

# California Drought & Water Supply Update 9/16/2022



## **California Drought Summary – 9/16/22**

California Agriculture Managed to squeak by another very hot and dry summer season but not without major impacts to the crops grown in the state. Production of both Almonds and Pistachios are sharply down from the CY'21 season and the planting of row crops were down significantly (especially the Rice Crop in Northern California...see page 2). As we look ahead into the Fall/Winter/Spring period of 2022/23, we do have more water now in the reservoirs (33% of capacity) than we had at this time last year (29% of capacity). However, long-range weather forecasters are predicting another dry winter for California due to a rare 3<sup>rd</sup> year of La Nina conditions in the eastern equatorial region of the Pacific Ocean. Although this does not guarantee a dry winter, it makes it highly likely based on history. Based on the affects we have seen to the crops and planted acreage due to the drought of the past two years, it is hard to imagine the impact that a 3<sup>rd</sup> consecutive year of drought will have on both row crop and permanent crop acreage and production. It is hard to expect that California's groundwater supplies will hold up once again next spring and summer without significant help from excessive rainfall and snowpack!

**Excerpt from recent article: Chances for La Niña event in Central California increasing, experts say**

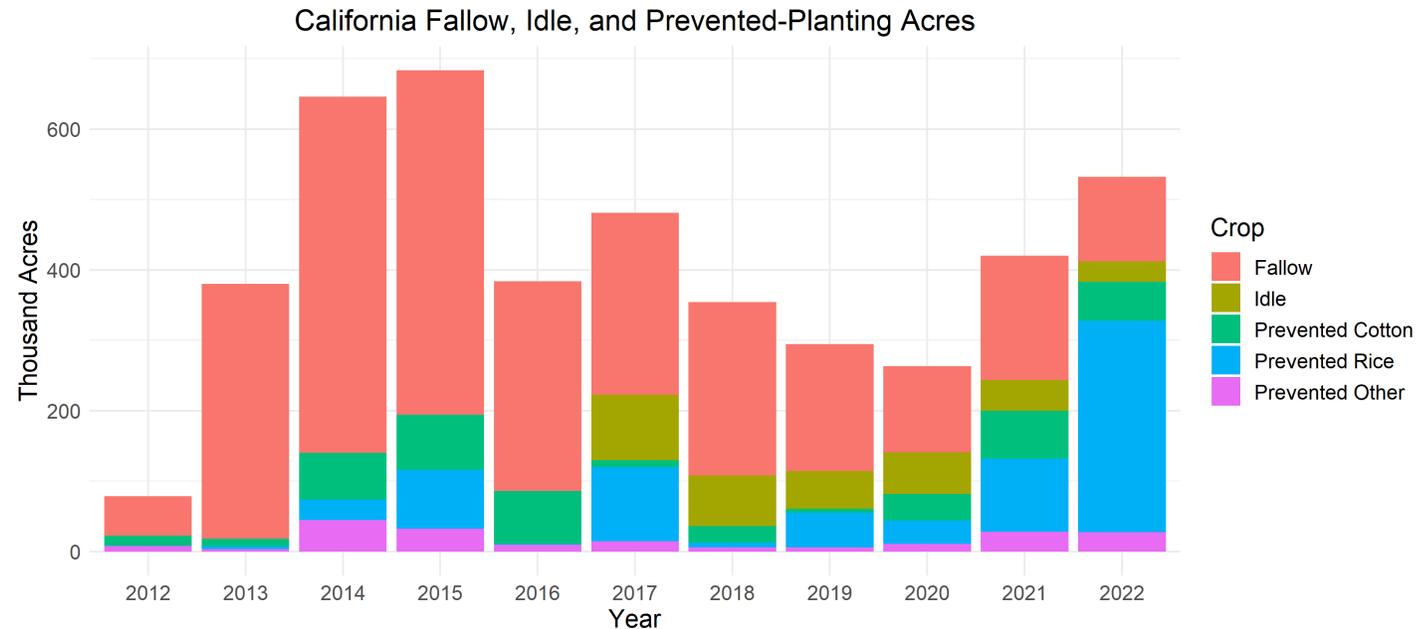
<https://abc30.com/la-nia-california-weather-central-valley-drought-conditions/12241811/>

"According to the National Weather Service, [La Niña is here and she's not going anywhere any time soon](#). Steven Haugen is the Watermaster at the Kings River Water Association - the organization responsible for administering and allocating water in the Central Valley. He says, "When the sea surface temperatures are less than a half of a degree below average, they call it a La Niña." Action News Meteorologist Madeline Evans explains what this means for Central California. "The probabilities are looking higher and higher that we are going to settle right back into La Niña. We've seen that the past three years and that's almost unheard of. We've really only seen three consecutive years of La Niña, about two on record. It's pretty rare and it also adds to the drought effects we've seen here in California," Evans explains. Haugen agrees that yet another dry year is likely. "Our drier years tend to be our La Niña years, our driest years tend to be La Niña years, our wettest years tend to be El Niño years. So, when we do have those years, they tend to be extremes," he says. Haugen says this region has already had two very dry years, so with a potential third year looming, dry conditions could reduce the amount of water stored in the Central Valley reservoirs and increase the wildfire risk".

