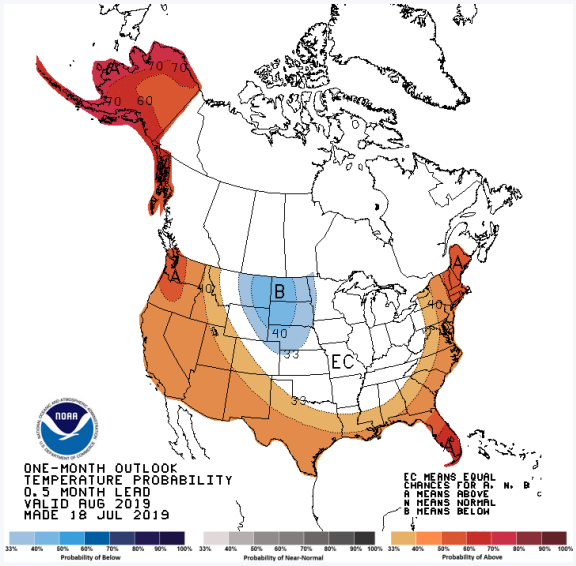
United States Department of Agriculture
California Climate Hub

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. These newsletters are just one approach toward meeting this objective. We encourage you to get in touch with us if we can be of further service or assistance.

Visit the USDA Climate Hub Website

Current Drought Monitor and August Temperature Outlook





California continues to remain out of drought, with only Orange and San Diego counties experiencing abnormally dry conditions. Fortunately, despite predictions for above average temperatures over the coming weeks, the Climate Prediction Center does not anticipate that drought will develop.

Climate Prediction Center Outlooks & Forecasts

NIDIS Drought Portal Outlooks & Forecasts

Hub Partner Spotlight: Dr. Tapan Pathak

USDA California Climate Hub
U.S. DEPARTMENT OF AGRICULTURE

July 30, 2019

PARTNER SPOTLIGHT:
DR. TAPAN PATHAK

Climate Change and the Future of California Agriculture

The future of crop management decision making

Together with the Climate Hub and other Collaborators at UC Davis, USDA ARS, Lawrence Berkeley National Laboratory, and NOAA, Dr. Pathak is developing an online hub and suite of web-based tools to aid crop managers in making climate-informed decisions.

Through integrating observed climate data, modeled future climate projections, and climate- and weather-focused crop management resources, Dr. Pathak's team will create web resources that will improve management decisions and reduce climate-related production risks. Interactive and innovative tools such as crop heat risk advisories, freeze risk forecasts, and real-time heat and chill accumulation tools are in development.

Still in its prototype phase, these web tools will be announced through the Hub when they are made public, so stay tuned!

UCANR Specialist Dr. Tapan Pathak works at the intersection of climate change and agriculture

DR. TAPAN PATHAK is a UC Agriculture and Natural Resources Specialist in climate change and agriculture. With a background in agricultural and irrigation engineering, and expertise on topics ranging from analyzing freeze risk to modeling crop yields, Dr. Pathak is well-suited to lead California in preparing its agricultural sector for the future.

Newsworthy Research

In 2018, Dr. Pathak and co-authors published a paper in the journal *Agronomy* highlighting the state of scientific knowledge on the effects of climate change on California's agricultural sector. The paper, which garnered widespread media attention, provided a detailed review of the state of the science, describing climate change trends and projections for the state, and what those changes may mean for crops, forests, and rangelands.

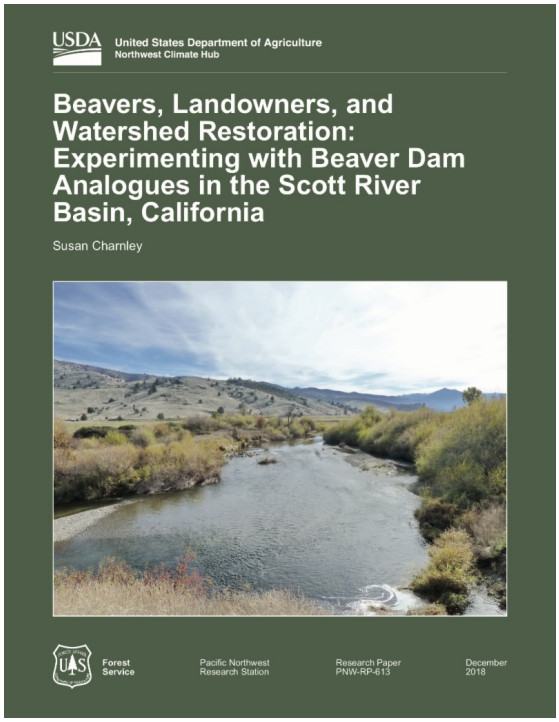
Based on the review, Californians can expect warmer temperatures and more frequent and hotter heatwaves. In response to warmer temperatures, some of our staple crops like rice, wheat, and corn will see lower yields. Speciality crops will also be impacted. A warming of less than 4-degrees Fahrenheit in

