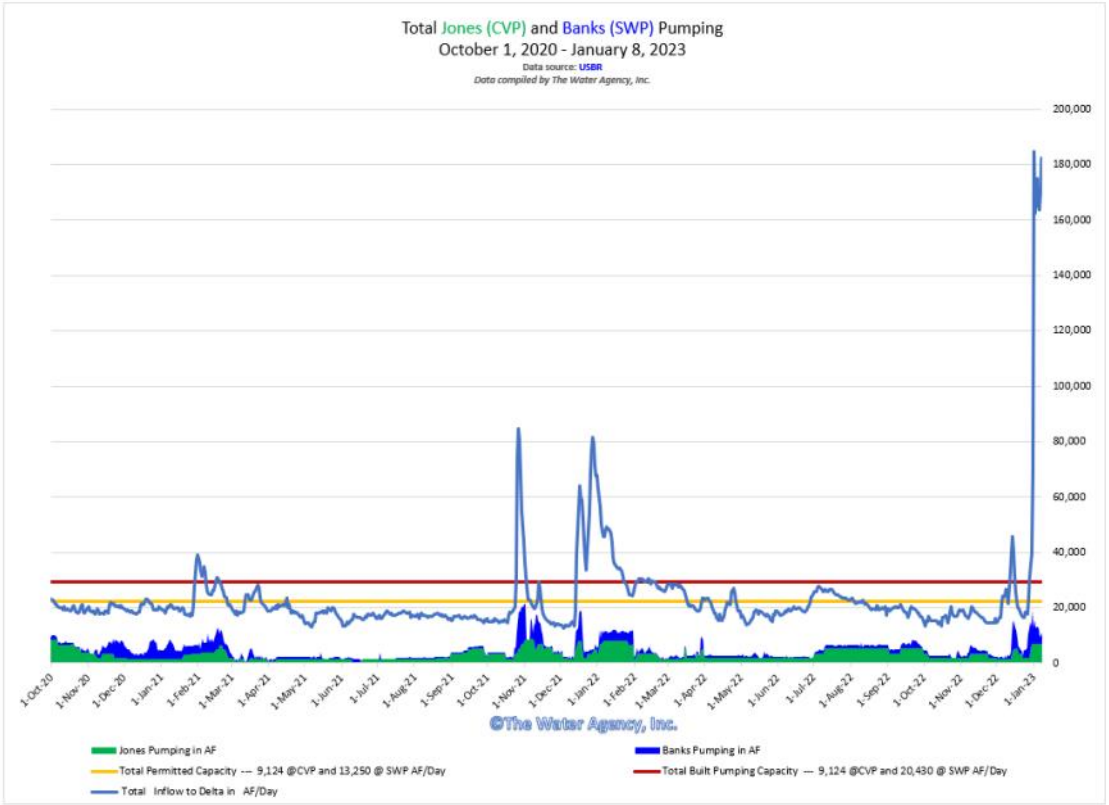
Thanking AgSeeds Unlimited for their unsolicited and very generous support of these reports

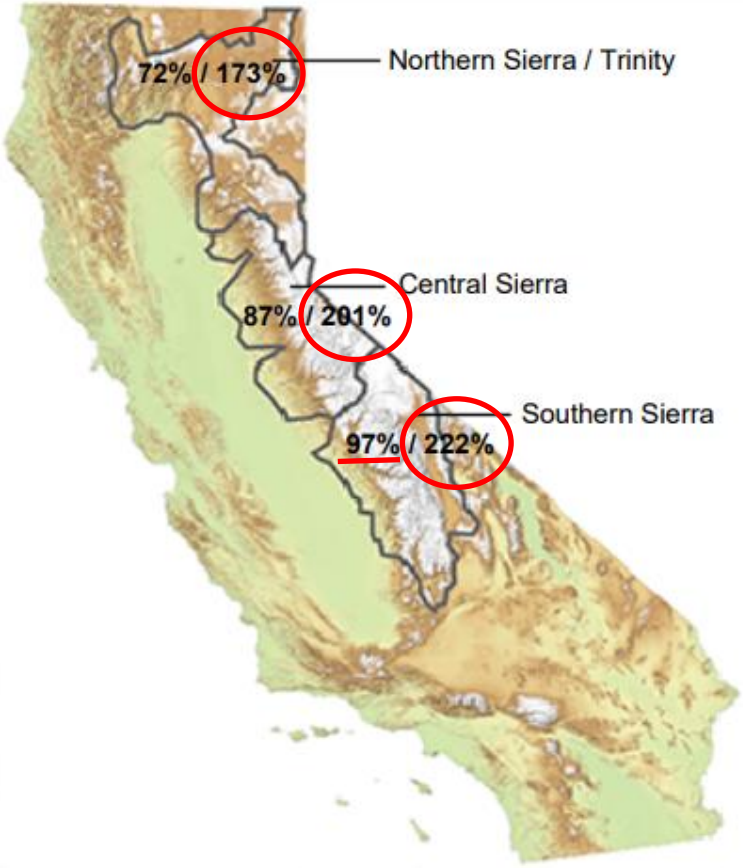
What Madness.
Massive Flooding, but Pumps at Tracy are curtailed!

Well, here we are again. The delta is awash in water with hundreds of thousands of acre feet of floodwater flowing out to the ocean – EACH DAY, but the export pumps near Tracy for the water projects are curtailed. The craziness embedded in and how the Biological Opinions are being implemented is being revealed. Even though there is no reverse flow on the Old and Middle Rivers right now, so fish aren't being pulled back up to the pumps, the State Water Project pumps especially are curtailed. (The Biological Opinions are essentially the Endangered Species Act regulations for managing the Sacramento-San Joaquin Delta.) The operators of the State Water Project have obviously decided that they need to forego full pumping right now. This after three years of drought that have been so destructive to the agricultural economy and made the urban water managers impose restrictions on use. . . . These big flow events just don't come along very often. It is so sad to see so much water being wasted out to the ocean.



CURRENT REGIONAL SNOWPACK FROM AUTOMATED SNOW SENSORS

% of April 1 Average / % of Normal for This Date



NORTH	
Data as of January 9, 2023	
Number of Stations Reporting	33
Average snow water equivalent (Inches)	20.5
Percent of April 1 Average (%)	72
Percent of normal for this date (%)	173

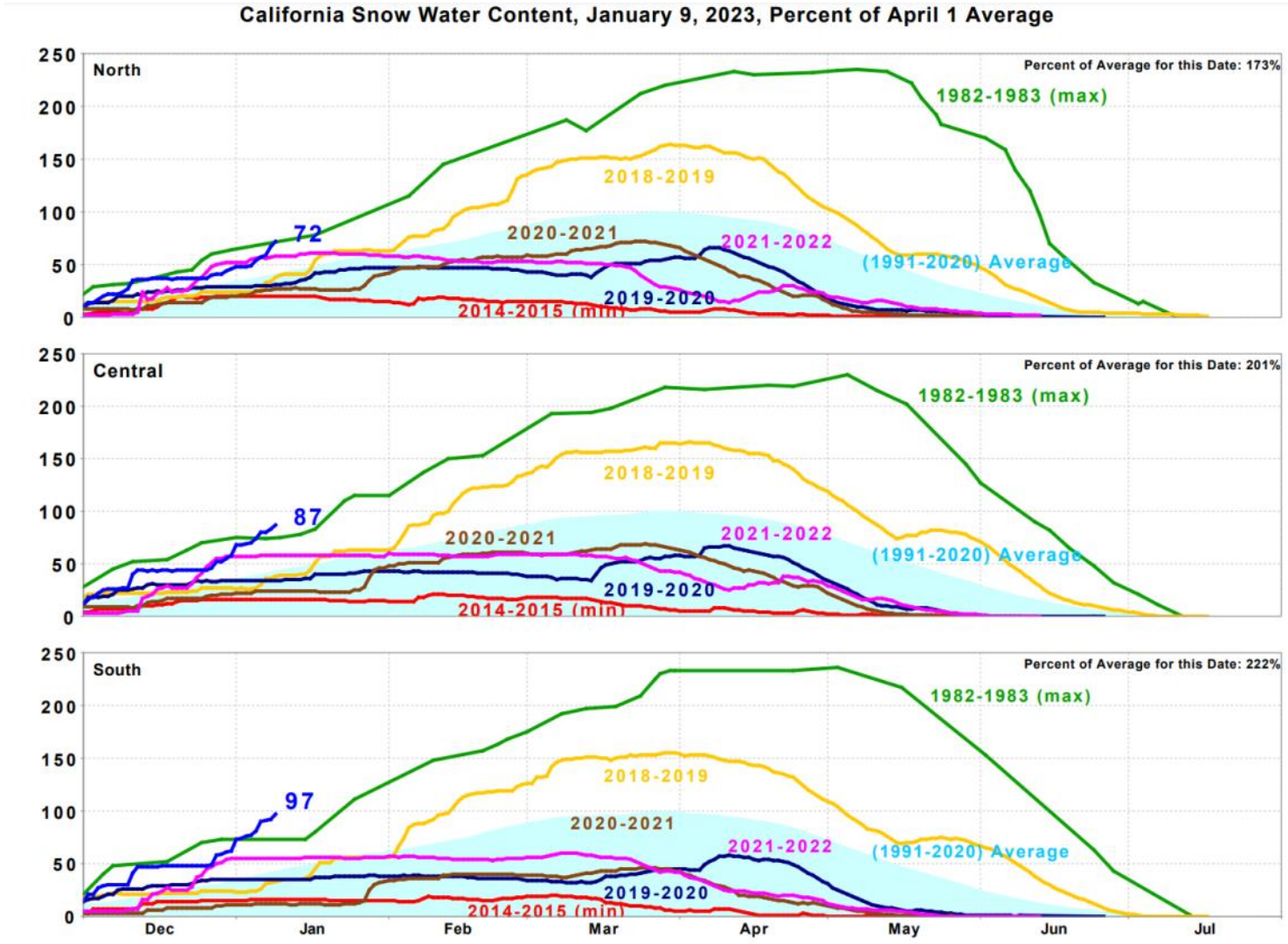
CENTRAL	
Data as of January 9, 2023	
Number of Stations Reporting	54
Average snow water equivalent (Inches)	23.8
Percent of April 1 Average (%)	87
Percent of normal for this date (%)	201

SOUTH	
Data as of January 9, 2023	
Number of Stations Reporting	33
Average snow water equivalent (Inches)	21.8
Percent of April 1 Average (%)	97
Percent of normal for this date (%)	222

STATE	
Data as of January 9, 2023	
Number of Stations Reporting	120
Average snow water equivalent (Inches)	22.4
Percent of April 1 Average (%)	85
Percent of normal for this date (%)	199

Statewide Average: 85% / 199%

Data as of January 9, 2023


California Snow Water Content, January 9, 2023, Percent of April 1 Average
North
Percent of Average for this Date: 173%
1982-1983 (max)
2018-2019
2020-2021
2021-2022
(1991-2020) Average
2019-2020
2014-2015 (min)
72
Central
Percent of Average for this Date: 201%
1982-1983 (max)
2018-2019
2020-2021
2021-2022
(1991-2020) Average
2019-2020
2014-2015 (min)
87
South
Percent of Average for this Date: 222%
1982-1983 (max)
2018-2019
2020-2021
2021-2022
(1991-2020) Average
2019-2020
2014-2015 (min)
97
250
200
150
100
50
0
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Statewide Percent of April 1: 85%
Statewide Percent of Average for Date: 199%

10-Day Feather Basin Quantitative Precipitation Forecast (QPF)

Monday, January 9, 2023
(each day ends at 0400 PST)

