

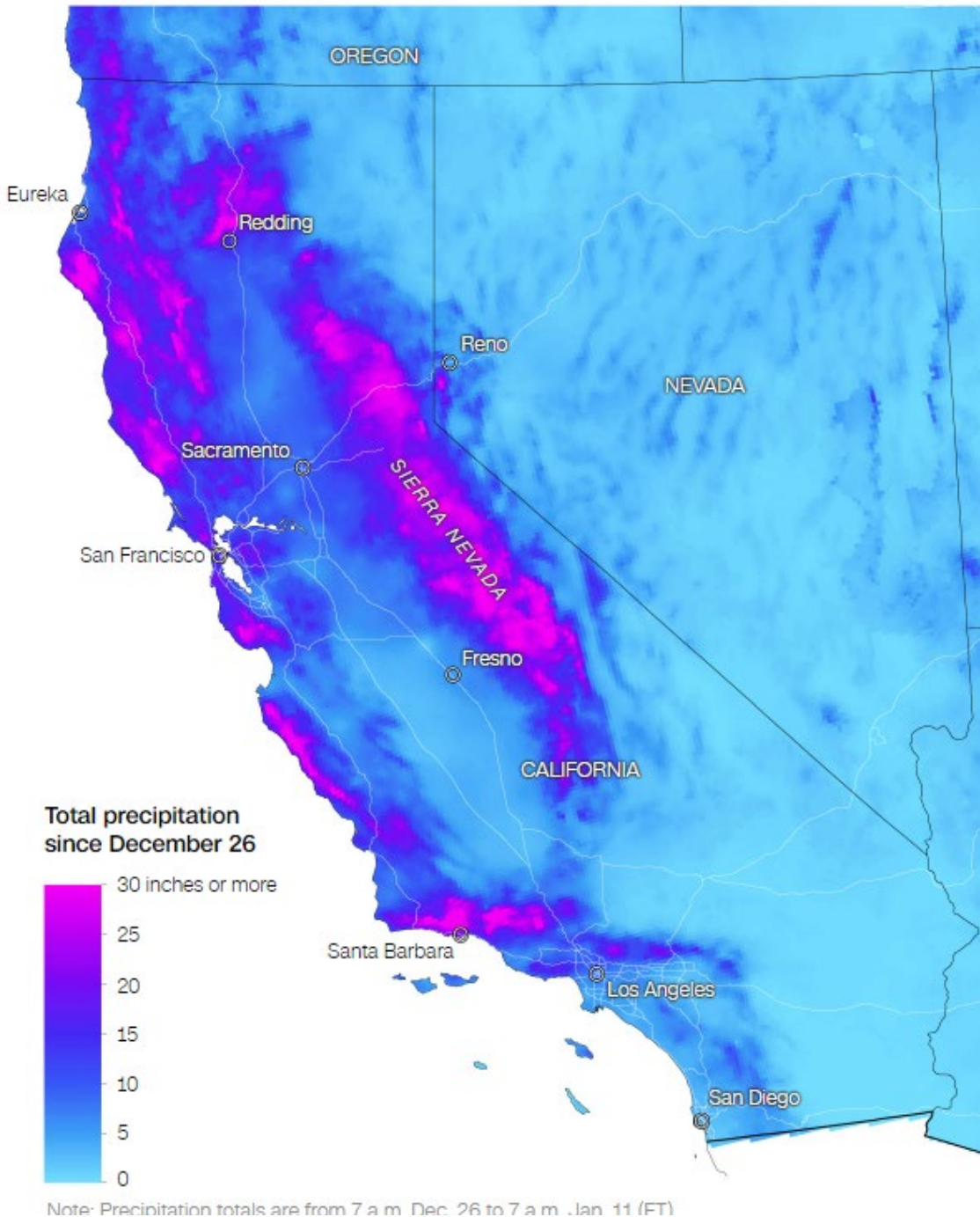
California Drought & Water Supply Update 1/25/2023

WINTER REPORT



Mammoth Mountain - Main Lodge - Snow in Inches

New Snow January 2023 as of 1/25/23	January New Snow Record - 2017	Historical Records			
		Through January		Season Total	
		WY '22/'23	WY '16/'17	Normal	'10/'11
204	246	381	339	400	669



California wanted rain but not that much that fast!

California deluged with precipitation since late December

Since the atmospheric river events began affecting the West coast on Dec. 26, large swaths of coastal California have seen more than 25 inches of rain, with isolated areas receiving 40 inches or more. In the high elevations of the Sierra Nevada mountains, a lot of this precipitation is falling as snow.

California storms: The damage and the amazing deluge, by the numbers [Article from the Mercury News](#)

<https://www.mercurynews.com/2023/01/16/california-storms-the-damage-and-the-amazing-deluge-by-the-numbers/>

24.5 trillion: = Estimated gallons of water that fell on California from Dec. 26 to Jan. 11.

16: – The Number of times that amount of water could fill California’s largest reservoir, Shasta Lake.