## Big Drop in California Rice Acres

<https://asmith.ucdavis.edu/news/big-drop-california-rice-acres>

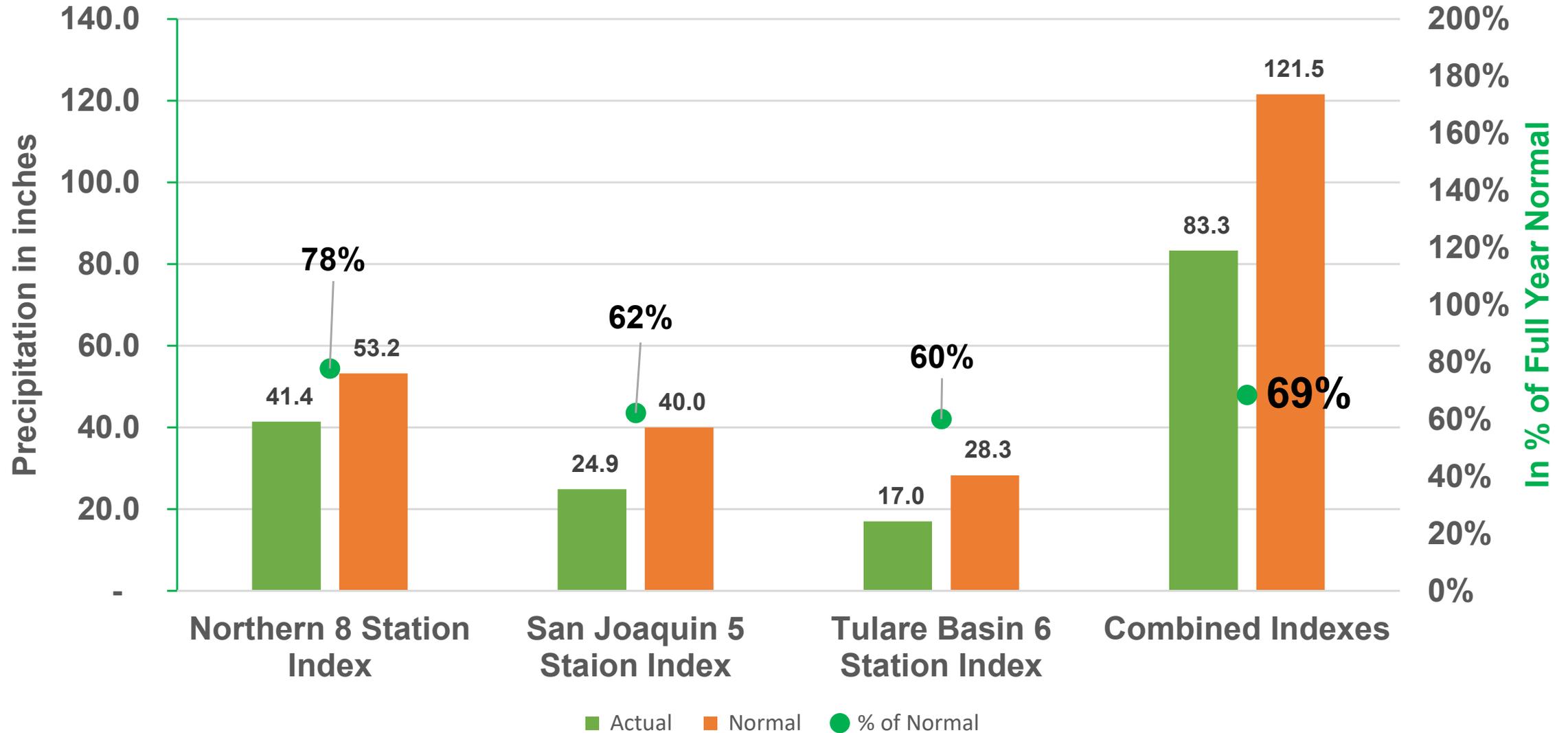
“On Monday, the [USDA published](#) the year's first data on which crops farmers have planted this year, which allows us to assess the effects of the ongoing drought on California crop acres. The data contain two pieces of information that indicate how the drought is affecting land use. First, farmers report prevented-planting acres, which is land they had intended to plant a crop but were prevented from doing so by a natural disaster, [such as inadequate irrigation water](#). Second, farmers report fallowed or idle acres, which is cropland not planted to a crop. The reported number of unplanted crop acres in California is 532,000, which is an increase of 112,000 acres from 2021. Total unplanted acreage is about 7% of the state's cropland, but it remains lower in 2022 than it was at the height of the previous drought in 2014-15. Most of these acres came from prevented planting of cotton and rice”.



Source: <https://www.fsa.usda.gov/online-services/fsa-online-data-resources/index>  
<https://agdatanews.substack.com>