Day No.	Date		Precip (inches)	Snow Level (ft)	Average Daily* Precip (inches)	Average Daily* Snow Depth (inches)	Average Daily* Min Temp (°F)
	Saturday, December 31, 2022		**3.3**	**8,000**			
	Sunday, January 1, 2023		**1.2**	**5,000**			
	Monday, January 2, 2023		**0.0**	**3,000**			
	Tuesday, January 3, 2023		**0.3**	**2,500**			
	Wednesday, January 4, 2023	Actual	**0.1**	**3,500**			
	Thursday, January 5, 2023		**1.6**	**5,000**			
	Friday, January 6, 2023		**1.5**	**4,000**			
	Saturday, January 7, 2023		**0.1**	**4,000**			
	Sunday, January 8, 2023		**1.1**	**4,000**			
	Monday, January 9, 2023		**1.3**	**4,500**	**0.3**	**0.2**	**29.8**
	Total observed:		**10.5**				
1	Tuesday, January 10, 2023		2.1	4,500	0.4	0.5	31.5
2	Wednesday, January 11, 2023		1.7	3,500	0.4	0.5	30.5
3	Thursday, January 12, 2023		0.8	4,500	0.4	0.6	30.8
4	Friday, January 13, 2023	Forecast	0.1	7,500	0.4	0.5	30.2
5	Saturday, January 14, 2023		0.4	7,000	0.4	0.6	30.0
6	Sunday, January 15, 2023		1.3	4,500	0.4	0.7	30.8
7	Monday, January 16, 2023		0.5	3,500	0.5	0.5	31.0
8	Tuesday, January 17, 2023		0.9	3,500	0.3	0.1	31.0
9	Wednesday, January 18, 2023		0.4	3,500	0.2	0.5	31.8
10	Thursday, January 19, 2023		0.2	4,000	0.3	0.3	31.5
11	Friday, January 20, 2023		0.0	4,000	0.4	0.4	30.8
	10-Day Total:		**8.4**		**3.7**		
	10-Day Percent of Normal:		**227%**				
	Accumulated Observed Precip for WY 2023:		**30.4**	**(WY 2022: 45.5)**			
	Comments:		**(146% YTD Ave)**				

Winter storm warning in effect until 4 pm Tuesday. Heavy precipitation scattered throughout the forecast into next week. The prevailing south winds are between 15 to 30 mph throughout the week with gusts up to 55 mph through the day and decreasing in the evening into Tuesday. Snow line elevations drop to 3500 feet early in the week and then rise to 7,500 feet on Friday after which dropping down to 3,500 feet by the end of the weekend. A mixture of rain and snow is expected at lower elevations and snow at higher elevations. There is 8.4 inches of precipitation expected over the next 10-days.

Links:

QPF from the CNRFC:	https://www.cnrfc.noaa.gov/awipsProducts/RNOHD6RSA.php
7-Day Temp Forecast from the CNRFC:	http://www.cnrfc.noaa.gov/awipsProducts/RNOHFSFTA.php
7-Day Temp Forecast from NWS, Reno:	http://www.wrh.noaa.gov/cnrfc/versprod.php?pil=SFT&sid=REV&version=0
7-Day Temp Forecast from NWS, Medford:	http://www.wrh.noaa.gov/cnrfc/versprod.php?pil=SFT&sid=MFR&version=0
7-Day Temp Forecast from NWS, Sac:	http://www.wrh.noaa.gov/cnrfc/versprod.php?pil=SFT&sid=STO&version=0
6 - 10 Day Forecast from CPC:	http://www.cpc.ncep.noaa.gov/products/predictions/610day/
8 - 14 Day Forecast from CPC:	http://www.cpc.ncep.noaa.gov/products/predictions/814day/
14-Day Precip Forecast from COLA:	http://wxmaps.org/pix/prec1.html
14-Day Temp Forecast from COLA:	http://wxmaps.org/pix/temp1.html
Monthly Temp & Precip Outlooks from CPC:	http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.php
1 Month Forecast from CPC:	http://www.cpc.noaa.gov/products/predictions/30day/index.php

* Normal daily values are the average of Western Regional Climate Center's daily records for Quincy, de Sabla, Sierraville, and Oroville. Annual average precipitation is 51".

Westlands Water District

MEMORANDUM

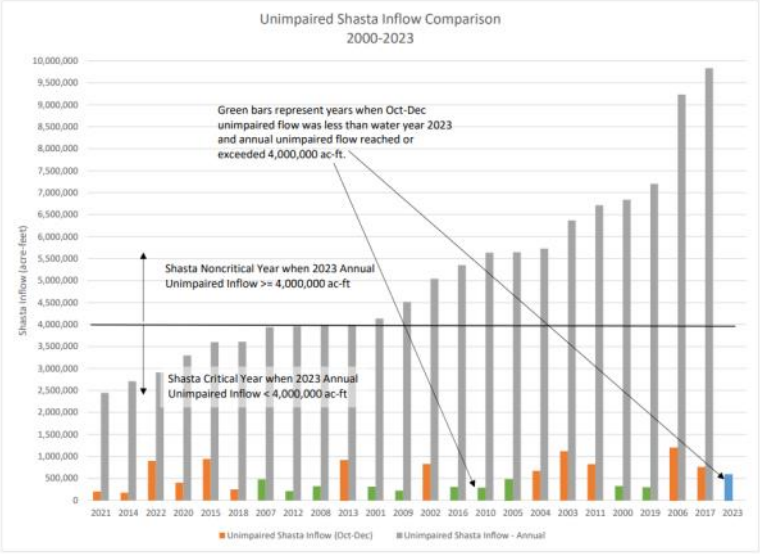
TO: SLDMWA BOARD OF DIRECTORS
FROM: TOM BOARDMAN, WATER RESOURCES ENGINEER
SUBJECT JANUARY OPERATIONS UPDATE
DATE: JANUARY 6, 2023

Project Operations

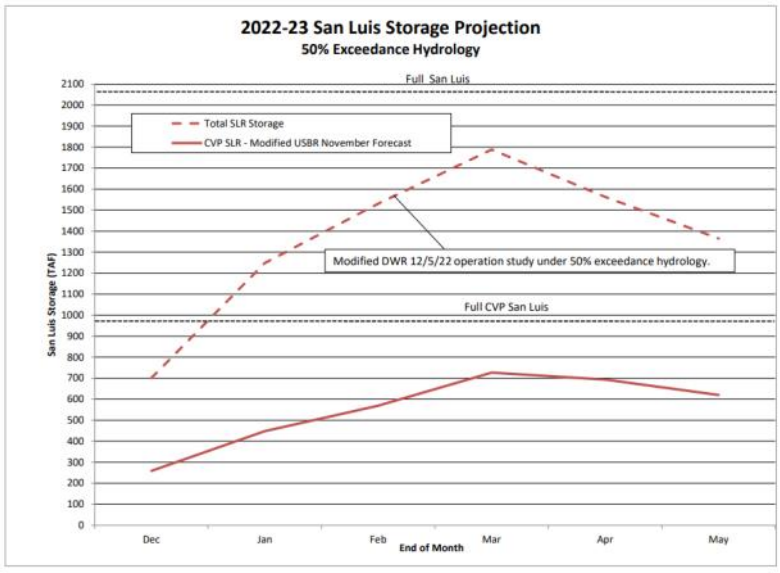
- Jones pumping is at 4 units (3,500 cfs) thanks to significant increases in Delta inflow from the recent storms. High Sacramento River flows triggered a 2019 BiOp action on January 3 resulting in a limitation of the reverse flow in Old and Middle Rivers to -2,000 cfs for 14 days. Triggering the BiOp action has the potential to limit Jones pumping to 900-1,800 cfs. But thanks to high Delta inflow from the San Joaquin River, Jones pumping is expected to maintain its current rate and possibly increase to its seasonal capacity of 4,200 cfs if San Joaquin River flows increase as expected.
- Reclamation states the accounting balance under the Coordinated Operations Agreement (COA) is nearly balanced except for an additional 59 TAF SWP debt related to the release of New Melones water last year to meet part of the SWP's share of Delta requirements. The SWP is expected to payback the owed CVP water soon as Oroville storage has been rapidly improving.
- Shasta storage is at 1,606 TAF - 68% of average. After receiving 7 inches of precipitation during the past 10 days, total reservoir inflow was only 211 TAF. Shasta inflow has been discouraging compared to Oroville where total inflow for the same period was nearly double Shasta's inflow after receiving the same amount of precipitation. Significant storms are projected to arrive during the next 10 days which are expected to improve reservoir inflows as volcanic soils in the Shasta water shed become saturated.
- Accumulated unimpaired inflow to Shasta is about 603 TAF. The projected total unimpaired flow into Shasta needs to reach at least 4,000 TAF by September 30, 2023 in order to avoid a Shasta critical year. Inflow records for 2000-2022 indicate that, under the current trend, it is likely but not certain that the unimpaired inflow will reach at least 4,000 TAF. The historical record shows that during 2015 and 2022 that, although the accumulated inflow by this date exceeded the current inflow total, the total unimpaired inflow for the two years fell short of the needed 4,000 TAF.
- Folsom storage is 520 TAF, 132% of average. Total inflow to Folsom was 460 TAF after receiving more than 9 inches of precipitation during the past 10 days. A peak storage of 614 TAF was reached on New Years Day following an inflow spike of 106,000 cfs that occurred the prior day. Releases increased to 25,000 cfs early this week to manage elevated reservoir inflows and to reduce storage for flood control. Accumulated snowpack in the watershed is 186 percent of average.
- Accumulated precipitation in the Sacramento Valley during December was 168% of the monthly average at 16.8 inches. Accumulated precipitation for January is 1.1 inches compared to a monthly average of 9.1 inches. The seasonal accumulated snowpack is 133% and 186% of average in northern and central California, respectively.
- CVP demands for December were about 30% of the 15-year average.

2022-23 San Luis Reservoir Operations

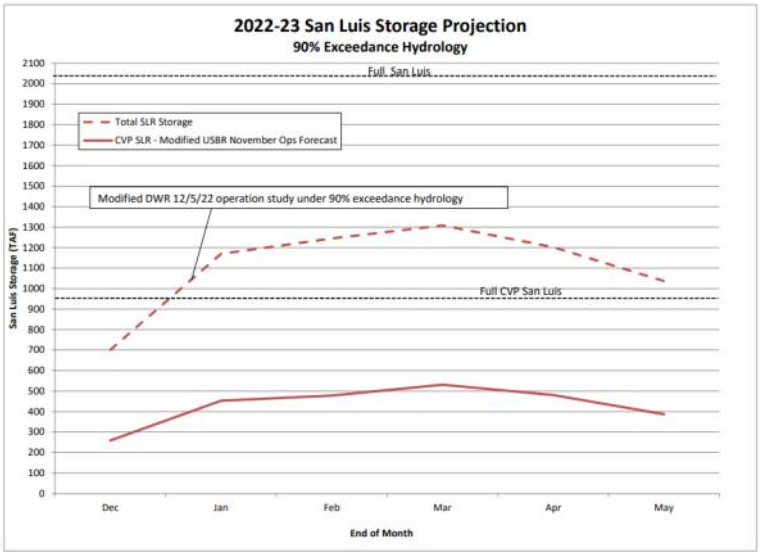
The CVP share of water stored in San Luis Reservoir (SLR) has increased almost 90 TAF to 300 TAF since pumping increased in mid-December. With low demands, nearly all water pumped at Jones is being stored in CVP SLR. Thanks to an increasing snowpack and higher near-term pumping, CVP SLR is projected to refill to 530-730 TAF under dry and median conditions, respectively.