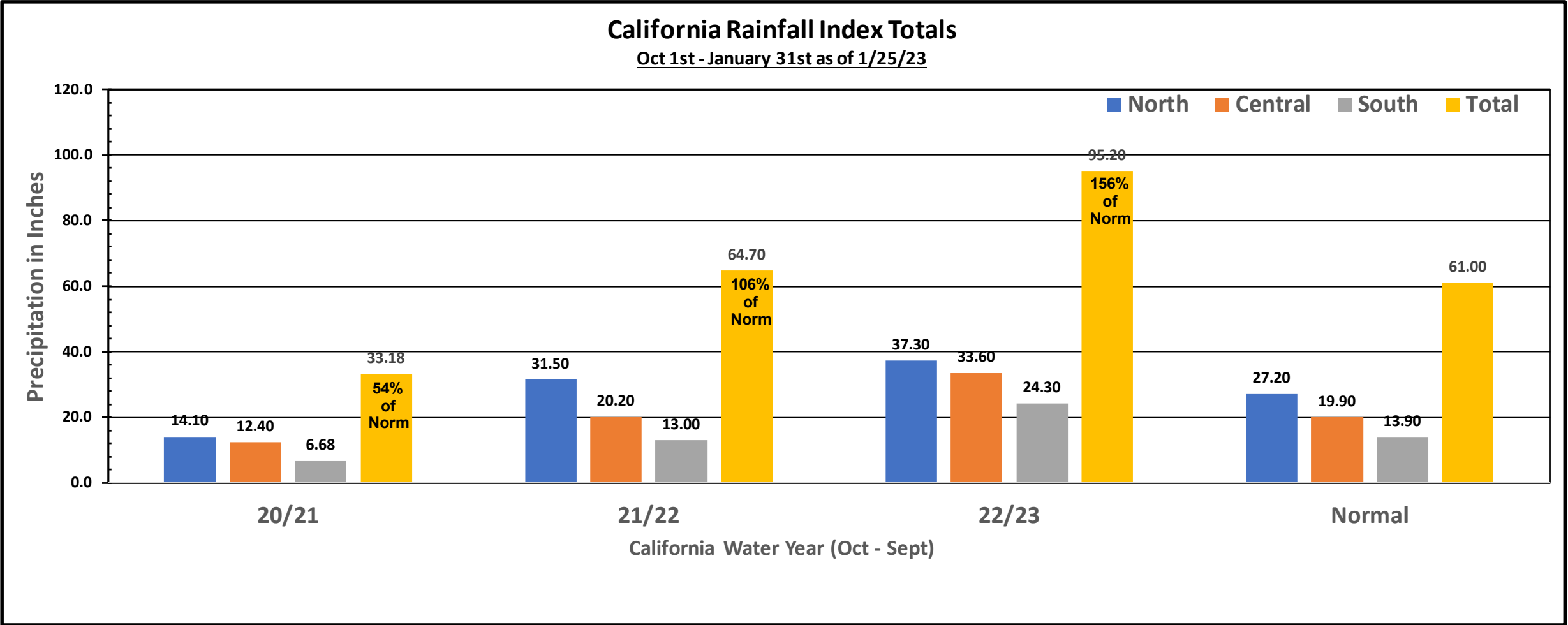
62: - Miles of Highway 1 in Big Sur that remained closed Monday due to landslides.

500+: - Number of landslides statewide caused by storms, since New Year’s Eve, according to the California Geological Survey.

34 million: - Number of Californians — 90% of state population under flood watch Monday Jan. 9.

41: - Number of California’s 58 counties under [federal emergency declaration](#).

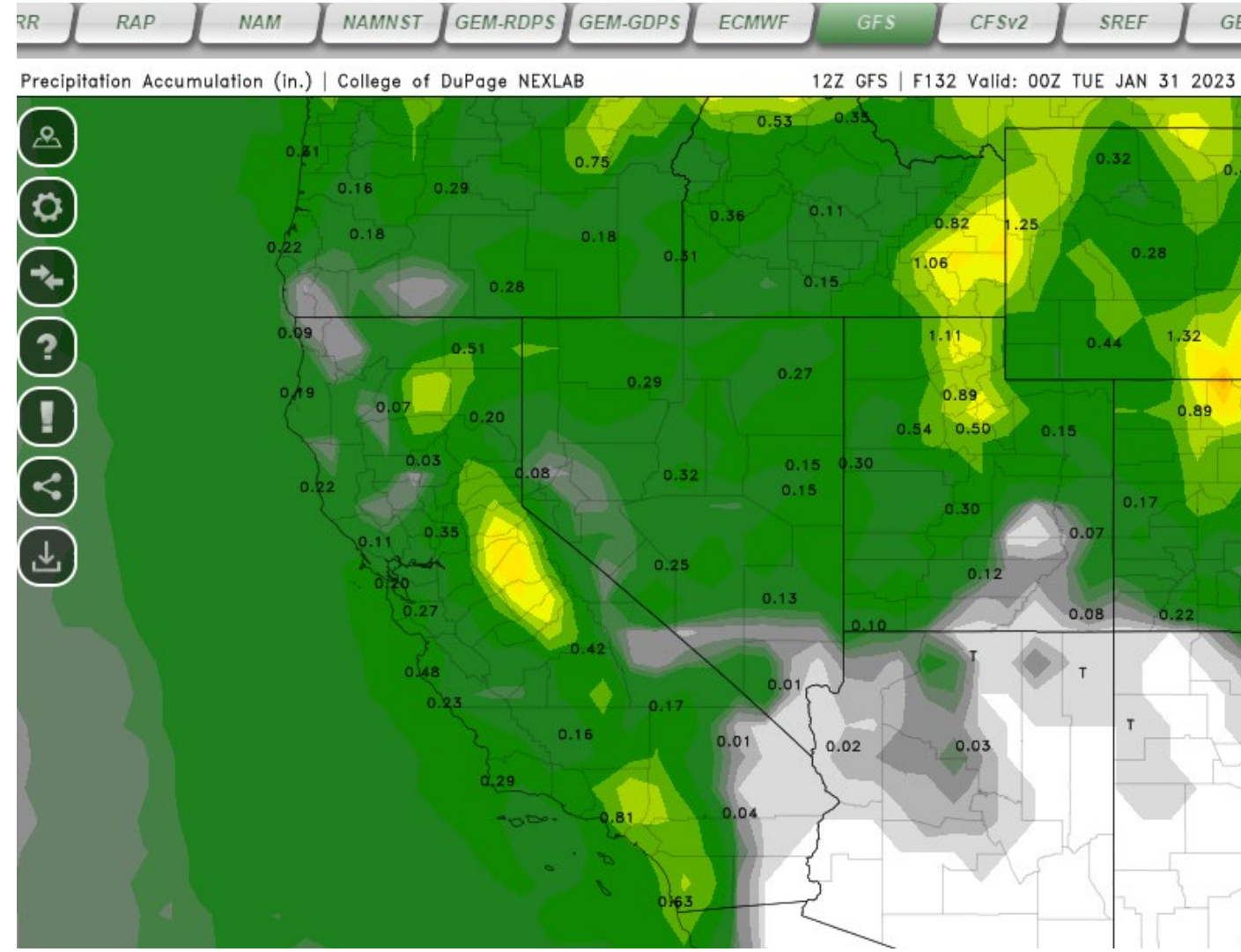
If you compare the current precipitation totals today (1/25/23) to the full year to date totals the past two years (Oct 1–Jan 31), you can see we are well ahead of those years and already at 156% of normal statewide without considering any additional precipitation that may occur from 1/25 – 1/31/23!