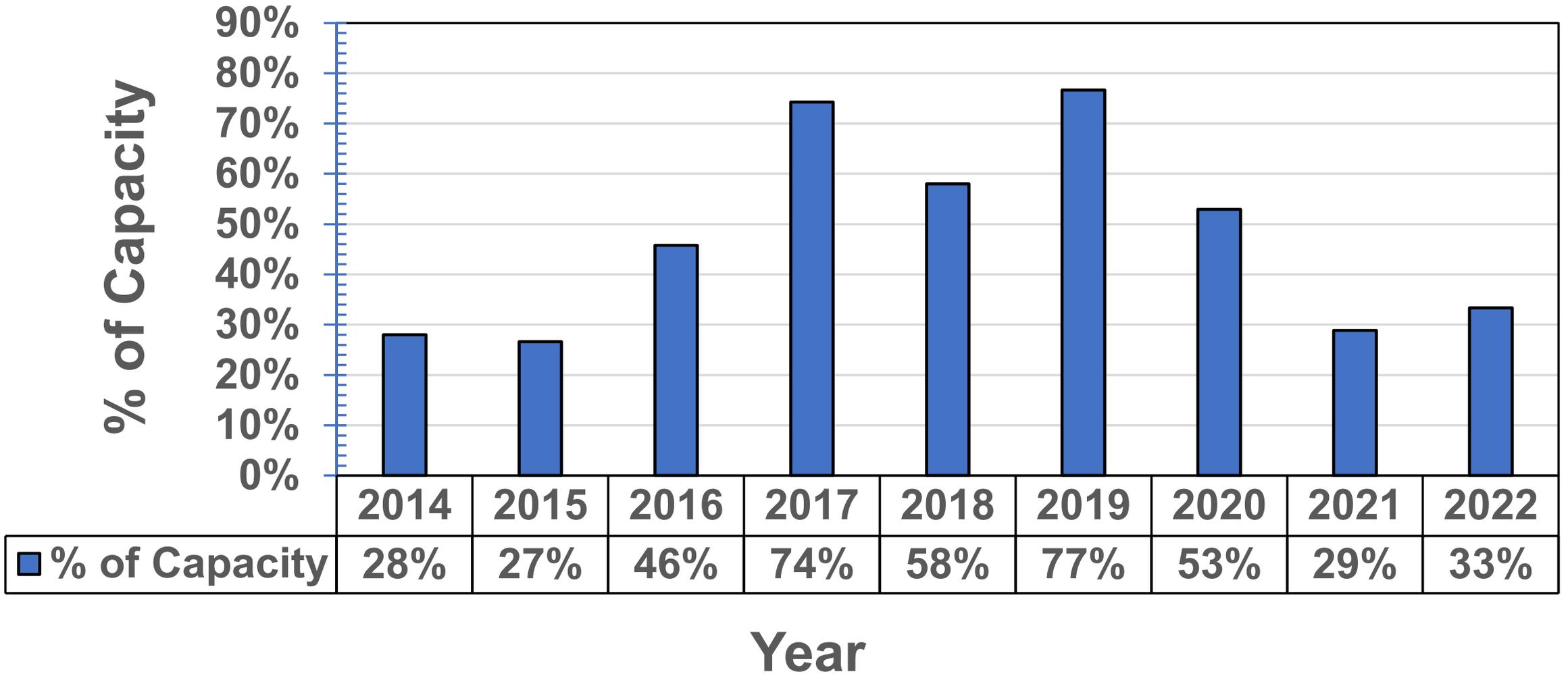
# California Precipitation Index Totals

## YTD as of 9/16/22 vs. Full Year Normal (Oct - Sept)



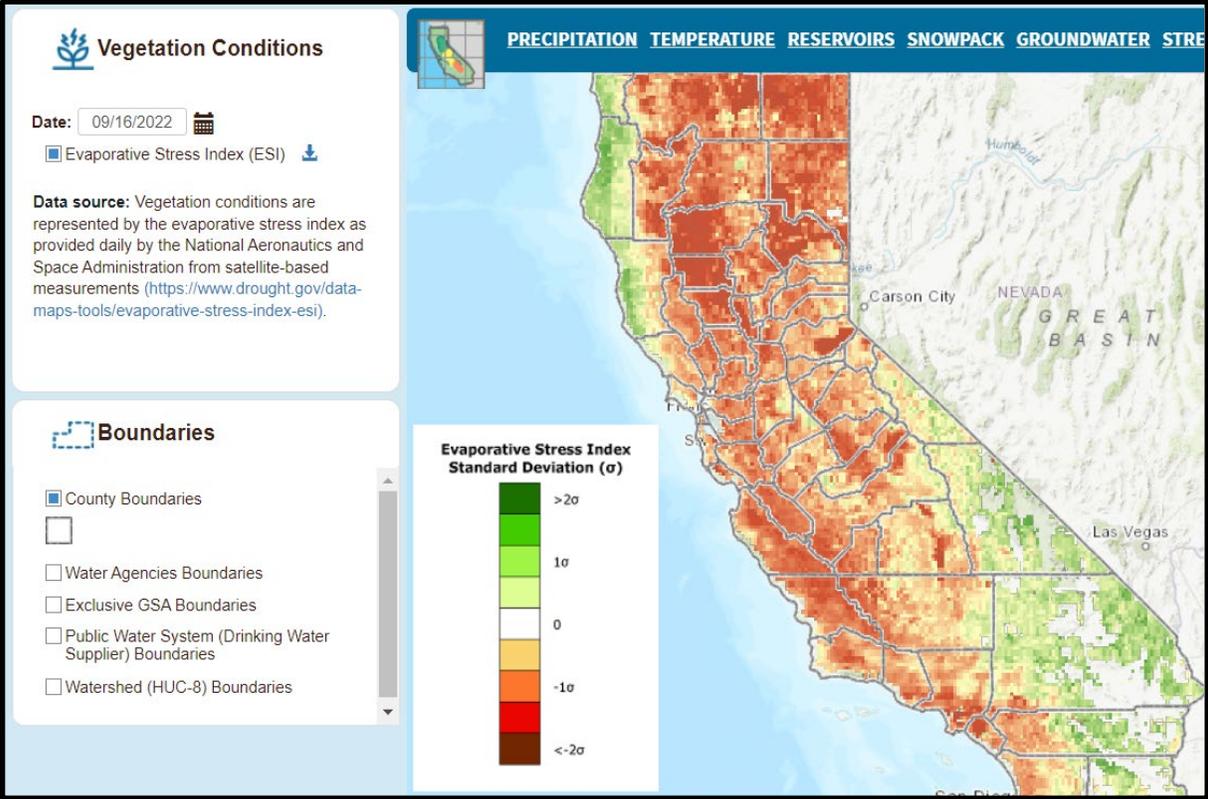
# Major California Storage Reservoirs

## % of Capacity as of September 11, 2022

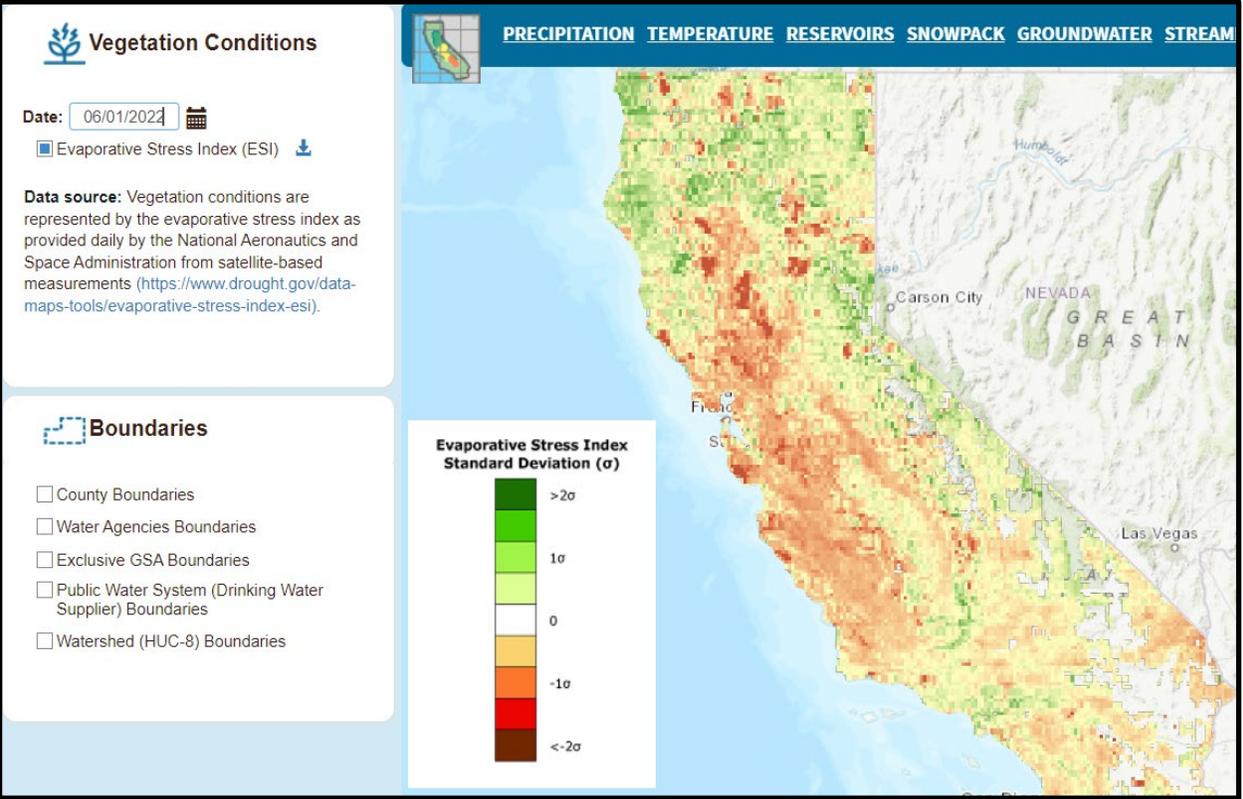


As you can see below, the Vegetation Conditions in California today are much worse than seen at the beginning of summer due to very hot temperatures and lack of rainfall (which is normal for California). Temperatures from July 12<sup>th</sup> through September 10<sup>th</sup> were much higher than was experienced last year during that time period.

