

USDA California Climate Hub News & Notes



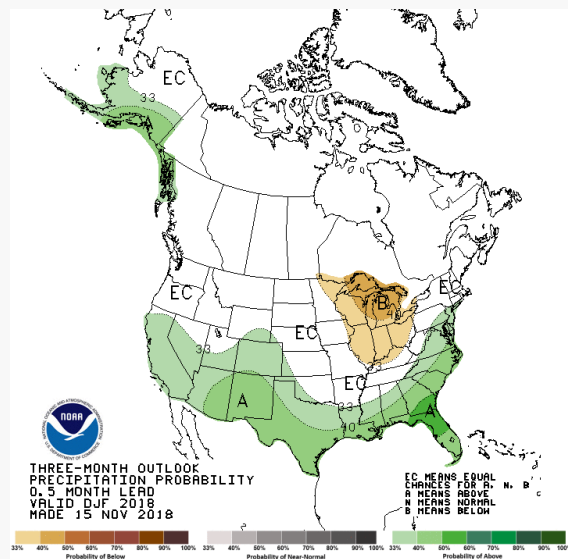
**United States Department of Agriculture
California Climate Hub**

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 monthly 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](#)

California's Winter Precipitation Outlook

California's mediterranean climate means dry summers and wet winters. We're now into what is, climatologically, the rainy season for the state. Across the state, precipitation is a little below average for the water year, which began on October 1, but because roughly half of the state's annual precipitation falls between December and February, those concerned with water are looking to the Climate Prediction Center's winter outlook and El Niño forecast as a peak into the future.



The [winter outlook](#) for precipitation calls for a modest chance at above-normal precipitation for the winter (December through February). This probability of above-normal winter precipitation is based on the outcomes of multiple forecast models, including the El Niño Southern Oscillation (ENSO) forecast model, which is calling for a weak El Niño event over the winter months.

California's winter precipitation regime can be highly variable year to year, and is influenced by numerous atmospheric factors, including ENSO. This year, the NOAA Climate Prediction Center has issued a forecast for an **80% chance of the formation of El Niño**, the warm phase of ENSO, during the winter months. For California, this often means rain, particularly in the southern part of the state. This year's forecast is for a weak El Niño, meaning that the central and northern regions of the state may see less influence of El Niño on their winter precipitation.

From a climate change perspective, [a new research study](#) released this month -- and [summarized in the Los Angeles Times](#) -- suggests that **warming global temperatures will mean more powerful El Niño events in the future**. For California, this could mean more extreme winter precipitation. Historically, strong El Niños have caused billions in destructive floods and landslides, and resulted in loss of life. Such future events will challenge infrastructure and water management as California's precipitation regime oscillates increasingly between extreme wet and extreme dry under future conditions.

The CPC Winter Outlook

California's 4th Climate Change Assessment: Sacramento Valley Region



The Sacramento Valley is home to urban centers, large agricultural operations, cattle ranches, and forests. Climate change is already affecting the region, with warmer temperatures and more extreme heat and precipitation events. The 4th California Climate Change Assessment highlights the specific impacts of these changes, what the region can anticipate in the future, and, most importantly,

presents some of the adaptive measures that can be taken or are already underway in the region's communities. Below are natural resources and working lands highlights from the [Sacramento Valley Regional Report](#). For more on impacts to urban environments, human health, energy, and transportation, along with the complete

discussion of natural and working lands challenges and opportunities, visit the full report with the button below.

- Increased risk from floods, droughts, and fires can be mitigated through:
 - Levee setbacks
 - Water conservation
 - Fuels management
- Reduction in habitat for iconic species can be mitigated through:
 - Managing for refugia and habitat connectivity
- Increased risk for native fish species can be mitigated through:
 - Managing waterways to encourage more natural patterns of water flow
- Increased risk to crop productivity can be mitigated through:
 - Encouraging conservation practices
 - Identifying new sources for surface irrigation water

Sacramento Valley Regional Climate Change Assessment

Reforestation Workshops a Success



The Reforestation Dialogues and Symposium, a two-day event held in November 2018 organized by U.S. Forest Service Region 5 and the USDA California Climate Hub, was designed to promote co-concept generation and co-production around the current challenges and opportunities related to reforestation across the state in the lens of a

changing and increasingly dynamic climate.

The first day focused on dialogue and opened with a session focused on the “day in the life” of a forest silviculturist. With this grounding, the agenda opened into a series of three talks by research scientists on 1) factors that promote increased levels of natural regeneration, 2) a decision-support tool for increasing reforestation success in post-tree mortality situations, and 3) patterns of reforestation success and failure in post-fire environments. In the afternoon, we held three, concurrent break-outs intended to foster conversations around the topics of young stand management, planting location prioritization, and considerations around plant materials, seed sources, and seedling stock types. The break-out highlights were summarized for the larger group in preparation for the subsequent Reforestation Symposium.

The second day featured the symposium and started with a session presented from the manager perspective on national and regional

reforestation policy, priorities, and challenges. After this foundational introduction, the day transitioned to a session about how climate is influencing and shaping forests and reforestation. This talk led into a panel discussion about what reforestation looks like in the future with climate change which, in turn, was followed by a reforestation tool “lightning” round. The afternoon opened into three, concurrent break-out discussions focused on where reforestation should occur, what should be planted, and how we can ensure that reforestation succeeds. The day concluded with break-out report-outs and summary points.

For more information, full agendas, and presentation materials, click the button below.

Reforestation Dialogues and Symposium

CAL FIRE Employment Opportunity

CAL FIRE Fire and Resource Assessment Program (FRAP) is seeking an Environmental Scientist or Senior Environmental Scientist in Forest Health Monitoring.

[See the flyer for more information and a full position description.](#) Final filing date is 1/18/19.

Save the Date: California Climate and Agriculture Network Summit March 4th and 5th in Davis

[The California Climate and Agriculture Network](#), or CalCAN, is a statewide coalition that works to support



sustainable and climate-smart agriculture through developing and advancing policies that support emissions reductions, carbon sequestration, and climate change adaptation efforts on working farm and ranch lands across the state. [CalCAN's bi-annual meeting](#) will be held at UC Davis in March and will bring together hundreds of farmers, ranchers, researchers, and policy makers to discuss the latest in agricultural science, policy, and practice.

Other Upcoming Events

(click on each for more info)

2019

[American Meteorological Society Meeting](#)

[Phoenix, Arizona - January 6th - 10th](#)

[Integrating Climate Change in CA Cooperative Extension Programs](#)

[Merced, CA - January 23rd - 24th](#)

[National Adaptation Forum](#)

[Madison, Wisconsin - April 23rd - 25th](#)

Stay in Touch



Let me 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 me, Steven Ostoja, USDA California Climate Hub Director by clicking [here](#).

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