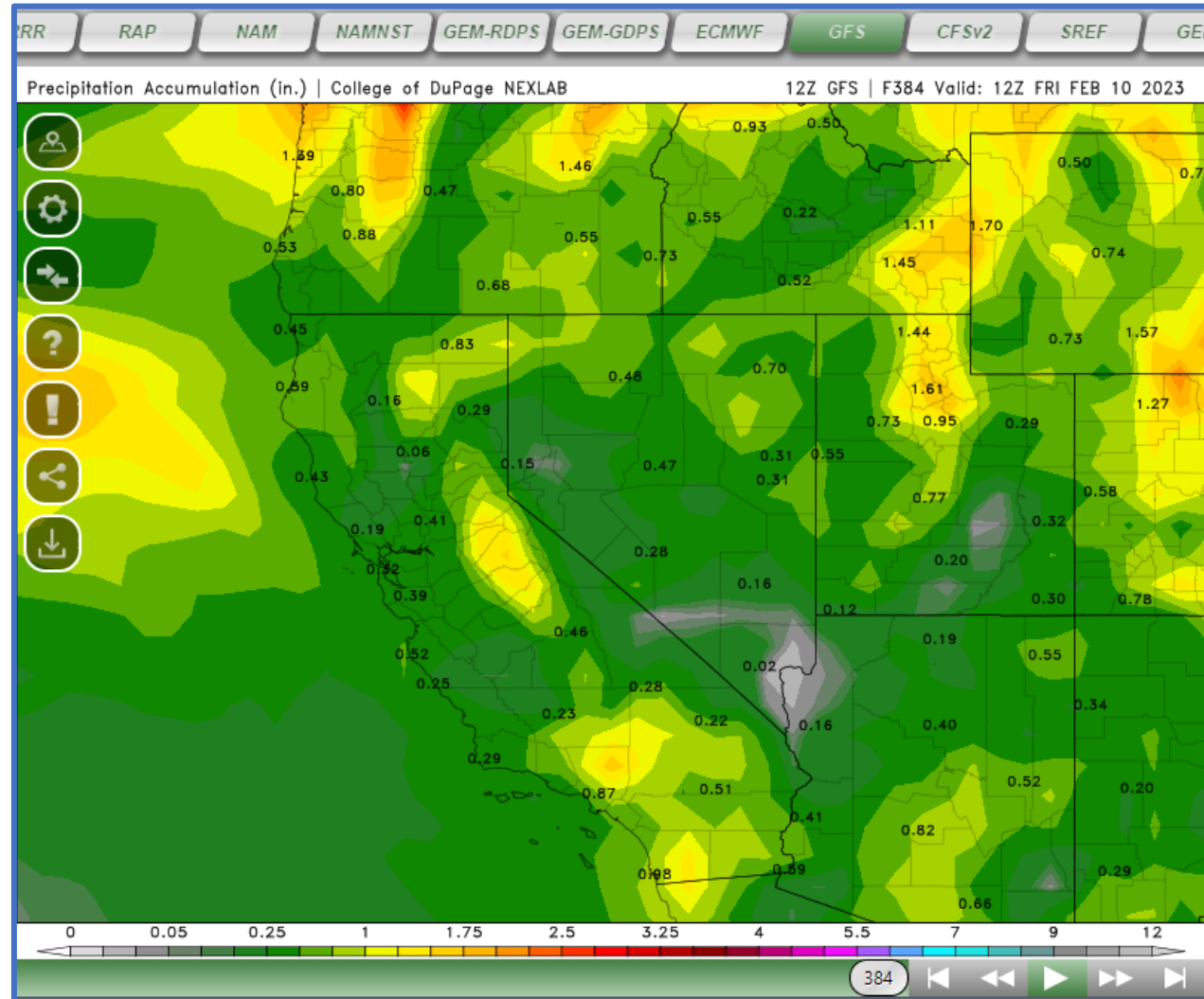
As of 1/25/23, Year to date precipitation totals average 168% of normal statewide. However, the current 16-Day GFS Precipitation Model (1/25/23) shows the weather pattern continues to be dry until January 31st (even then only a small storm system for that day).

**YTD California Precipitation Index Totals
As of 1/25/23**

Region	inches of Precip	% of YTD Normal
8 Station Northern	37.3	146%
5 Station Central	33.6	183%
6 Station Southern	24.3	189%
Combined Stations:	95.2	168%