Vegetation Conditions 9/16/22

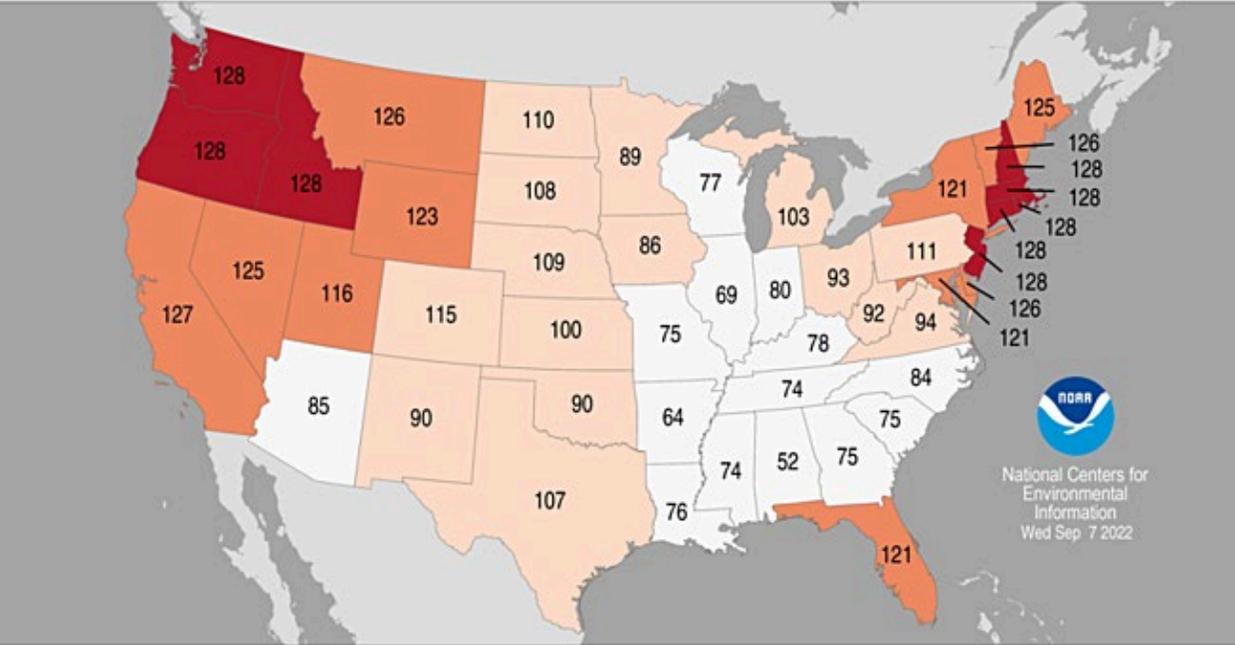


Vegetation Conditions 6/1/22

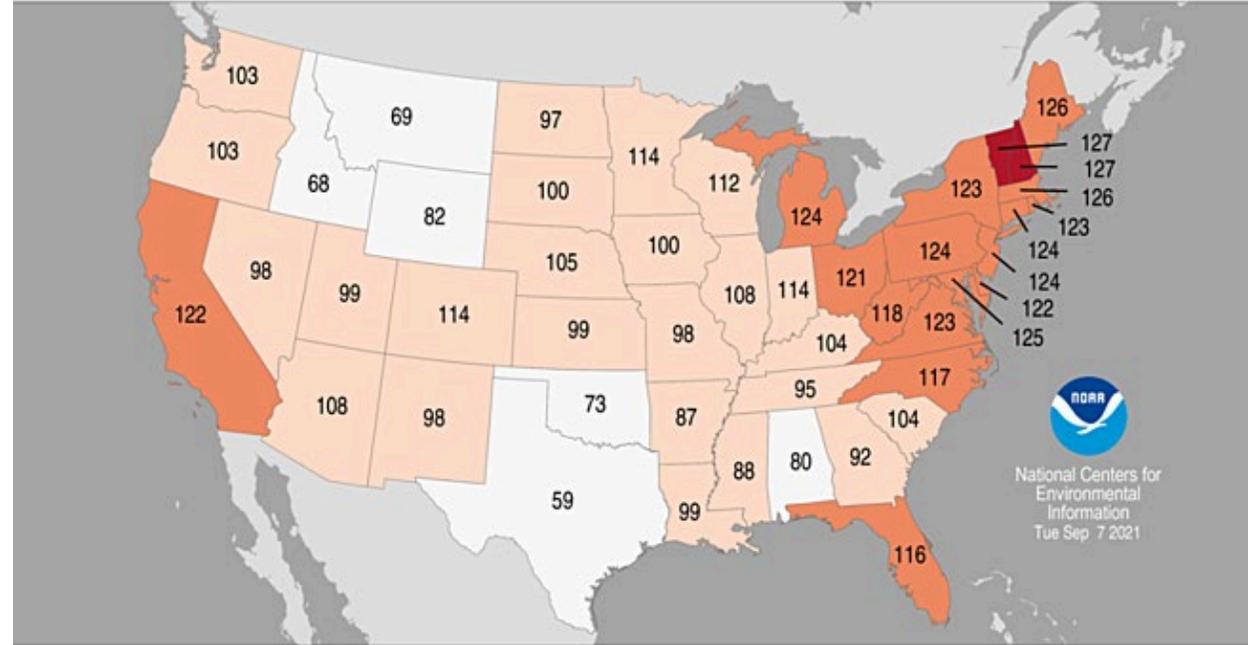


# The month of August in California was the hottest on record (127 years of history)!

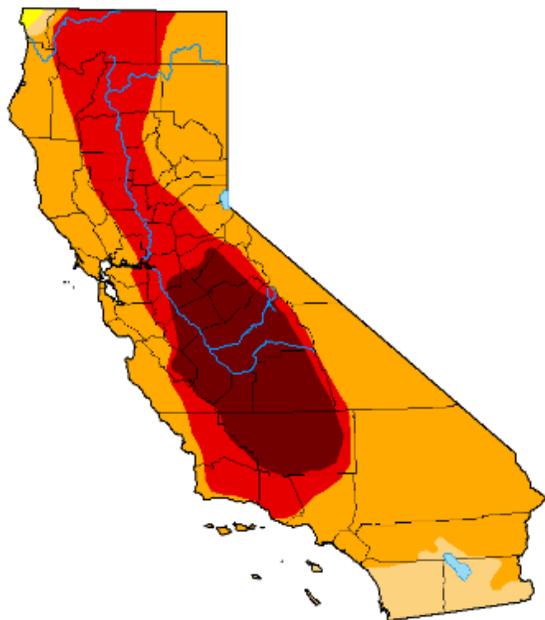
Statewide Average Temperature Ranks  
August 2022  
Period: 1895–2022