T. Boardman, WWD
1/6/2023



T. Boardman, WWD
1/4/2023



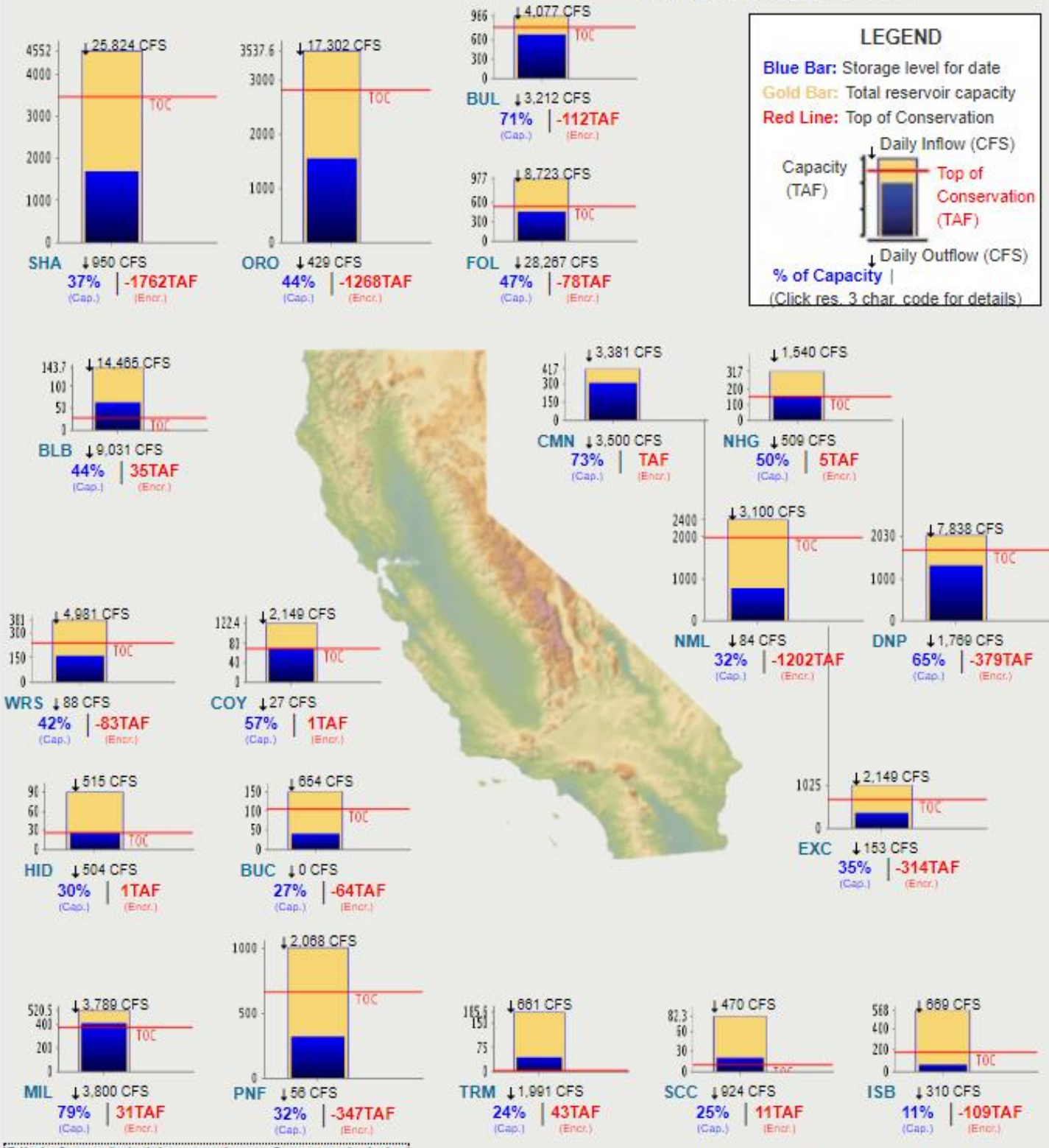
T. Boardman, WWD
1/4/2023

Click here for the link to Boardman's full report.