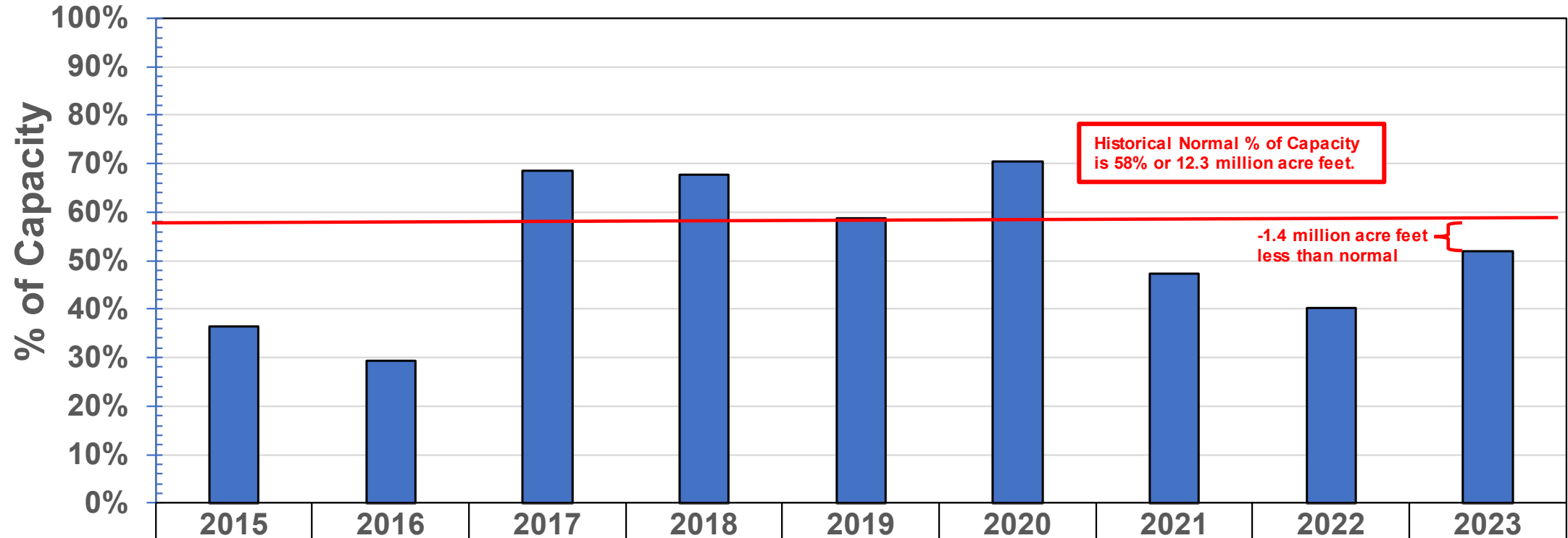


The same 16-Day GFS Precipitation Model shows the first 10 days of February will continue to drier than normal with only one small storm system moving through California (on Feb 4th). This is not what we need to see during the time of year when California normally gets most of its rain and snowfall.



The Combined Reservoir level have increased by 4.6-million-acre feet since December 11th, 2022. However, the total volume storage as of 1/18/23 is still only 89% of normal for this time of year (-1.4 million-acre feet).

Major California Storage Reservoirs % of Capacity as of January 18th, 2023



■ % of Capacity	37%	29%	69%	68%	59%	70%	47%	40%	52%
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Year

Major California Water Storage Reservoir's Levels as of January 18th, 2023

Reservoir	Total Capacity	% of Capacity as of January 18th									Storage level in Millions of acre feet as of January 18th									
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Shasta (F)	4.552	43%	38%	80%	72%	58%	74%	46%	34%	53%	1.957	1.730	3.642	3.277	2.640	3.368	2.094	1.548	2.413	
Trinity (F)	2.448	35%	23%	57%	72%	62%	80%	51%	30%	30%	0.857	0.563	1.395	1.763	1.518	1.958	1.248	0.734	0.734	
Oroville (S)	3.538	40%	33%	79%	37%	34%	60%	35%	44%	58%	1.415	1.168	2.795	1.309	1.203	2.123	1.238	1.557	2.052	
New Melones (F)	2.420	23%	14%	37%	83%	76%	83%	65%	41%	38%	0.557	0.339	0.895	2.009	1.839	2.009	1.573	0.992	0.920	
Folsom (F)	0.977	46%	32%	46%	59%	43%	49%	28%	56%	55%	0.449	0.313	0.449	0.576	0.420	0.479	0.274	0.547	0.537	
San Luis (F,S)	2.039	49%	29%	73%	83%	80%	71%	49%	38%	46%	0.999	0.591	1.488	1.692	1.631	1.448	0.999	0.775	0.938	
Don Pedro (L)	2.030	40%	37%	89%	82%	72%	80%	68%	55%	75%	0.812	0.751	1.807	1.665	1.462	1.624	1.380	1.117	1.523	
Millerton (F)	0.520	35%	37%	73%	69%	59%	58%	33%	57%	83%	0.182	0.192	0.380	0.359	0.307	0.302	0.172	0.296	0.432	
Exchequer (L)	1.025	7%	10%	69%	66%	58%	62%	36%	26%	56%	0.072	0.103	0.707	0.677	0.595	0.636	0.369	0.267	0.574	
Pyramid (S)	0.171	85%	85%	88%	87%	86%	85%	86%	86%	86%	0.145	0.145	0.150	0.149	0.147	0.145	0.147	0.147	0.147	
Castaic (S)	0.325	35%	37%	68%	80%	79%	73%	78%	54%	55%	0.114	0.120	0.221	0.260	0.257	0.237	0.254	0.176	0.179	
Pine Flat (F)	1.000	13%	17%	52%	51%	35%	48%	22%	29%	48%	0.130	0.170	0.520	0.510	0.350	0.480	0.220	0.290	0.480	
Total:	21.045	37%	29%	69%	68%	59%	70%	47%	40%	52%	7.689	6.185	14.450	14.245	12.368	14.808	9.968	8.445	10.928	
Change vs. January 11th 2023:		0.9%	2.5%	1.9%	0.7%	3.2%	0.6%	0.5%	0.9%	8.2%	0.193	0.535	0.401	0.140	0.664	0.121	0.100	0.193	1.721	
Change vs. January 11th 2023																				
Statewide Snowpack as a % of Normal as of Jan 18th, 2023:		34%	111%	149%	24%	111%	81%	42%	117%	248%									Change Since December 11th 2022	4.591
Snowpack: Avg. Statewide snow water equivalent inches:		4.8	15.8	20.9	3.4	15.7	11.4	6.1	16.1	32.7										

 = Lowest over the past 9 years
 = CVP Reservoirs (San Luis is both CVP & DWR)