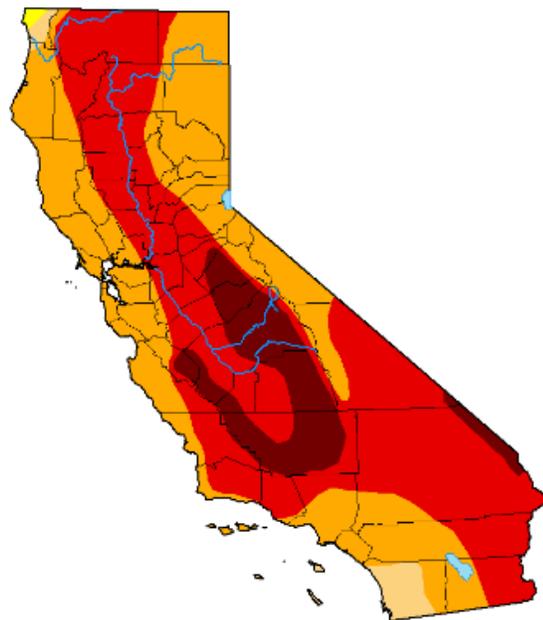
Statewide Average Temperature Ranks  
August 2021  
Period: 1895–2021



## Drought Classification



< September 13, 2022 >



< June 7, 2022 >



## Statistics Comparison

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
2022-09-13	0.00	100.00	99.76	94.06	40.91	16.57	351
2022-06-07	0.00	100.00	99.79	97.48	59.81	11.59	369

In looking at the current NOAA Drought Monitor conditions for California, you can see the far southwestern region of California has seen some improvement in drought conditions since early June due to the stronger than normal Monsoon season that impacted that area as well as most of Arizona and New Mexico. However, the Sacramento Valley and the Central and Southern Joaquin Valley regions remain in the “Extreme” or “Exceptional” Drought Category as we move into the Fall period. Unfortunately this is where all of the Almonds and Pistachios are grown in California.

DWR GW Level Percentile Statistics   
Apply Filter (only show checked item)

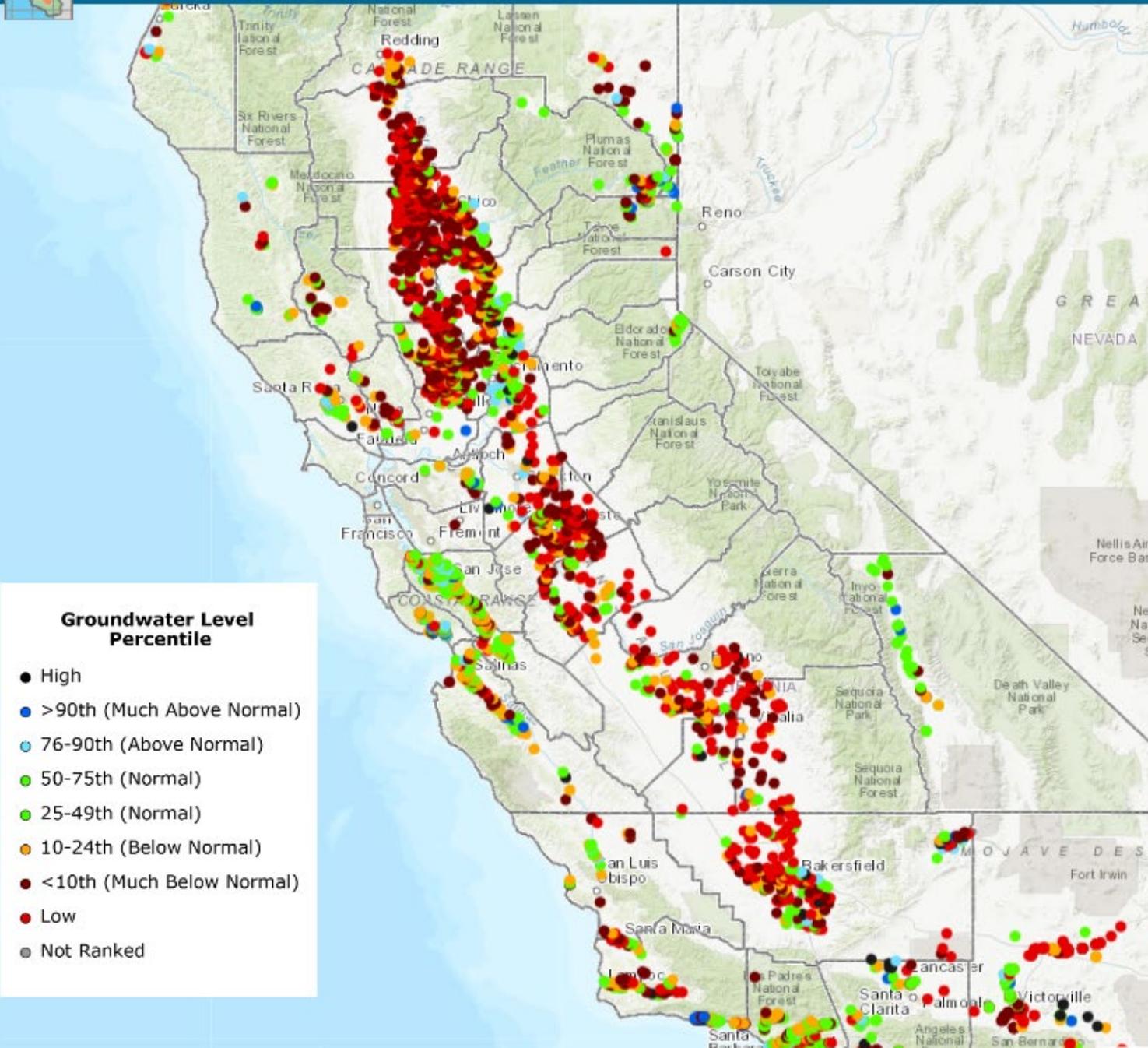
- Data Ranked from High to Low
- All Data including Not Ranked
- Below Normal Groundwater Levels (< 25th percentile)
- Depth Range
- Min Depth (ft)
- Max Depth (ft)



**Data source:** Groundwater data shown here are from DWR's Sustainable Groundwater Management Act data viewer. SGMA data are available for those groundwater basins that are required to report data to DWR. No groundwater data are available for fractured rock groundwater sources not covered by SGMA. For information on the SGMA data viewer see: <https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#currentconditions>.