TOP OF CONSERVATION CONDITIONS:
CENTRAL VALLEY AND RUSSIAN RIVER FLOOD CONTROL RESERVOIRS: 08-JAN-2023

Midnight: 08-Jan-2023

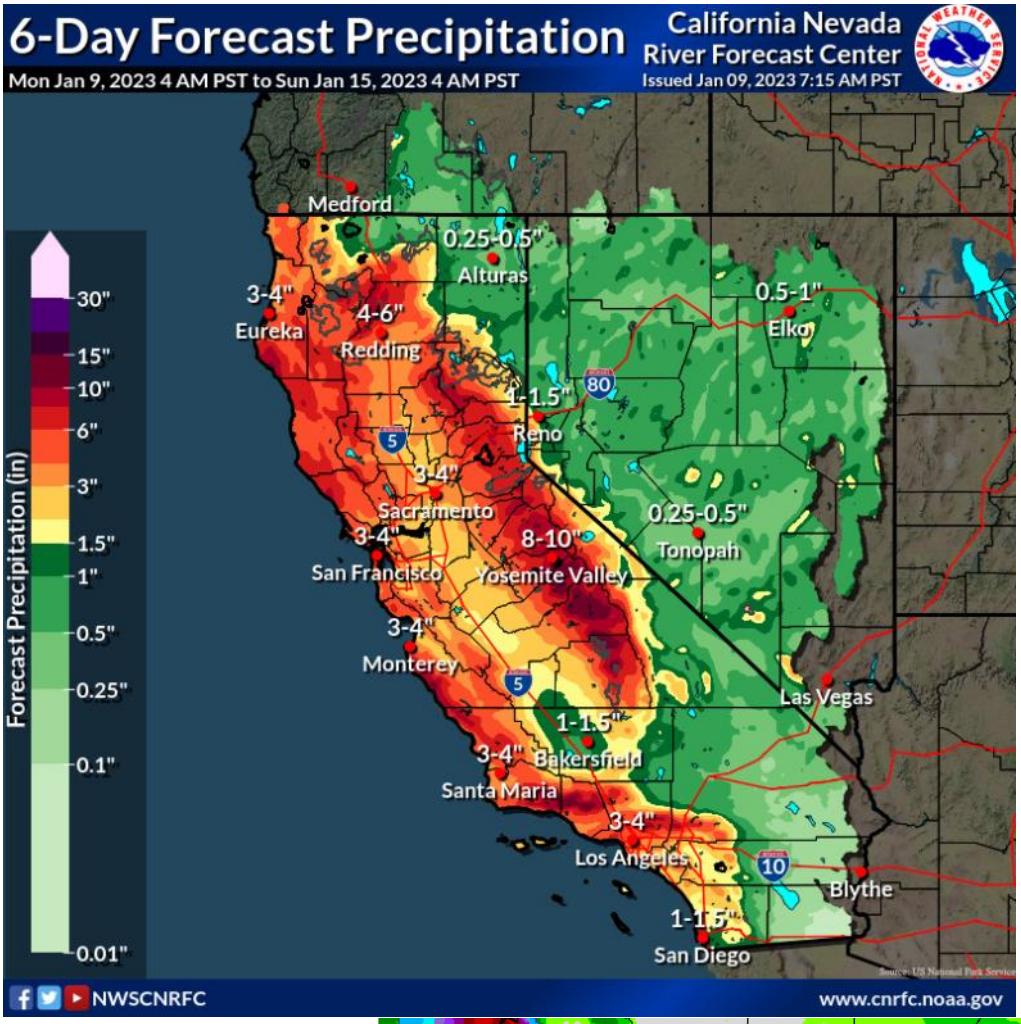
Change Date: 08-Jan-2023

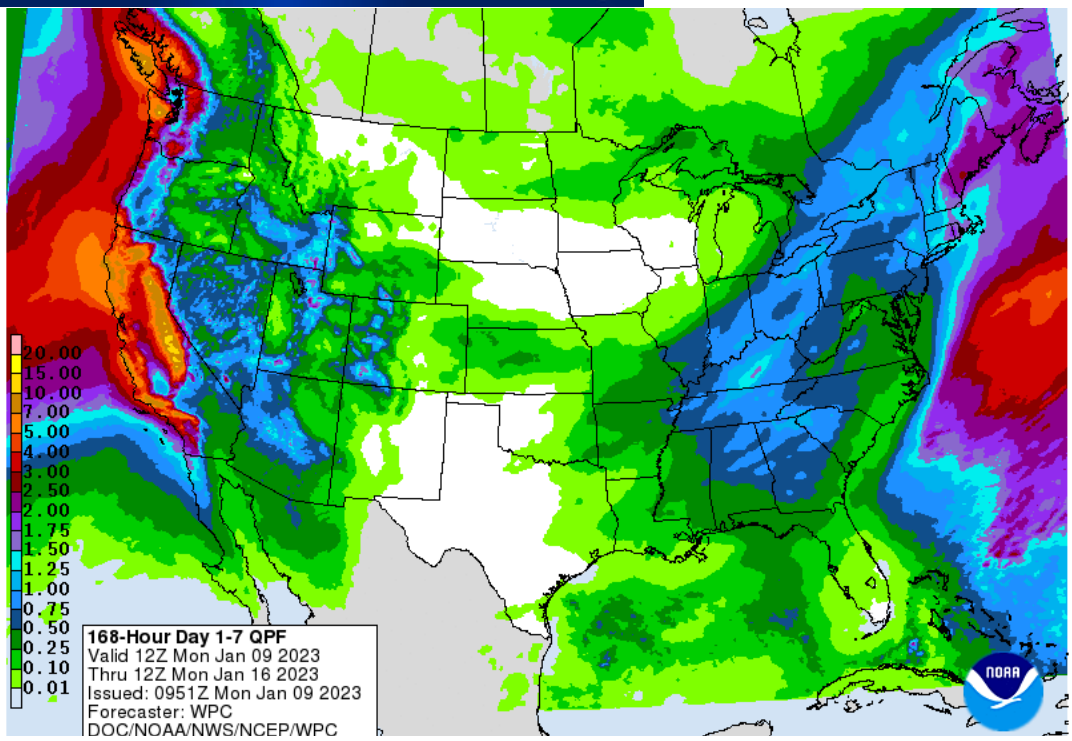


Click for printable version of current data

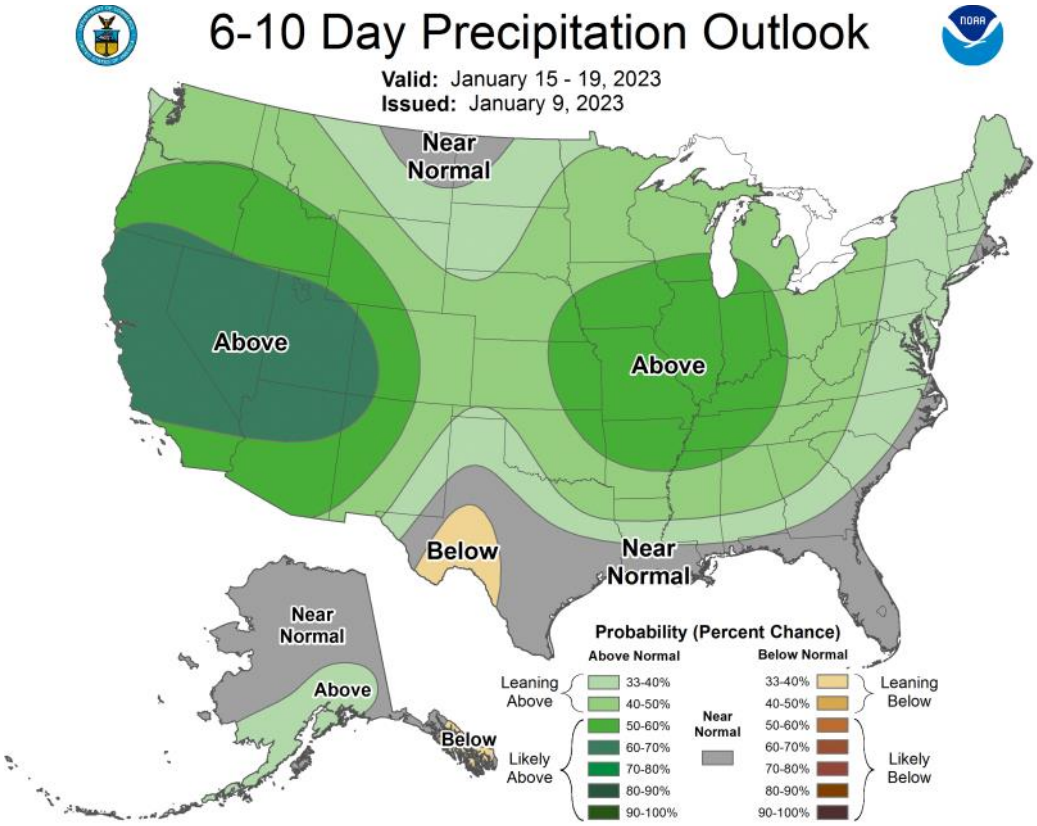
Report Generated: 09-Jan-2023 9:14 AM

6-Day and 7-day Forecasts

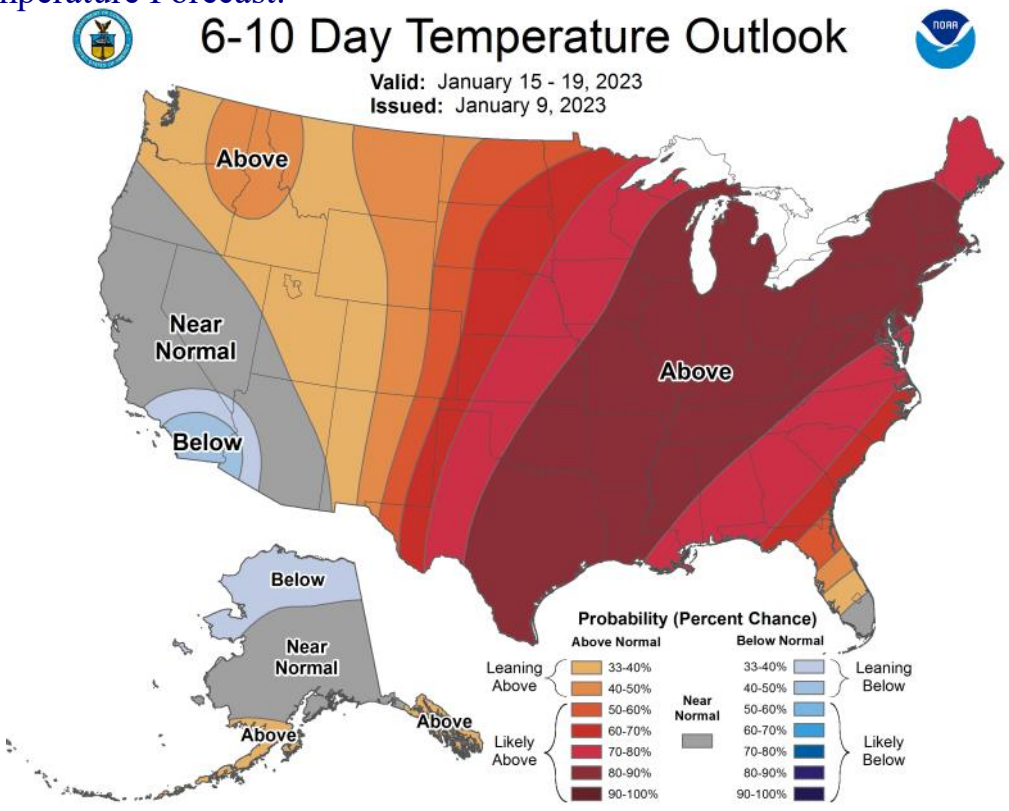




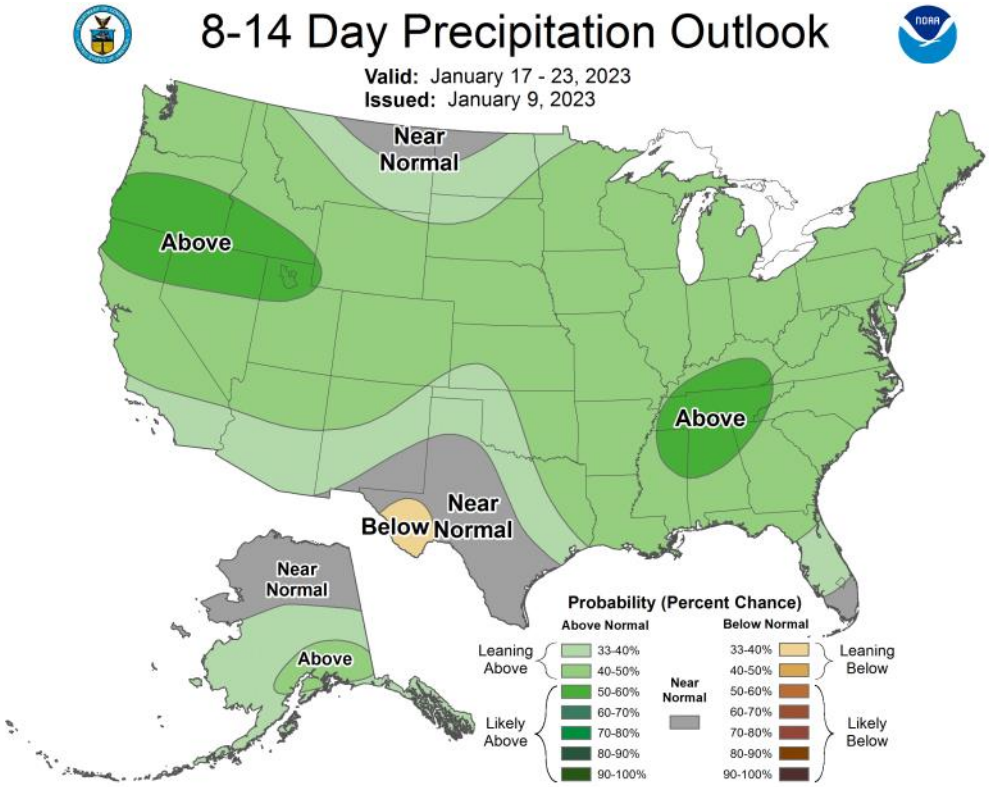
6-10 day Precipitation Forecast:



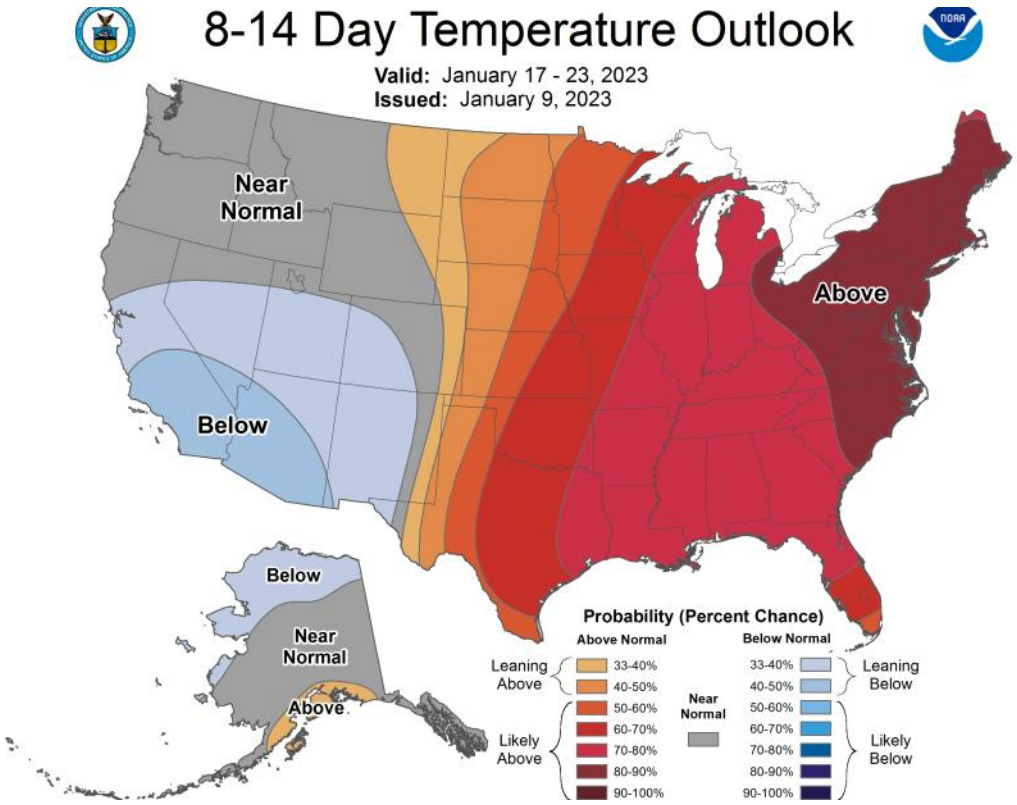
6-10 day Temperature Forecast:



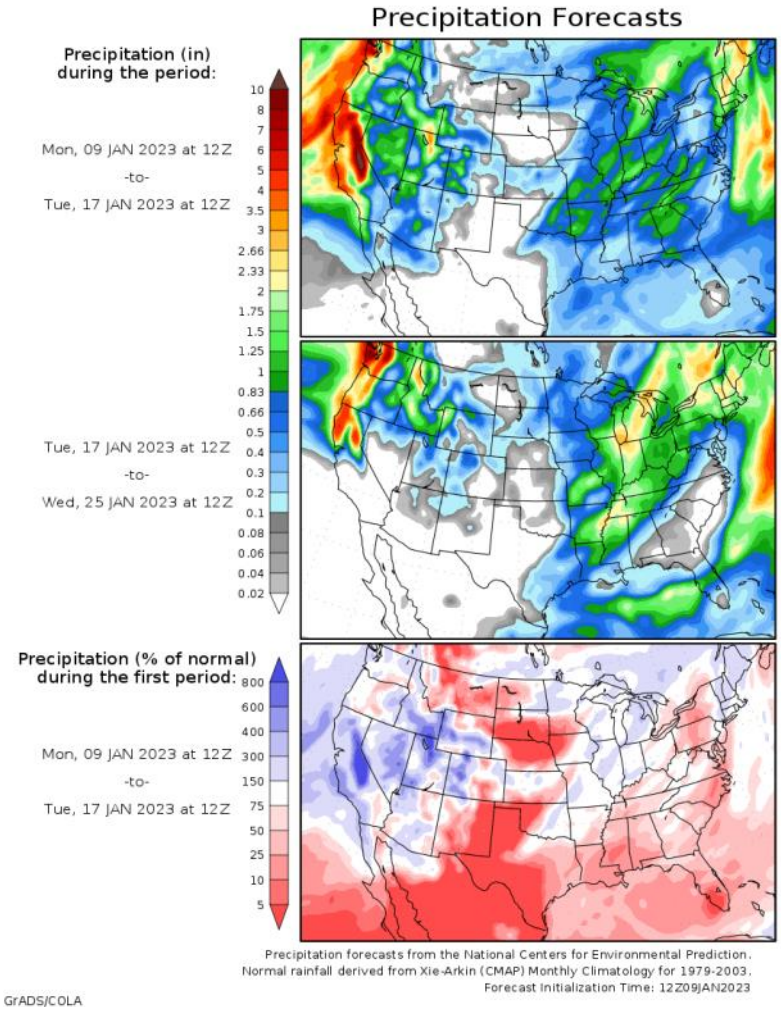
8-14 day Precipitation Forecast:



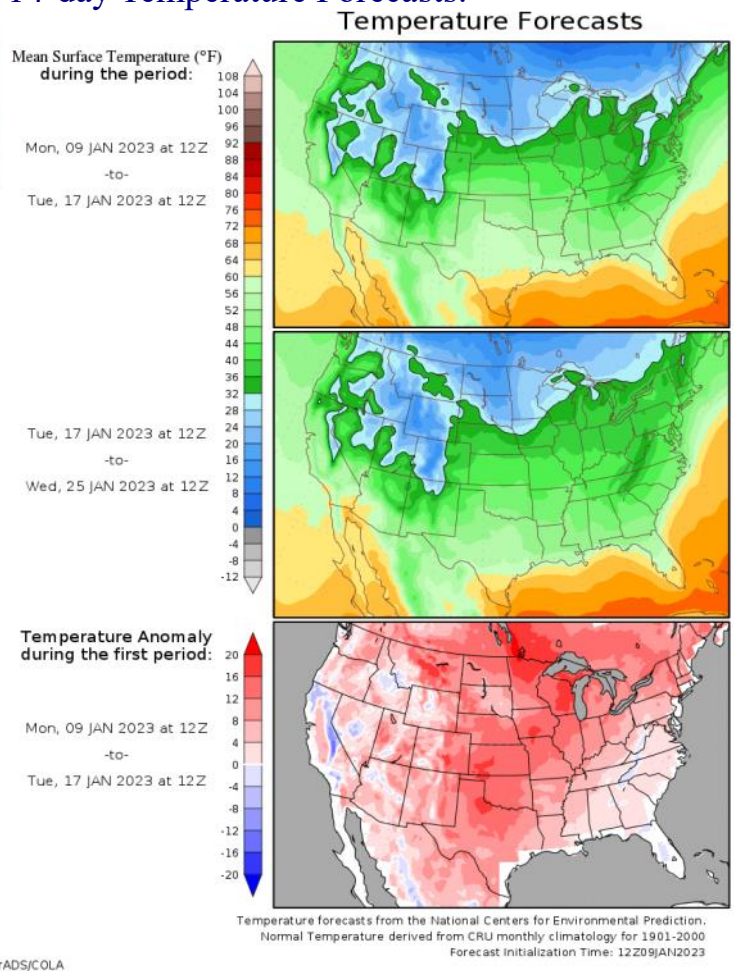
8-14 day Temperature Forecast:



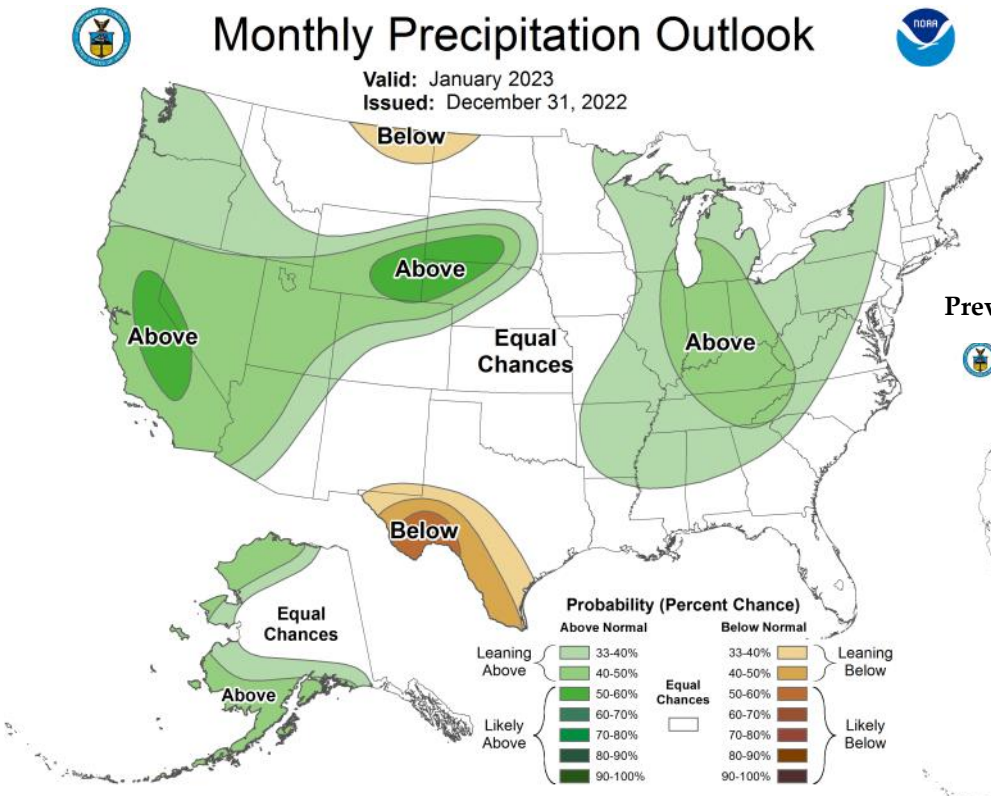
14-day Precipitation Forecasts:



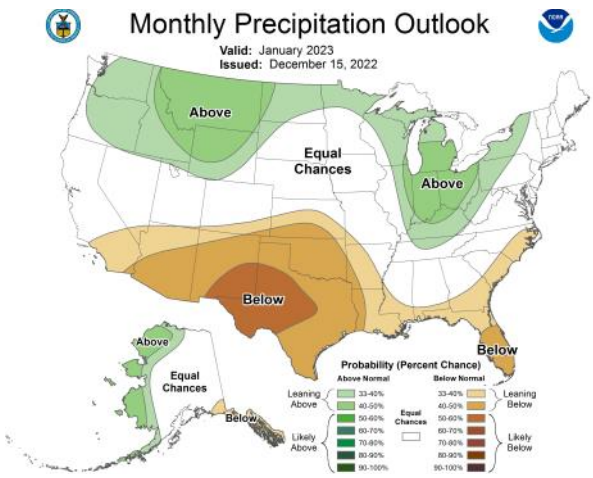
14-day Temperature Forecasts:



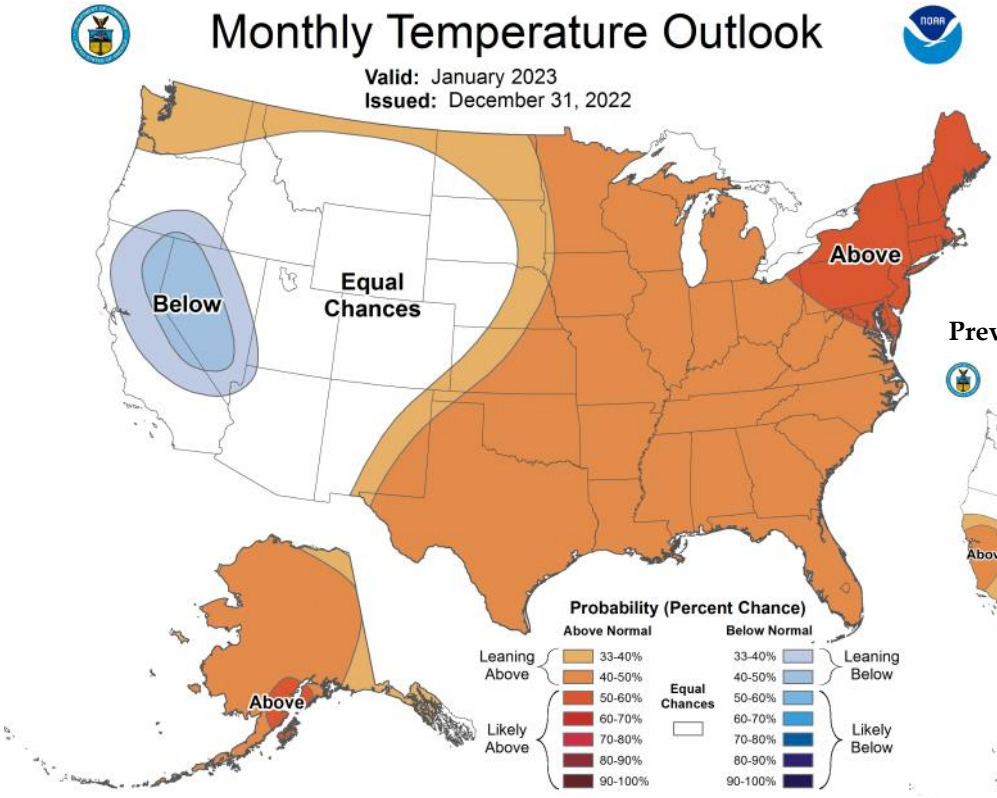
January 2023 Precipitation Outlook:



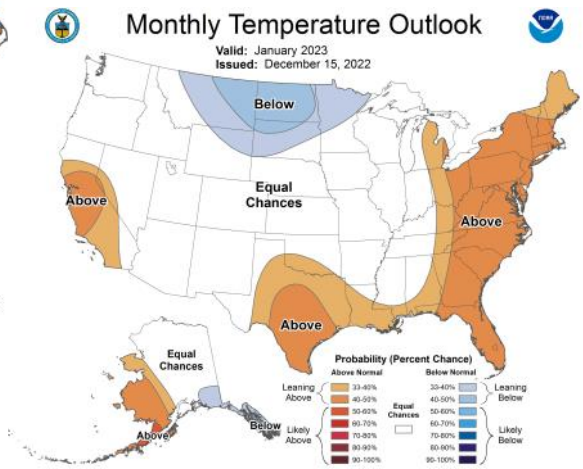
Previous One-Month Precipitation Outlook



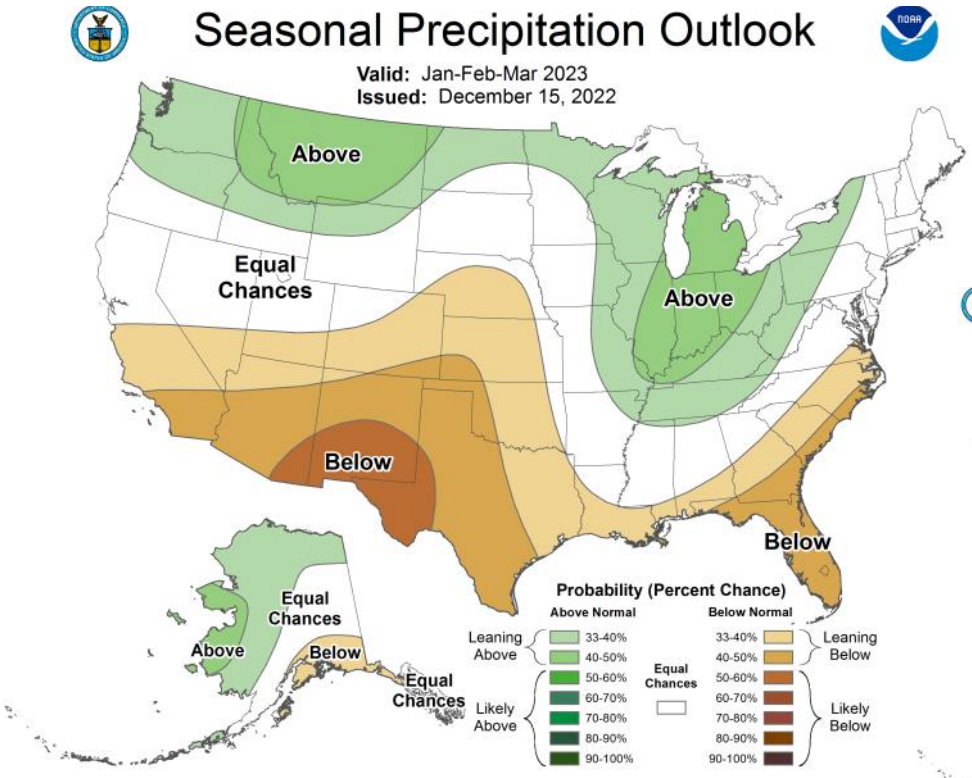
January 2023 Temperature Outlook:



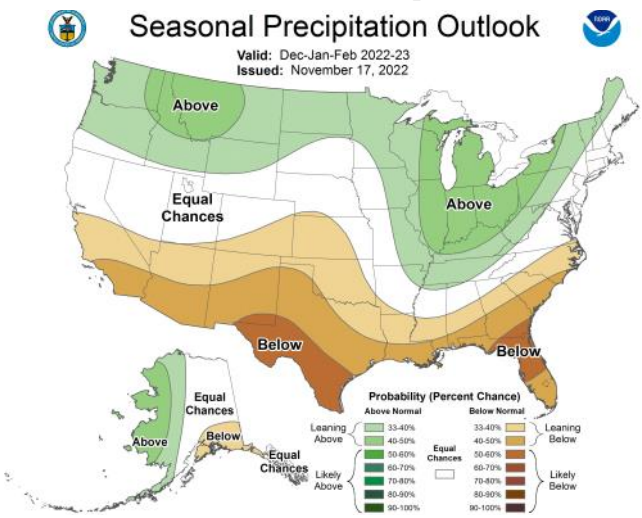
Previous One-Month Temperature Outlook



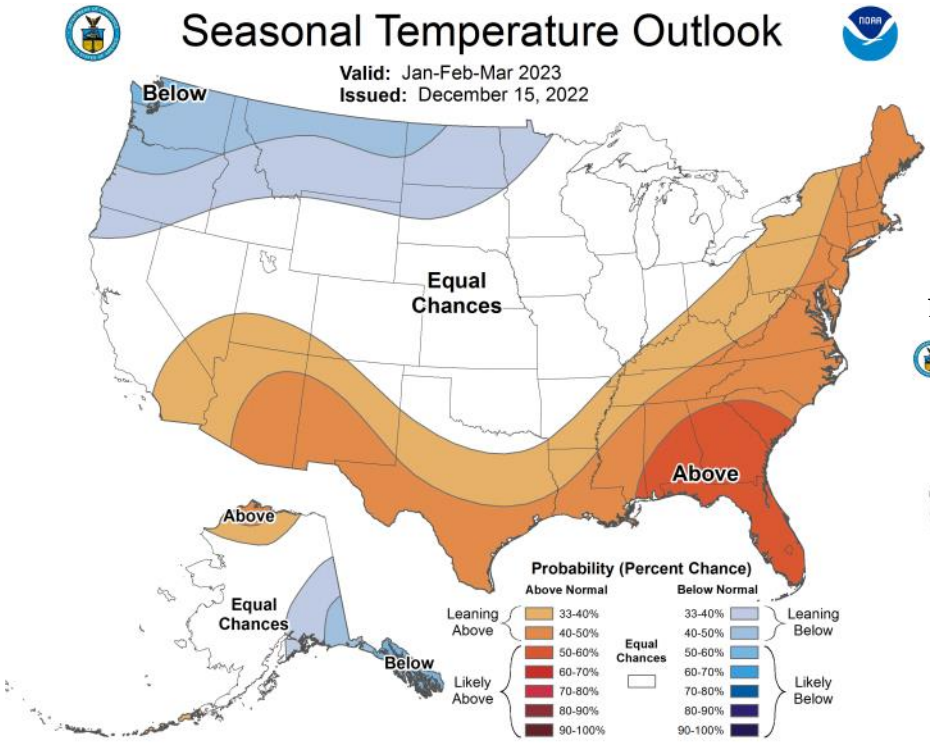
January - March 2023 Precipitation Outlook:



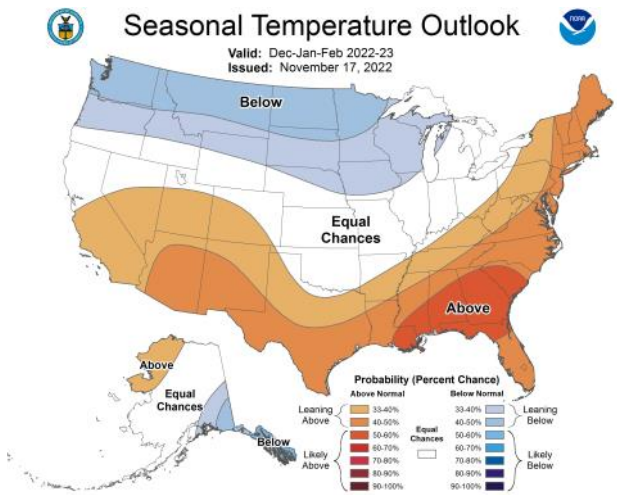
Last Month's 3-Month Precipitation Outlook



January - March 2023 Temperature Outlook:

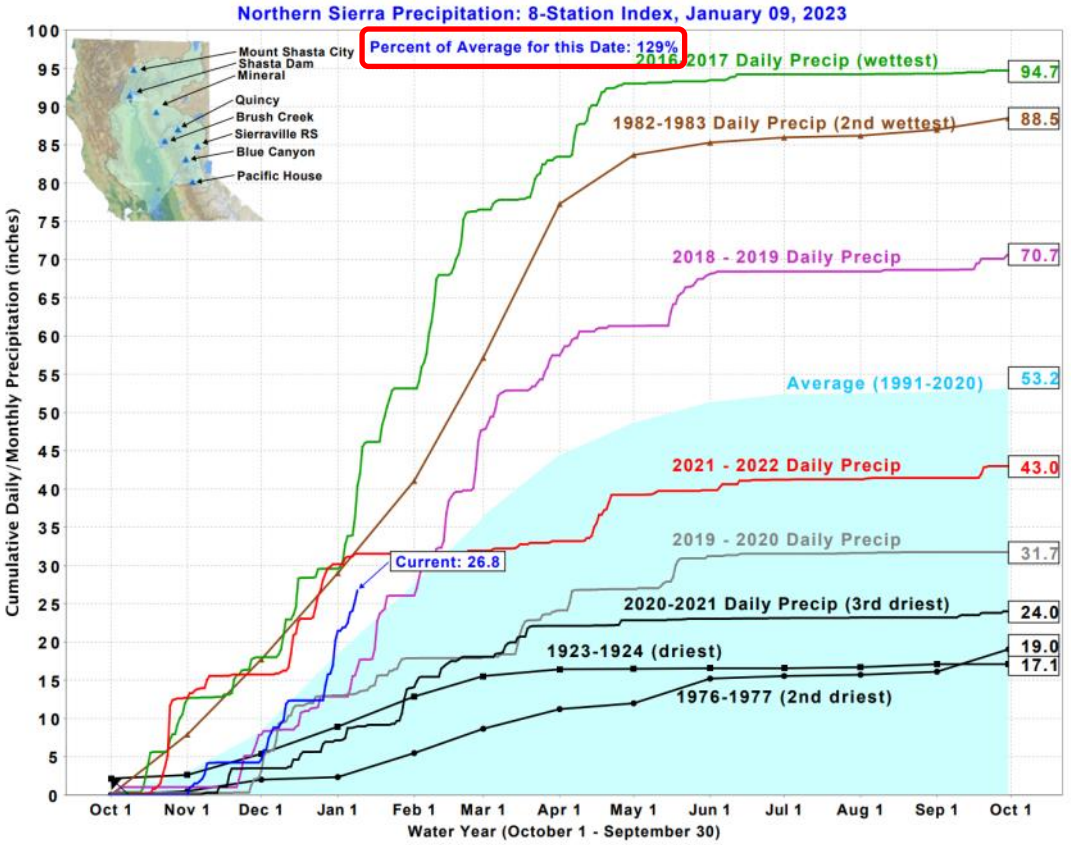


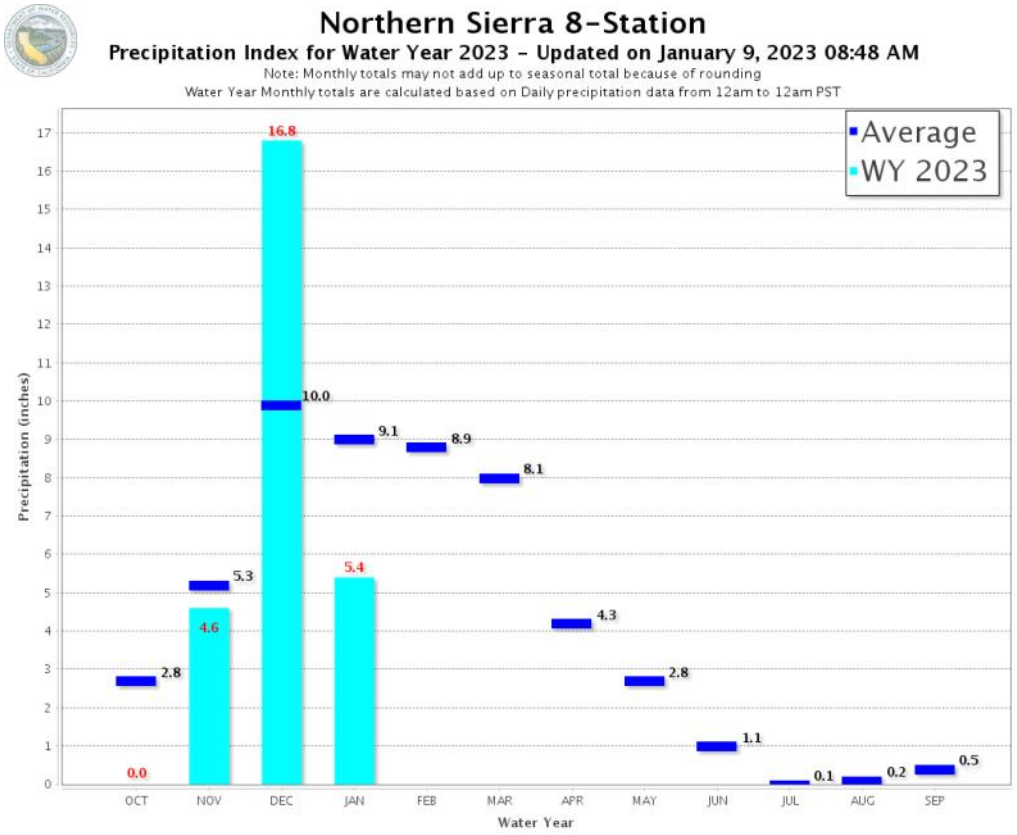
Last Month's 3-Month Temperature Outlook



Northern Sierra Precipitation

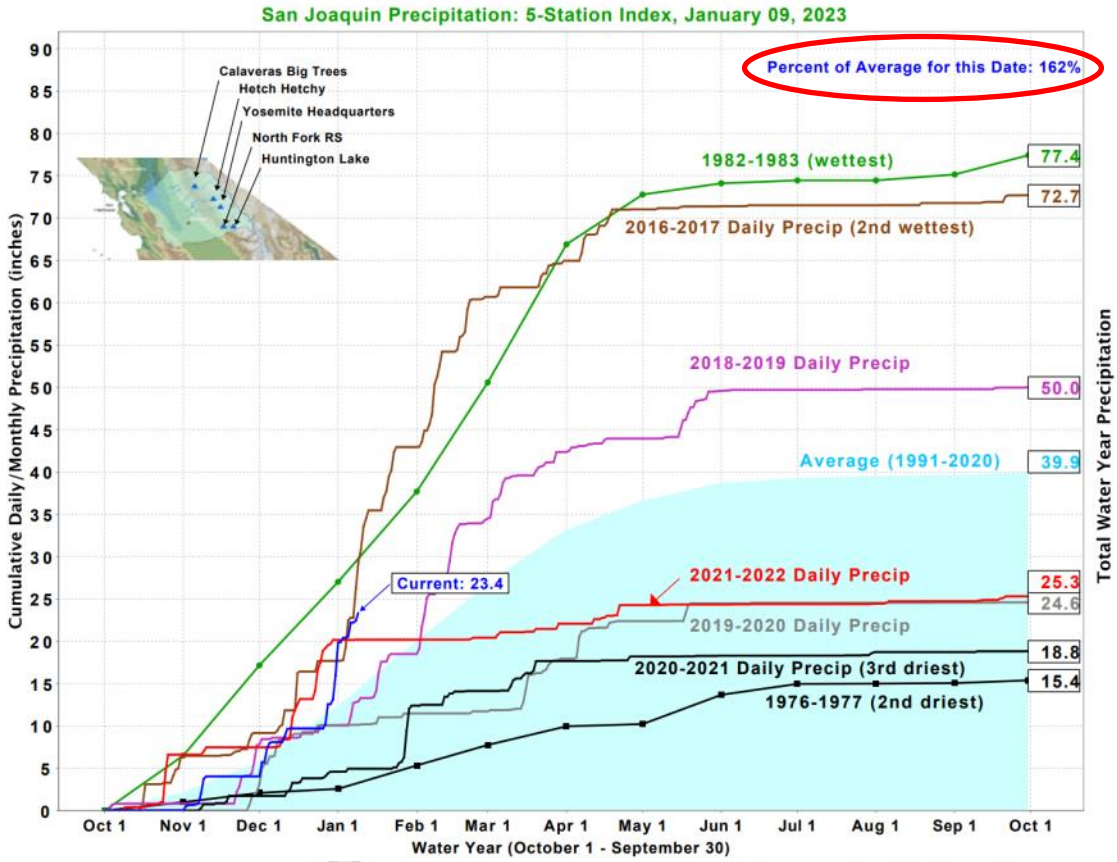
As of January 9, 2023, the 8-station North Sierra index has recorded 26.8 inches of precipitation for the 2022-2023 Water Year (up 4.9 inches from last week). This represents 129% of the typical average rainfall to date. As DWR calculates the index average, the average total for the normal season is 53.2 inches. (This reading of 26.8 inches is 50.4% of the yearly total.)