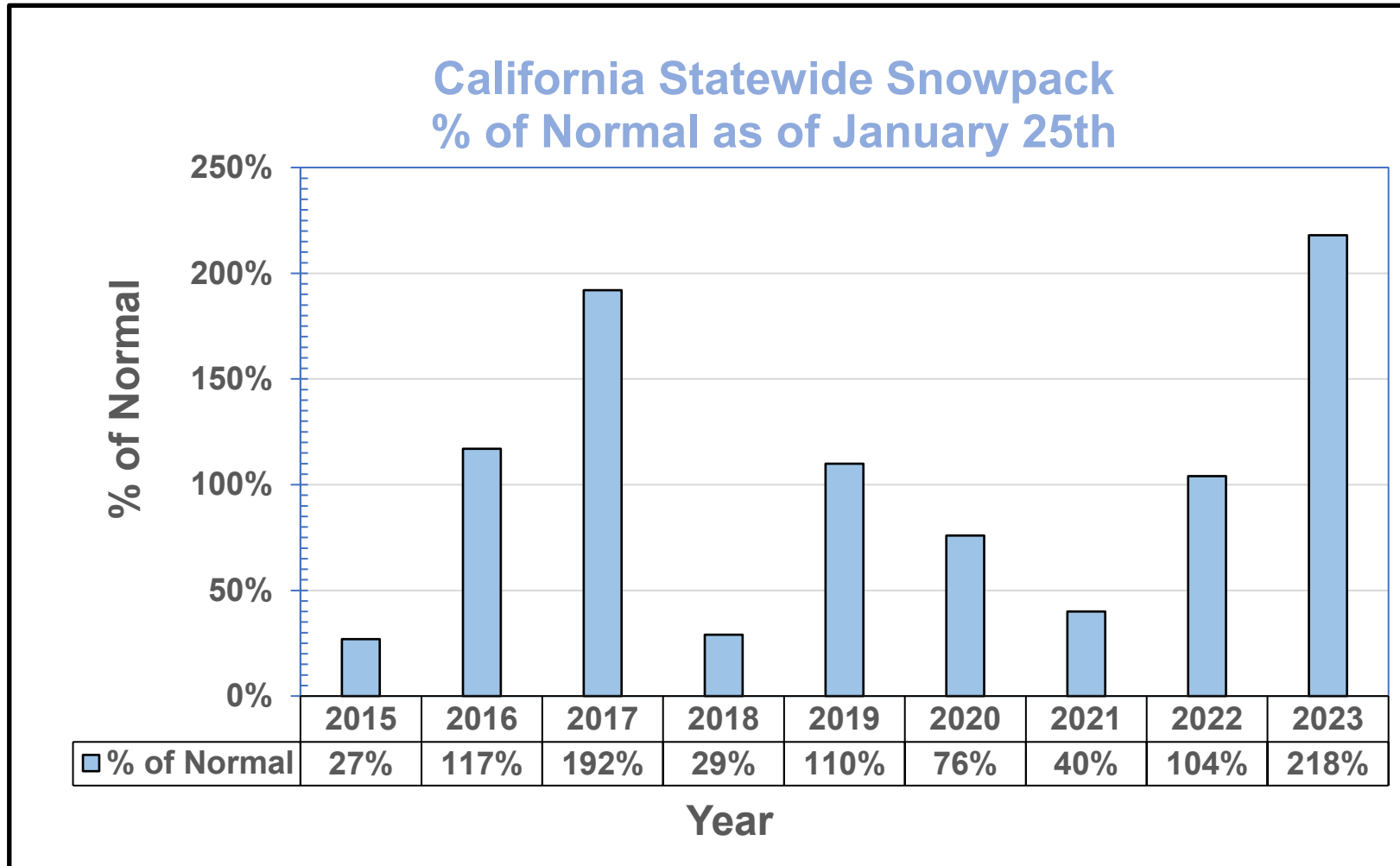
Current vs. Same Time Last Year: 2.483 12%
Current vs. Prior 8yr Avg: (0.092) 0%

 = 1.44 M acre ft Increase vs. Last year in these key Agricultural Supply Reservoirs.