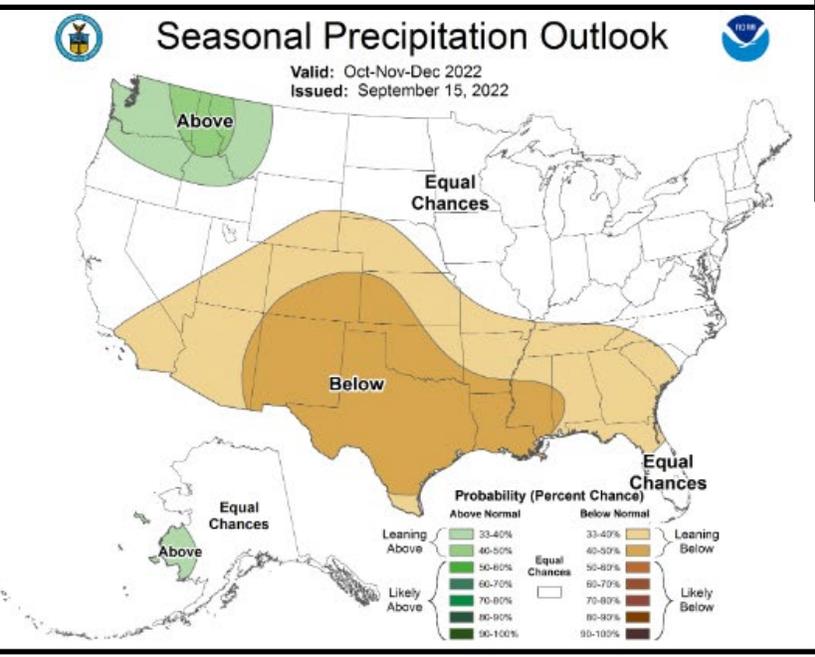
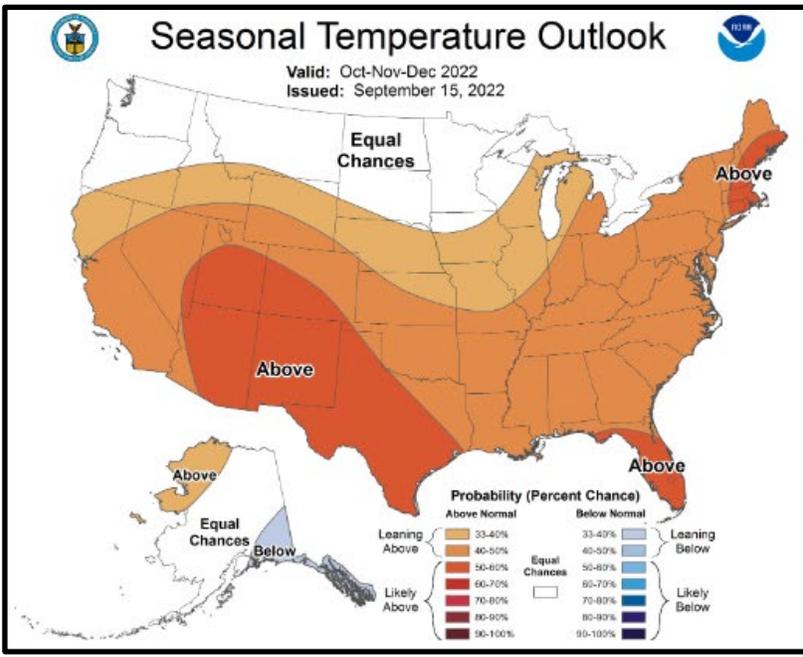
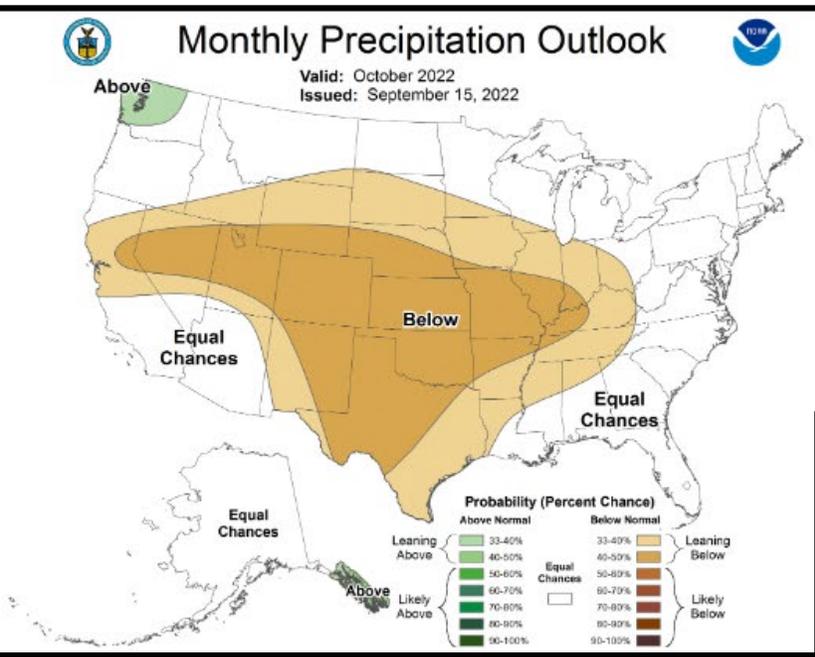
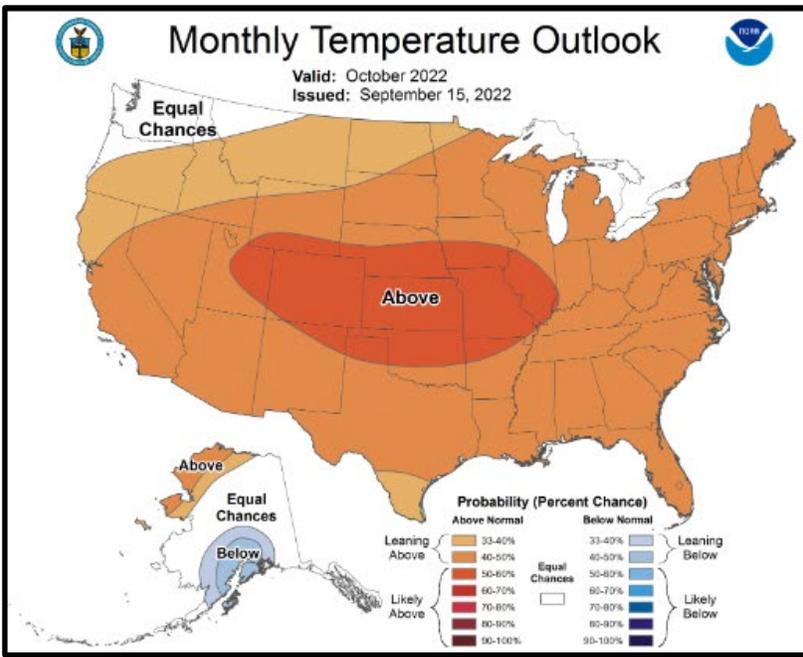
Boundaries

- County Boundaries
- Water Agencies Boundaries
- Exclusive GSA Boundaries
- Public Water System (Drinking Water Supplier) Boundaries
- Watershed (HUC-8) Boundaries