USDA California Climate Hub 1

The California Climate Hub is fortunate to work with talented researchers, extension specialists, and industry experts to develop and share information that helps California's forest, range, and agriculture professionals make climate-informed decisions. We are excited to showcase some of our Hub partners through a new Spotlight series that will feature a Hub partner and some of their impactful, relevant work. **This new series kicks off with a feature on Dr. Tapan Pathak.** If you have a recommendation for a researcher, extension specialist or agent, industry expert, or collaborative project that should be featured, please be in touch.

Beaver Dams and Watershed Restoration

Northern California's Scott Valley is home to a pioneering new approach to watershed restoration that uses in-stream structures that function like beaver dams to promote positive ecosystem changes. The installation and monitoring of beaver dam analogues, as these structures are known, requires close collaboration between regulatory agencies, research and implementing partners, and private landowners. The challenges of working with diverse partner groups has come with payoffs for Scott Valley, and the outcomes and lessons learned from this early-adopting community have been catalogued. **Project lead Susan Charnley details the experimental approach and key messages in this Forest Service report.**



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Northwest Climate Hub

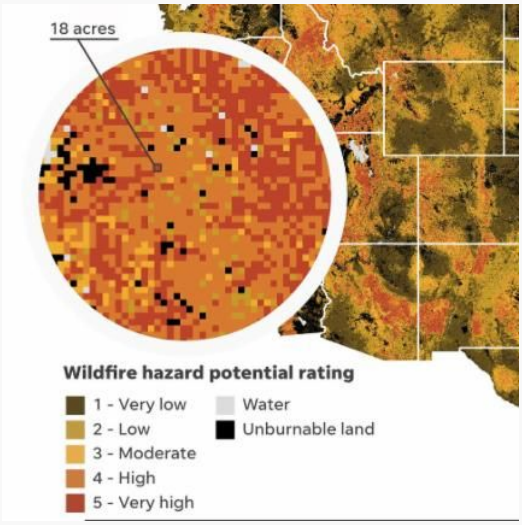
Beavers, Landowners, and Watershed Restoration: Experimenting with Beaver Dam Analogues in the Scott River Basin, California

Susan Charnley

Forest Service | Pacific Northwest Research Station | Research Paper PNW-RP-613 | December 2018

In the News: Wildfire Hazard Risk in Small

Communities Across the West



Dedicated reporters from Arizona Central spent six months analyzing demographics and wildfire data to identify communities most vulnerable to wildfire hazards. The resulting interactive story map highlights community risk and the efforts communities are making to prepare for – what is in some places inevitable – wildfire. The report ultimately identifies some overarching actions that can help to save lives as forests become more populated and the fire season grows longer: (1) forest management, (2) community and individual evacuation plans, and (3) wireless emergency alert systems. For the full report and an interactive map where you can explore wildfire hazard and human risk for communities across the West, follow the link below.

Ahead of the Fire: Wildfire risks across the West

Upcoming Events

Meeting: California Society of American Foresters Summer Meeting, August 15th - 16th, Mammoth Lakes

Symposium: Climate Change and the Ecology of Sierra Nevada Forests, September 20th - 21st, Merced

Webinar: California-Nevada Drought and Climate Outlook Webinar. September 23rd, Online

Stay in Touch

Let us know if you have news worthy items, outputs or products, or associated resources that may be of interest to the USDA California Climate Hub community. You can email items to Steven Ostoja, USDA California Climate Hub Director, or to Lauren Parker, USDA California Climate Hub Postdoctoral Fellow.

STAY CONNECTED

USDA California Climate Hub | climatehubs.oce.usda.gov