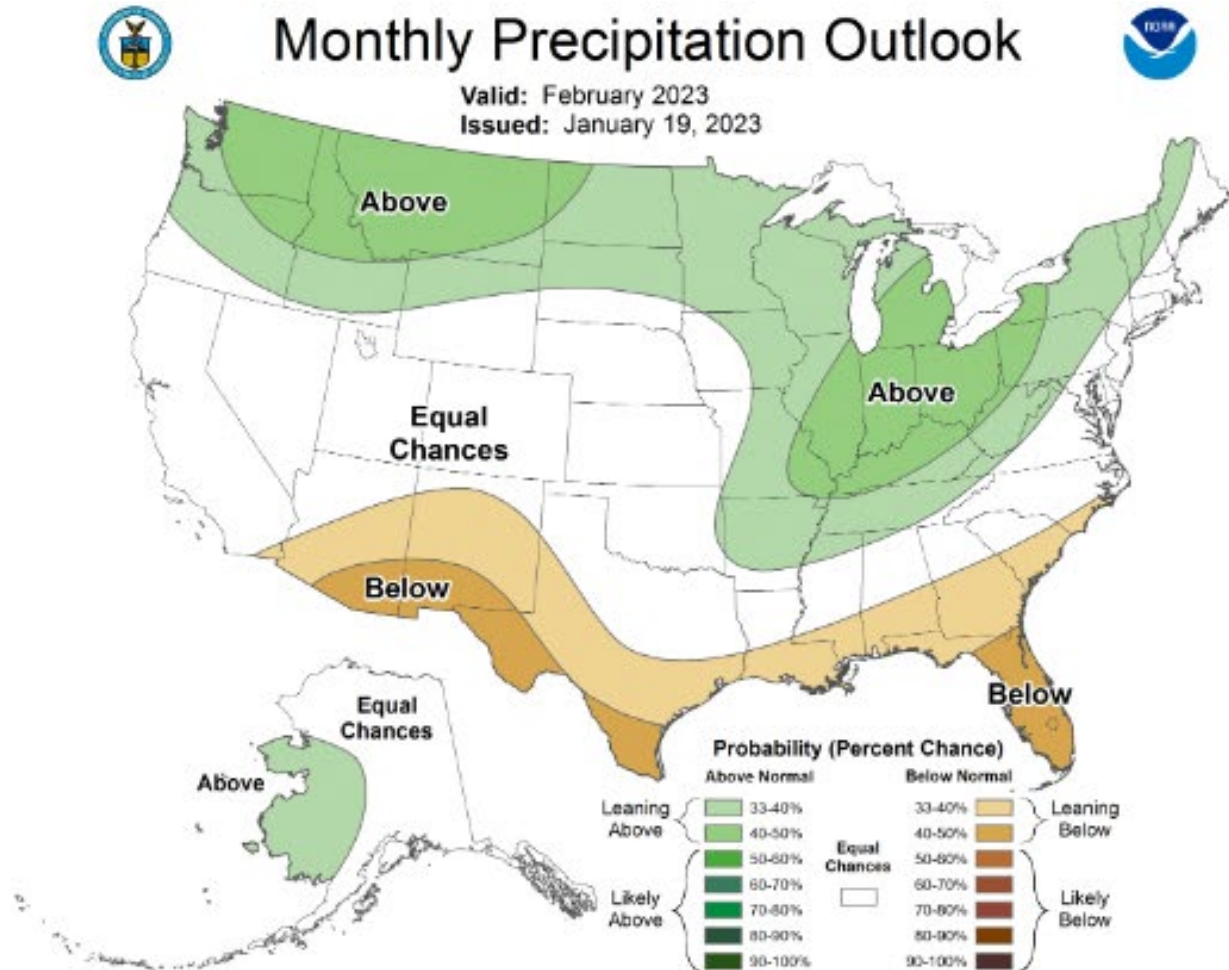
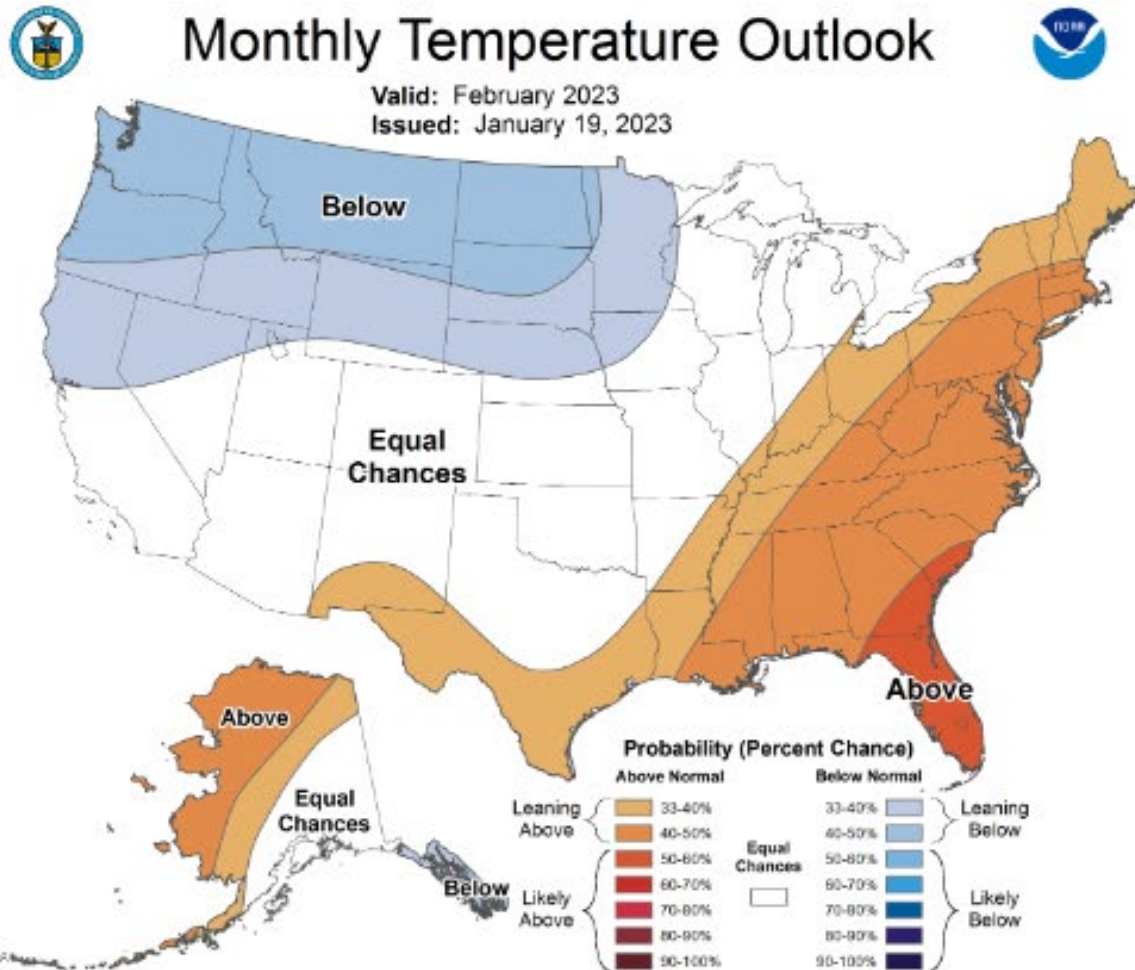
	2015	2016	2017	2018	2019	2020	2021	2022	Initial	2023	
Federal Water Supply (CVP)											
North of Delta Ag	0%	100%	100%	100%	100%	50%	0%	0%	N/A	N/A	Initial Allocation will be announced in late February 2023
North of Delta Exchange/Settlement Contractors	75%	100%	100%	100%	100%	100%	75%	18%	N/A	N/A	Initial Allocation will be announced in late February 2023
South of the Delta Ag	0%	5%	100%	50%	75%	20%	0%	0%	N/A	N/A	Initial Allocation will be announced in late February 2023
South of the Delta Exchange/Settlement Contractors	75%	100%	100%	100%	100%	100%	75%	75% or less	N/A	N/A	Initial Allocation will be announced in late February 2023
Friant Class 1	0%	75%	100%	88%	100%	65%	20%	30%	N/A	N/A	Initial Allocation will be announced in late February 2023
Friant Class 2	0%	0%	0%	130K AF	0%	0%	0%	0%	N/A	N/A	Initial Allocation will be announced in late February 2023
State Water Allocation	20%	60%	85%	35%	75%	20%	5%	5%	5%	5%	Initial Allocation will be announced in late February 2023 with record dry conditions in Jan & Feb, it was lowered to 5% on 3/18/22.