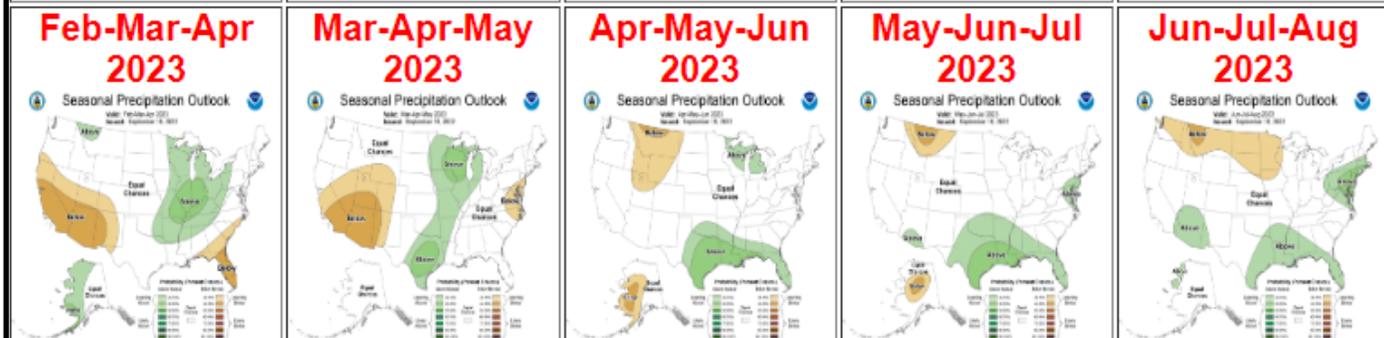
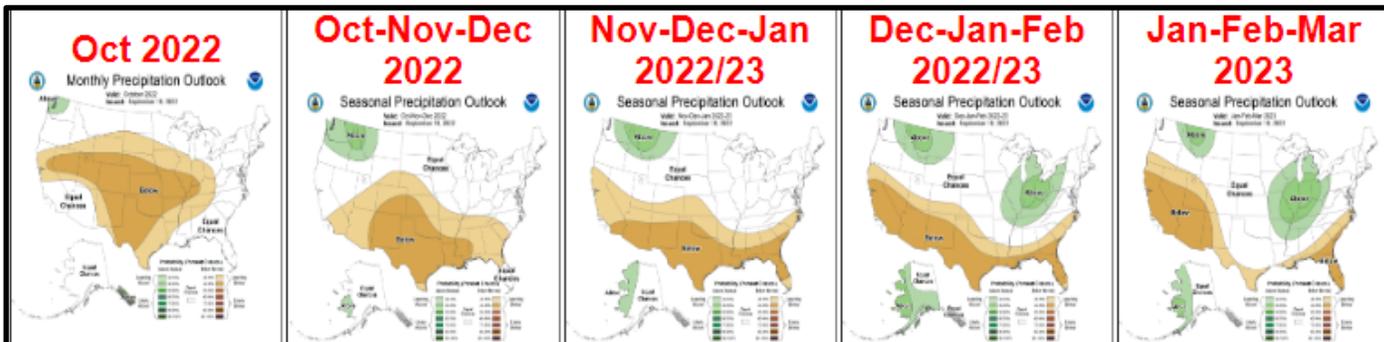
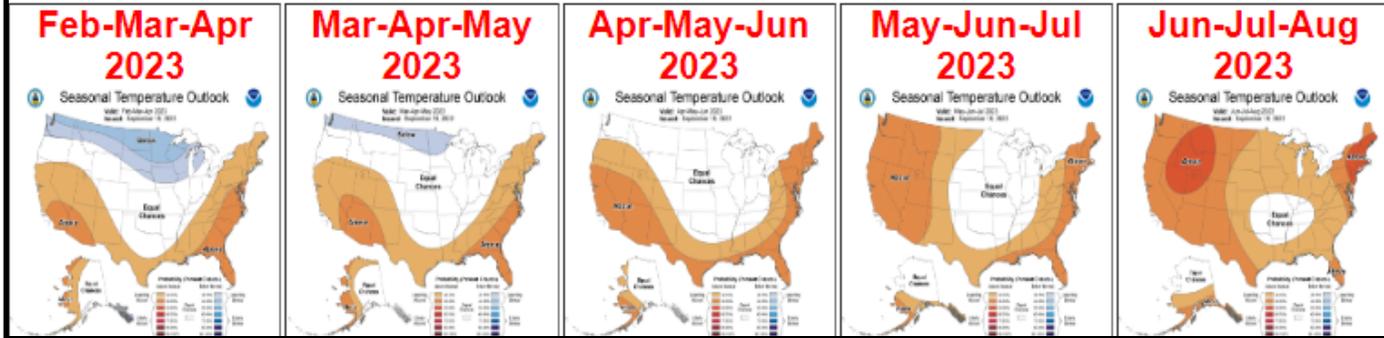
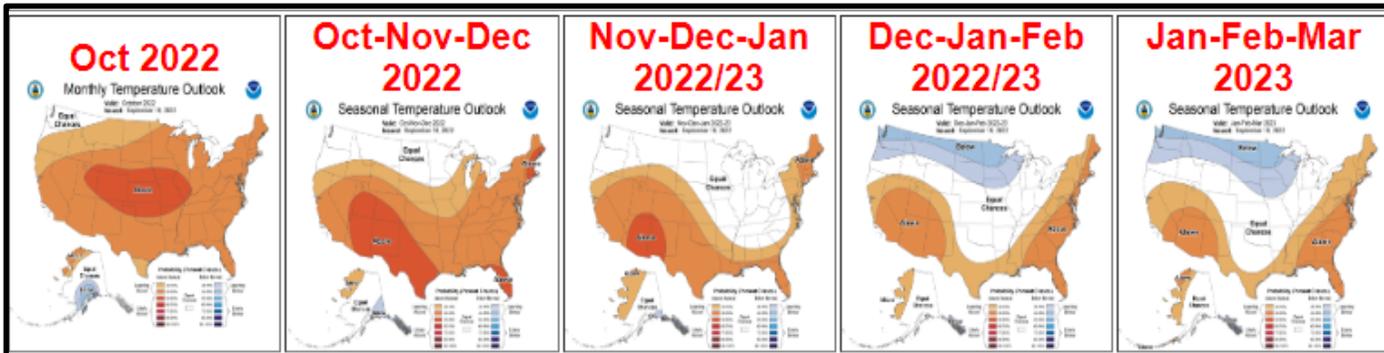


**Groundwater Level Percentile**

- High
- >90th (Much Above Normal)
- 76-90th (Above Normal)
- 50-75th (Normal)
- 25-49th (Normal)
- 10-24th (Below Normal)
- <10th (Much Below Normal)
- Low
- Not Ranked