(S) = State Water Project (F) = Federal Water Project (L) = Local Water Project

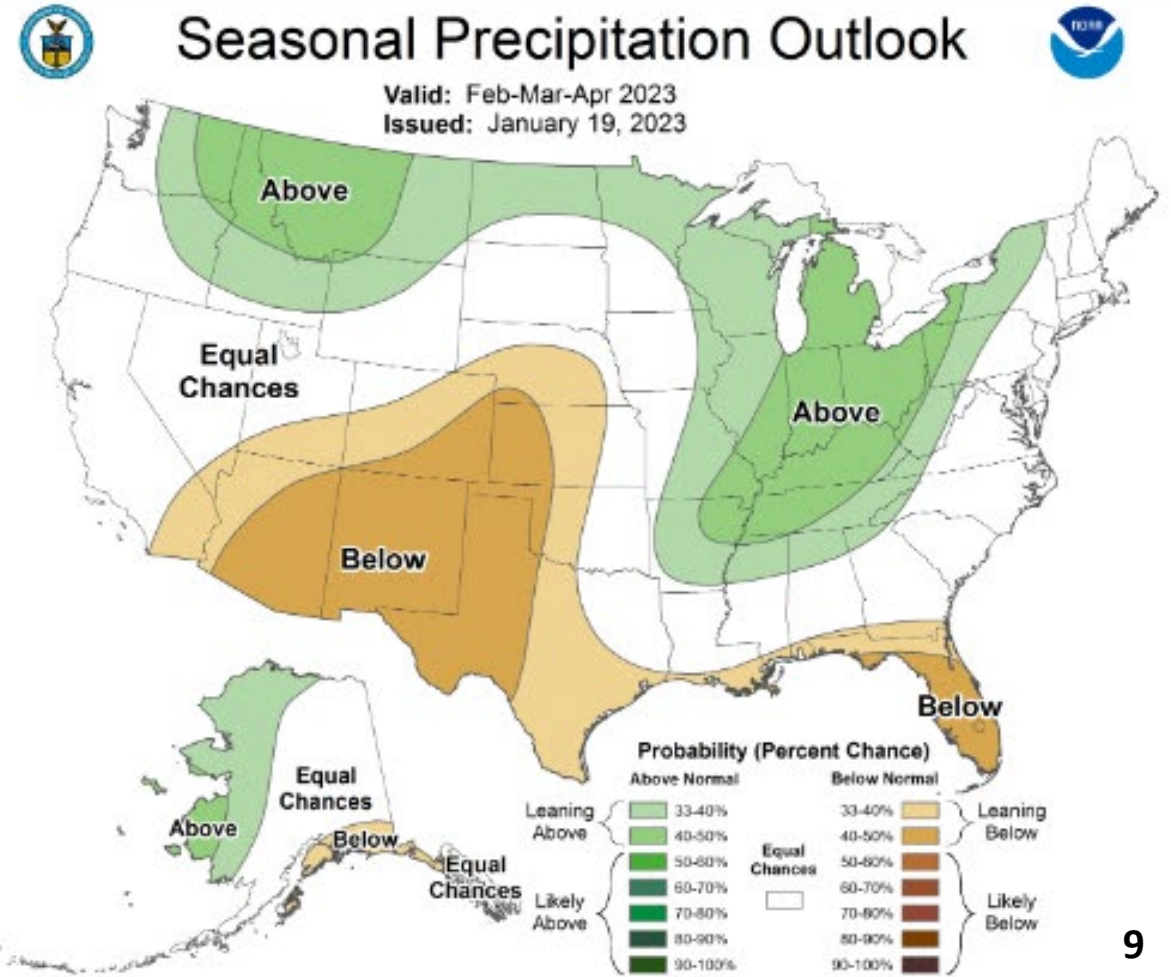
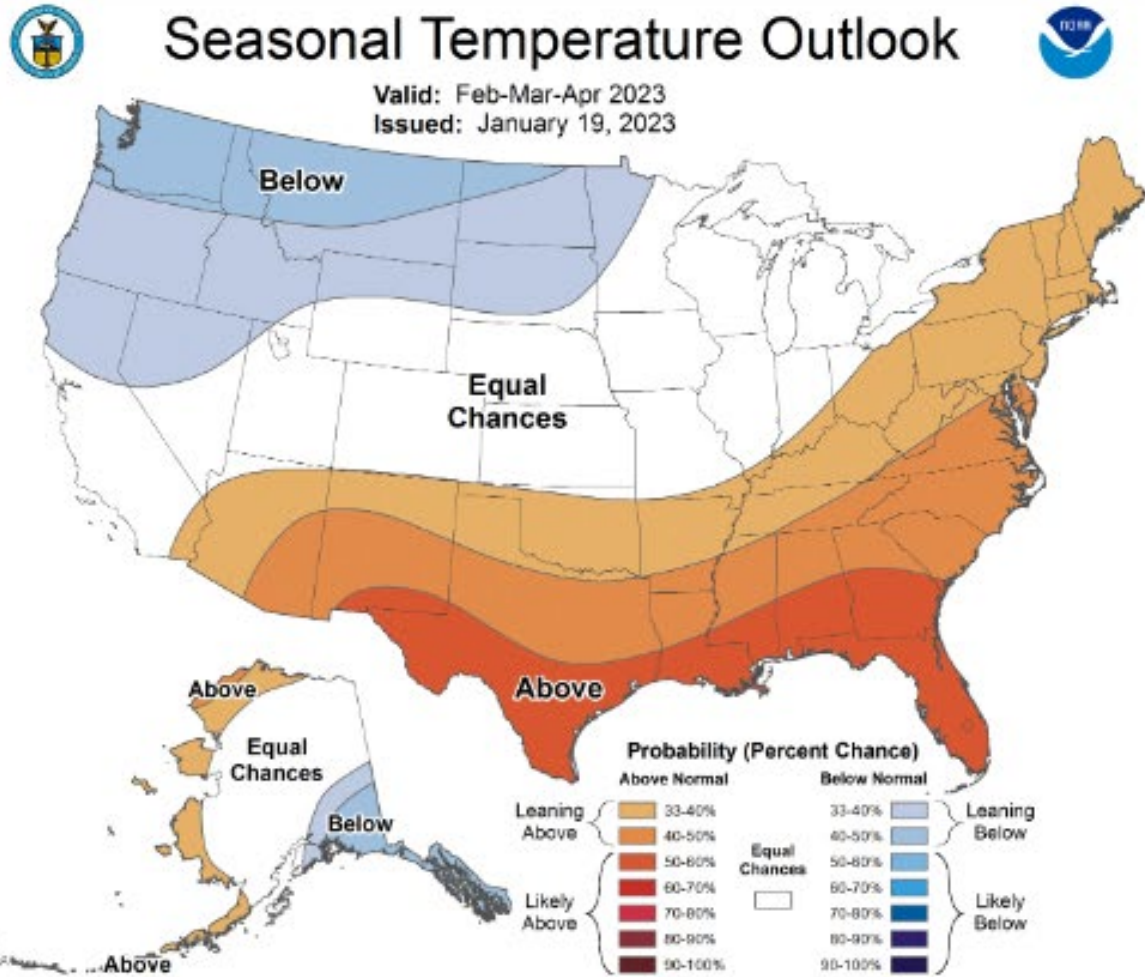
As of January 25, 2023, the State-wide average snowpack is 218% of normal and already totals 127% of the April 1st average. This is the highest % of normal since January 25, 2005 (165% of normal) This is great start, but we need at least "Normal" rainfall and snowfall for the remaining months through April to stay on track. Last season (21/22 water year), the snowfall after December was a dismal record low and snowpack by April 1st was only 37% of normal vs. 154% of normal on January 1st, 2022.