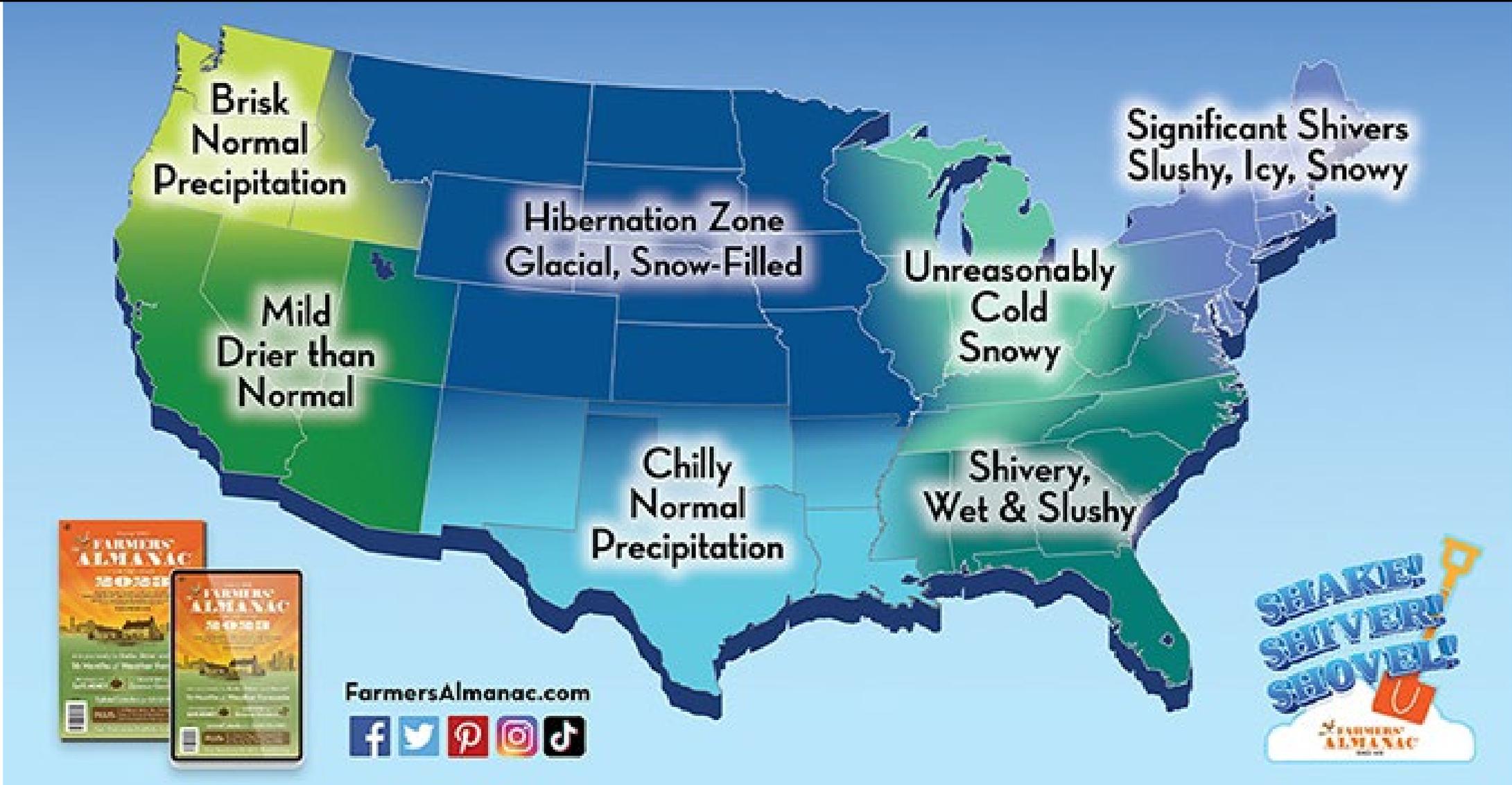


**The Current NOAA Temperature & Precipitation Outlook for October as well as for the October through December period shows a strong probability of warmer than normal temperatures and below normal to normal precipitation conditions for California.**



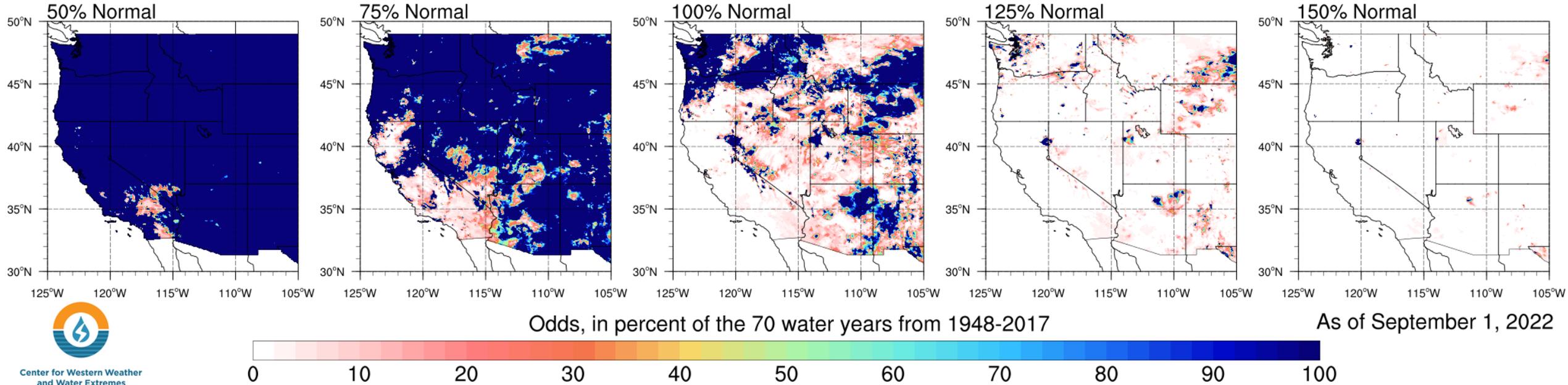
**As we look further out into the future, The current NOAA Temperature & Precipitation Outlook for the Fall/Winter/Spring period of 2022/23 continues to show the probability of warmer than normal temperatures and below normal precipitation conditions for California.**

Like the NOAA Long-Range Forecast for the coming 22/23 Season, the recently released Farmers Almanac points to another Drought Year this coming Fall/Winter & Spring in California.



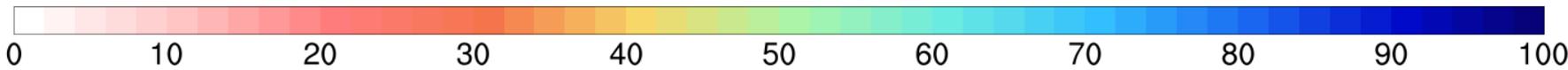
**In looking at the September 1, 2022, the statistical probability model for precipitation for the winter of 2022/23 for the Western U.S. & California, the chances (odds) of getting 100% of normal precipitation in California are almost zero. The chances of getting even 75% of normal precipitation are also very low (<10%). This supports the other long-range outlooks currently available from other weather prediction sources. This is not very good news for California agriculture!**

### Odds of Water Year 2022 Reaching Various Fractions of Water Year Normal Precipitation Totals



Odds, in percent of the 70 water years from 1948-2017

As of September 1, 2022



Center for Western Weather and Water Extremes

CW3E, Scripps, UC San Diego; Contact B. Kawzenuk/M. Dettinger/M. Ralph  
 Data courtesy: PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>

Normal Precipitation = 1981-2010