The Current NOAA Temperature and Precipitation Outlook for February is showing fairly normal temperatures and precipitation for California.



The Current NOAA Temperature and Precipitation Outlook for February through April of 2023 Is showing fairly normal temperatures and likely normal precipitation for California. But since their November '22 – January '23 Chart has proven to be so very wrong; I would not put much weight on this current longer-term outlook.

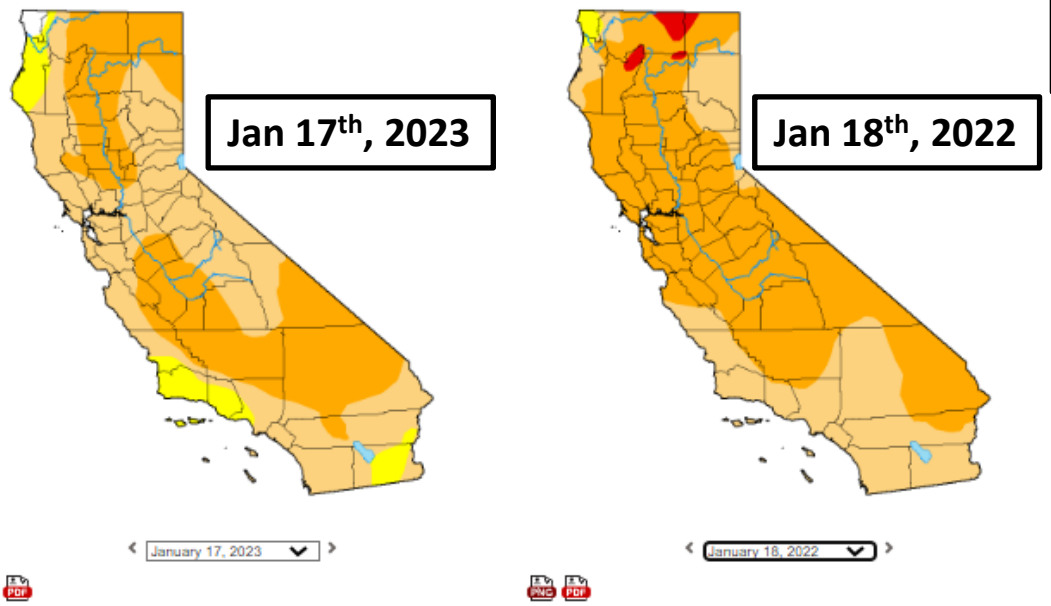


Compare Two Weeks

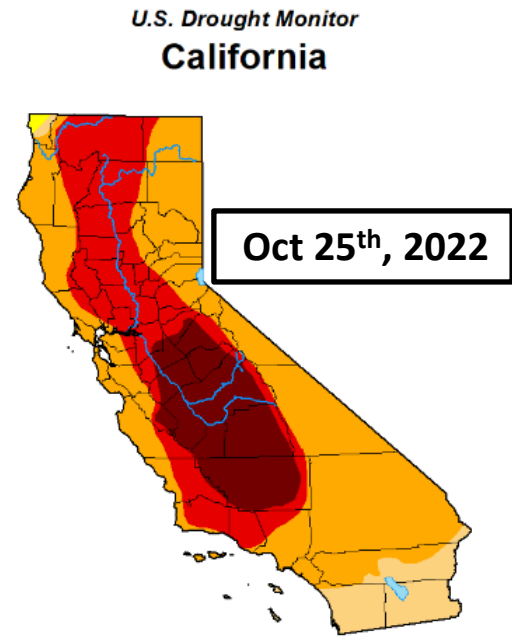
Area type: State Area: California Statistics type: Cumulative Percent Area

Drought Classification

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data



The California Drought Monitor shown to the right compares current conditions on 1/17/23 to the same period one year ago (1/18/22). As you can see, conditions are better than the levels seen last year with a lot less land in the “Severe” drought category. This current map is a big improvement vs. the map below at the end of October 2022 due to the rainfall we have seen so far from November 2022 – January 17th, 2023.



U.S. Drought Monitor California

October 25, 2022
(Released Thursday, Oct. 27, 2022)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.77	91.83	43.06	18.57
Last Week 10-19-2022	0.00	100.00	99.77	91.83	40.91	18.57
3 Months Ago 07-28-2022	0.00	100.00	99.79	97.47	59.81	12.74
Start of Calendar Year 01-01-2022	0.00	100.00	99.30	67.62	16.60	0.84
Start of Water Year 09-27-2021	0.00	100.00	99.76	94.01	40.91	18.57
One Year Ago 10-26-2021	0.00	100.00	100.00	93.61	83.33	38.74

Statistics Comparison

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
2023-01-17	0.64	99.36	92.12	42.84	0.00	0.00	234
2022-01-18	0.00	100.00	99.25	66.39	1.39	0.00	267
Change	-0.64	0.64	7.13	23.55	1.39	0.00	33

Intensity

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/about.aspx>

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NOAA/NWS/NCEP/CPC

USDA NDMC NCEP NWS

droughtmonitor.unl.edu