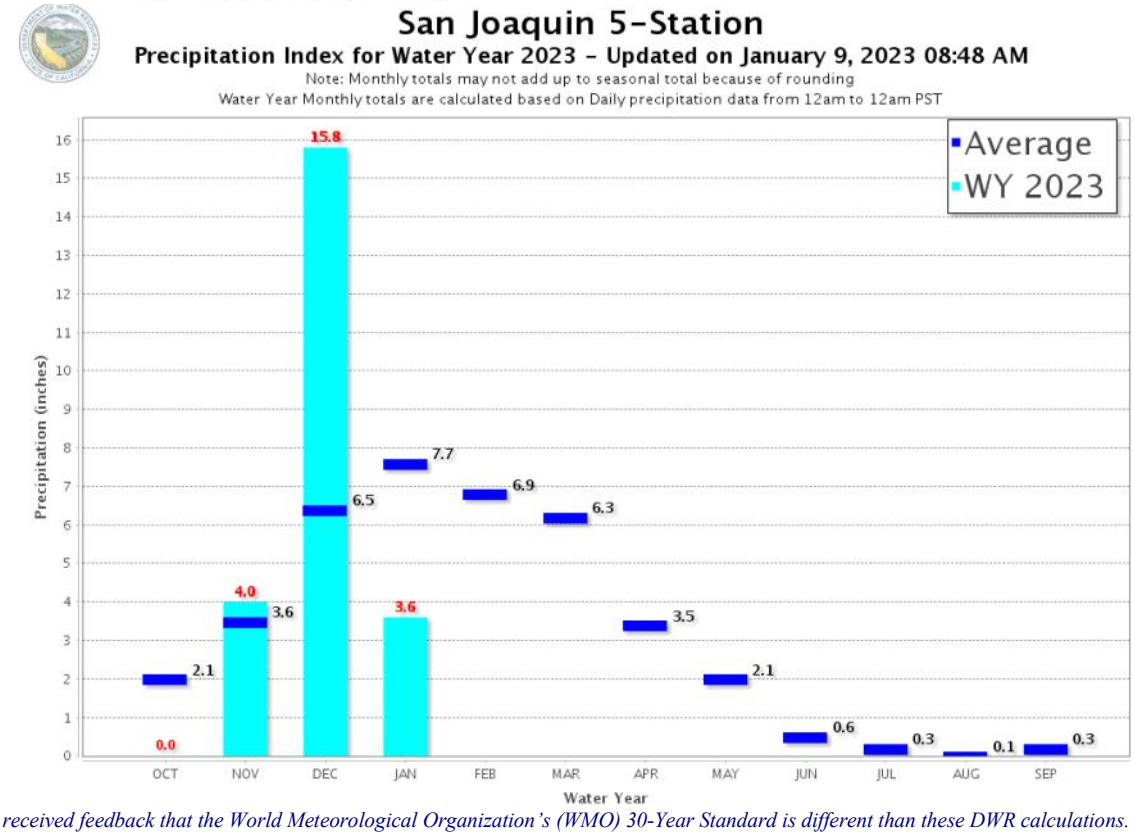




San Joaquin Precipitation

As of January 9, 2023, the 5-station San Joaquin index has recorded 23.4 inches of precipitation for this 2022-23 Water Year (up 3.0 inches from last week). This represents 162% of the typical average rainfall to date. As DWR calculates the index average, the average total for the normal season is 39.9 inches*. (This reading of 23.4 inches is 58.6% of the yearly total.)

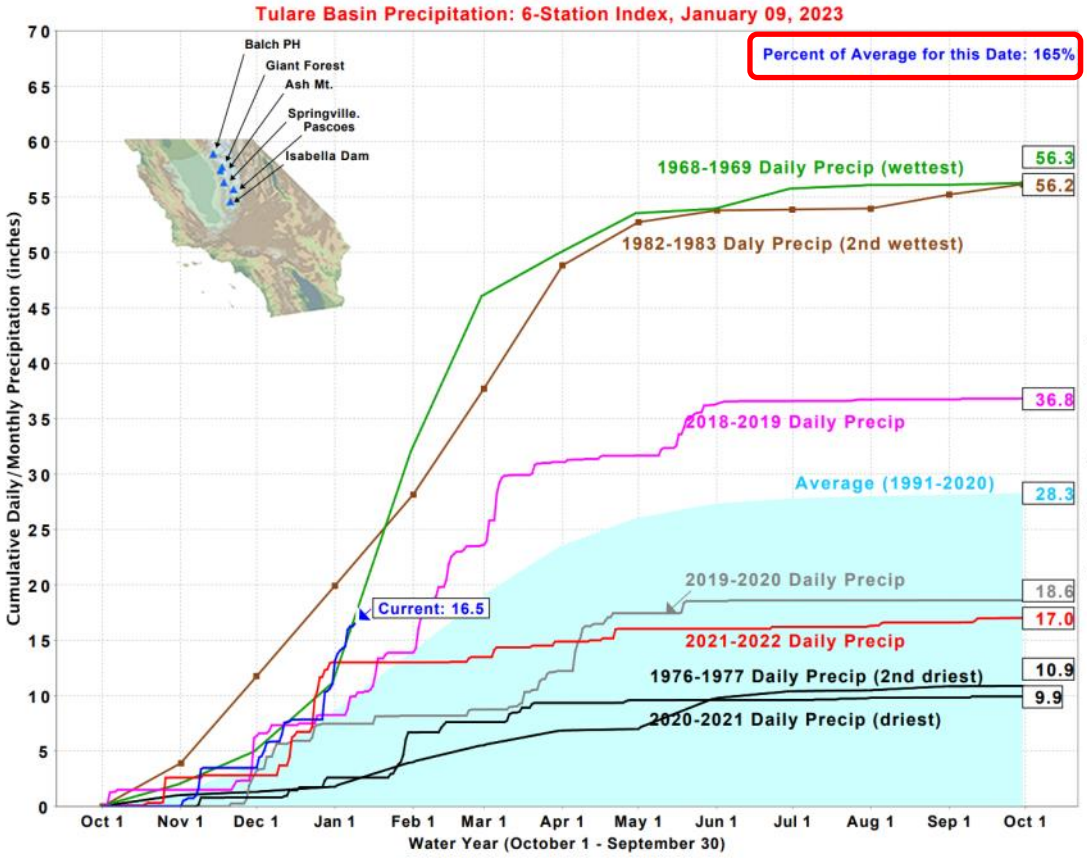


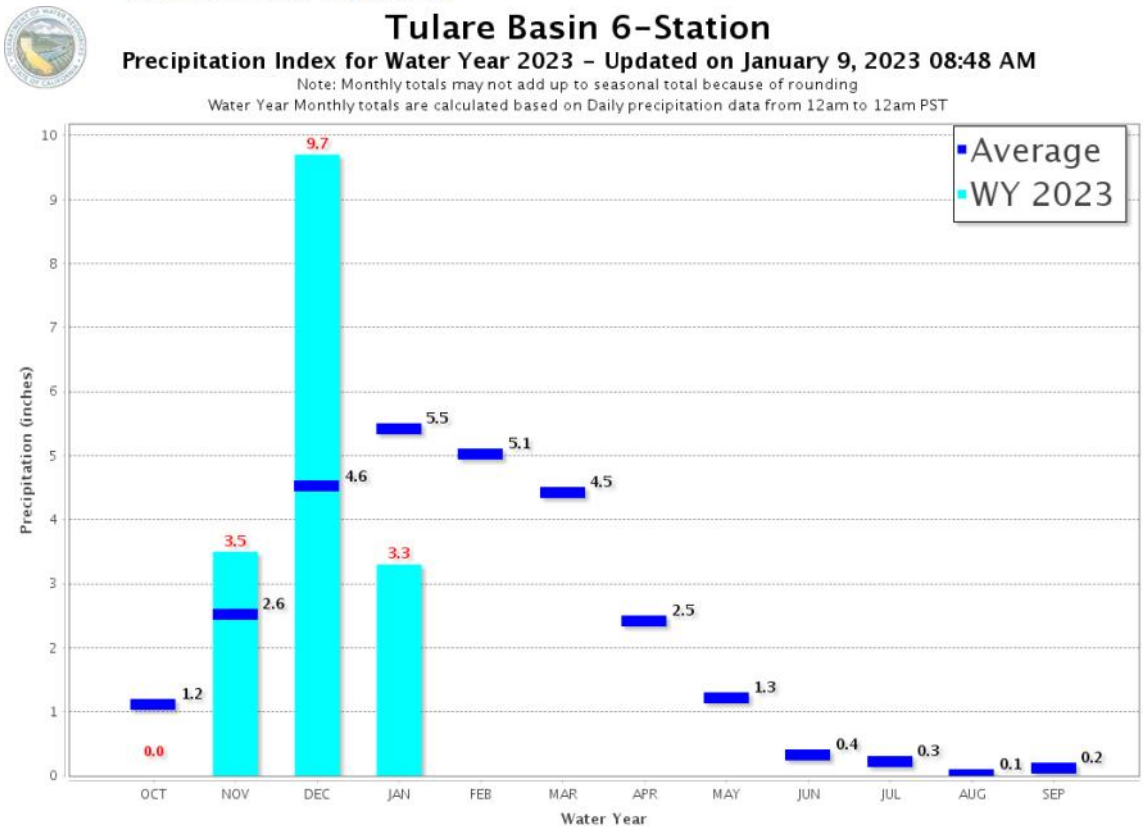


*We've received feedback that the World Meteorological Organization's (WMO) 30-Year Standard is different than these DWR calculations.

Tulare Basin Precipitation

As of January 9, 2023, the 6-station Tulare Basin index has recorded 16.5 inches of precipitation for this 2022-23 Water Year (up 2.4 inches from last week). This represents 165% of the typical average rainfall to date. As DWR calculates the index average, the average total for the normal season is 28.3 inches. (This reading of 16.5 inches is 58.3% of the yearly total.)

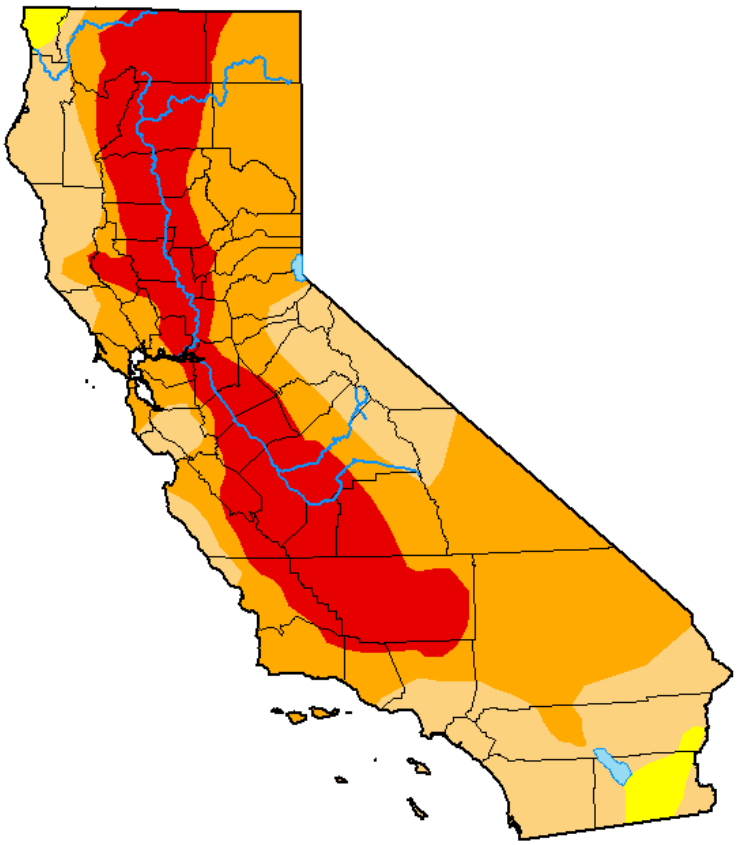




Drought Monitor for California

U.S. Drought Monitor

California



January 3, 2023

(Released Thursday, Jan. 5, 2023)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	97.93	71.14	27.10	0.00
Last Week *12-27-2022*	0.00	100.00	97.94	80.56	35.50	7.16
3 Months Ago *10-04-2022*	0.00	100.00	99.77	94.02	40.91	16.57
Start of Calendar Year *01-03-2023*	0.00	100.00	97.93	71.14	27.10	0.00
Start of Water Year *09-27-2022*	0.00	100.00	99.76	94.01	40.91	16.57
One Year Ago *01-04-2022*	0.00	100.00	99.30	67.62	16.60	0.84

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

Author:

Brad Pugh
CPC/NOAA

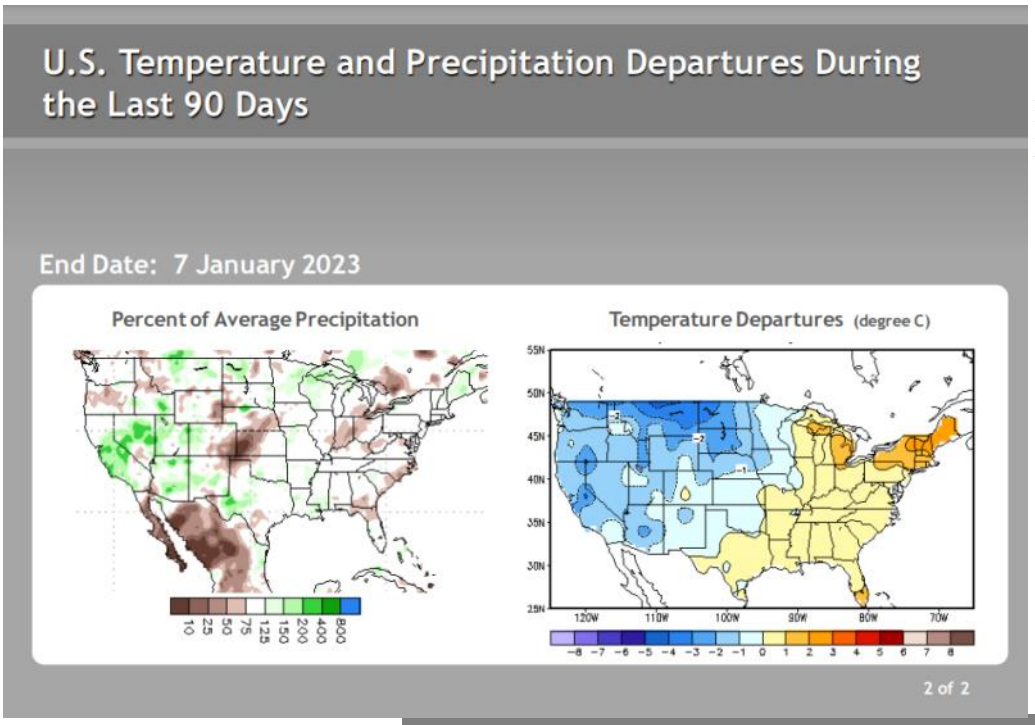
droughtmonitor.unl.edu

Long-Range Forecast—

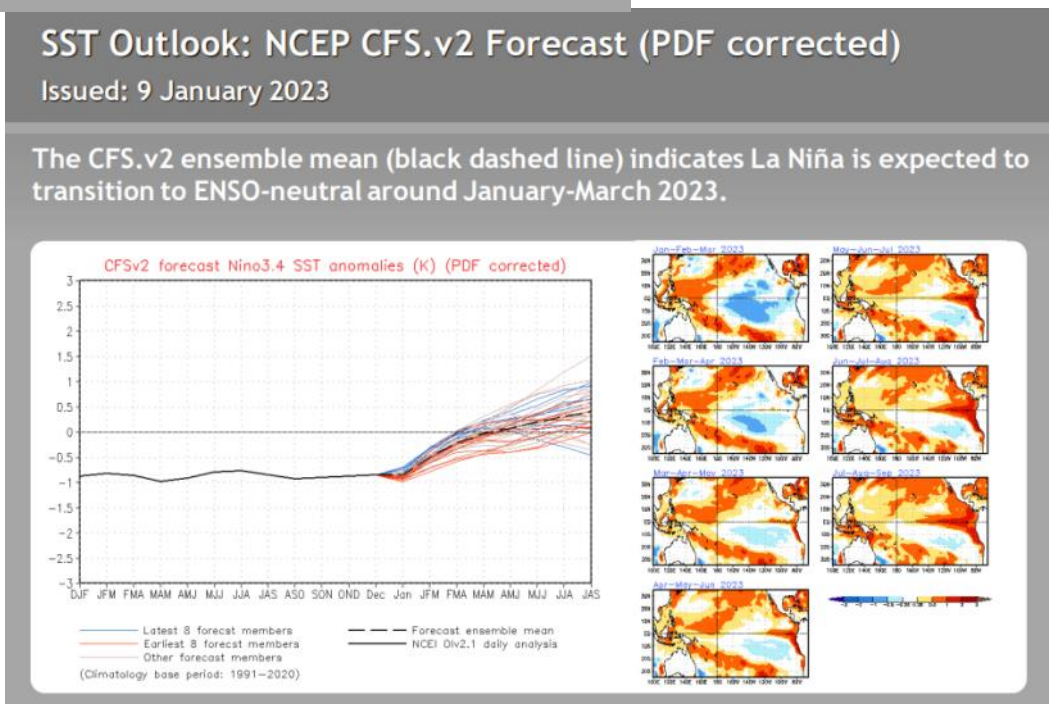
The Climate Prediction Center/NCEP/NWS issued its new Update on January 9, 2023:

ENSO Alert System Status: La Niña Advisory

- **La Niña is present.***
- **Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean.**
- **The tropical Pacific atmosphere is consistent with La Niña.**
- **La Niña is expected to continue into the winter, with equal chances of La Niña and ENSO-neutral during January-March 2023. In February-April 2023, there is a 71% chance of ENSO-neutral.***



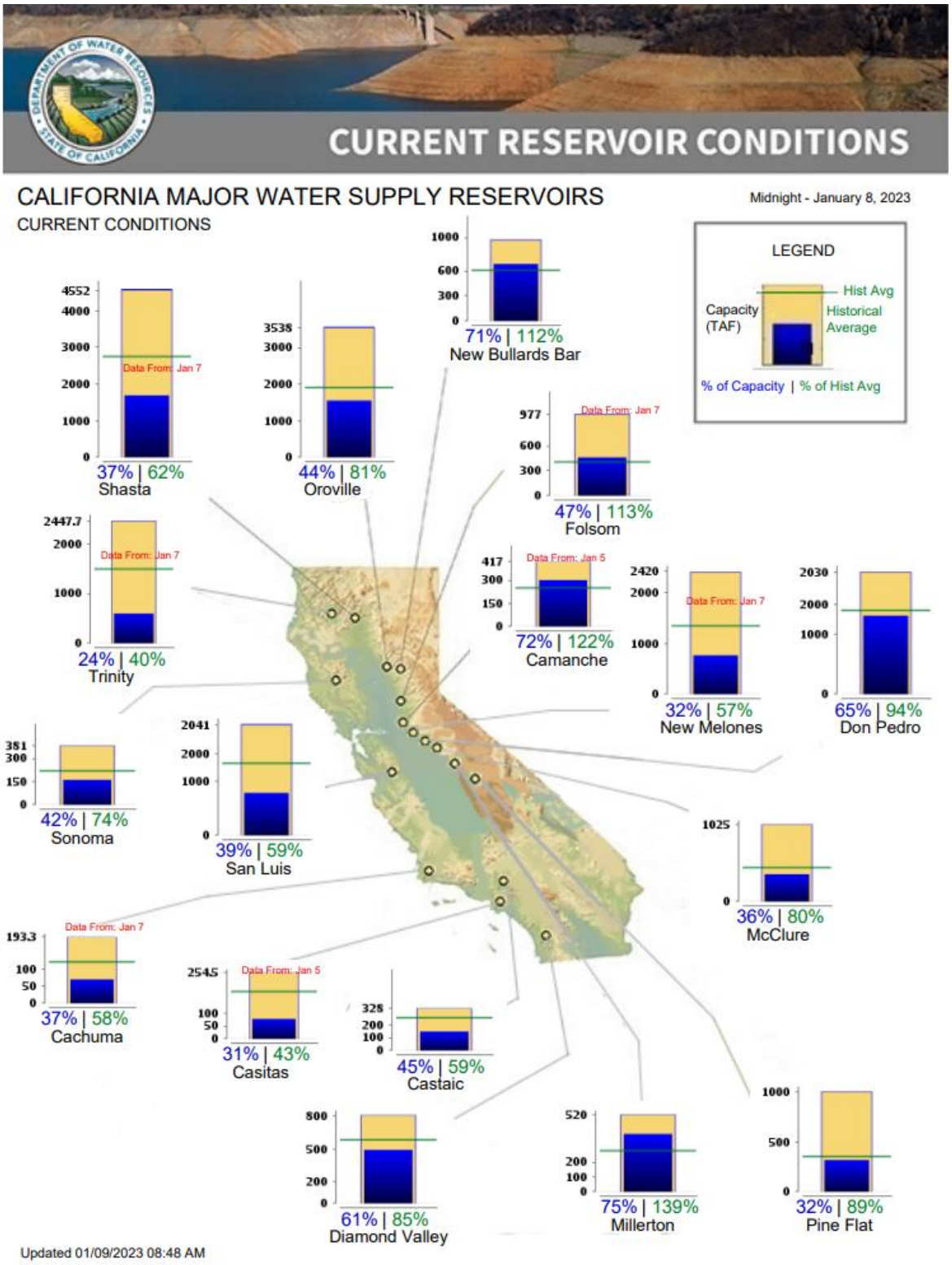
* Note: These statements (and the following charts) are updated at least once a month (2nd Thursday of each month) in association with the ENSO Diagnostics Discussion: https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/

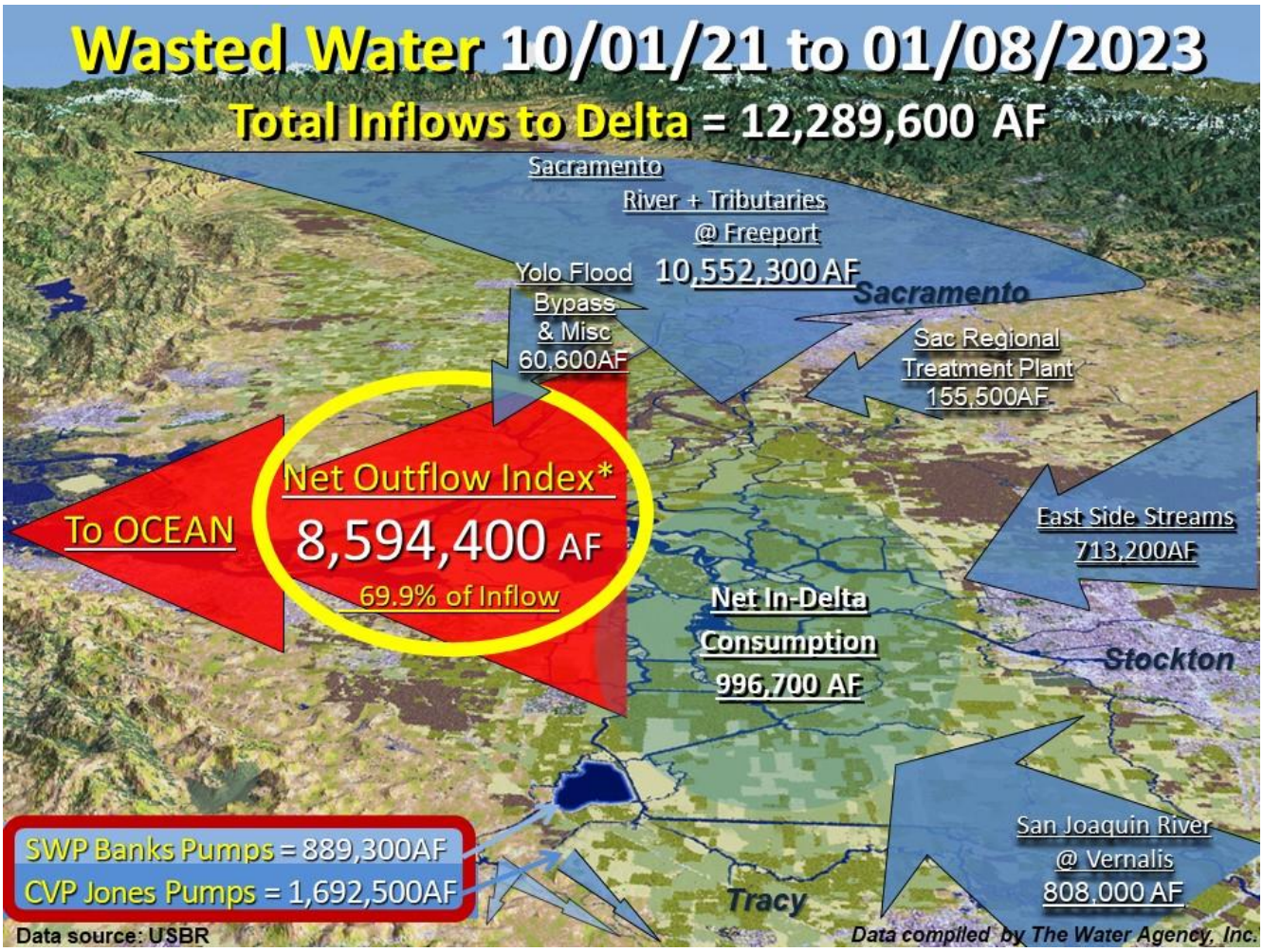


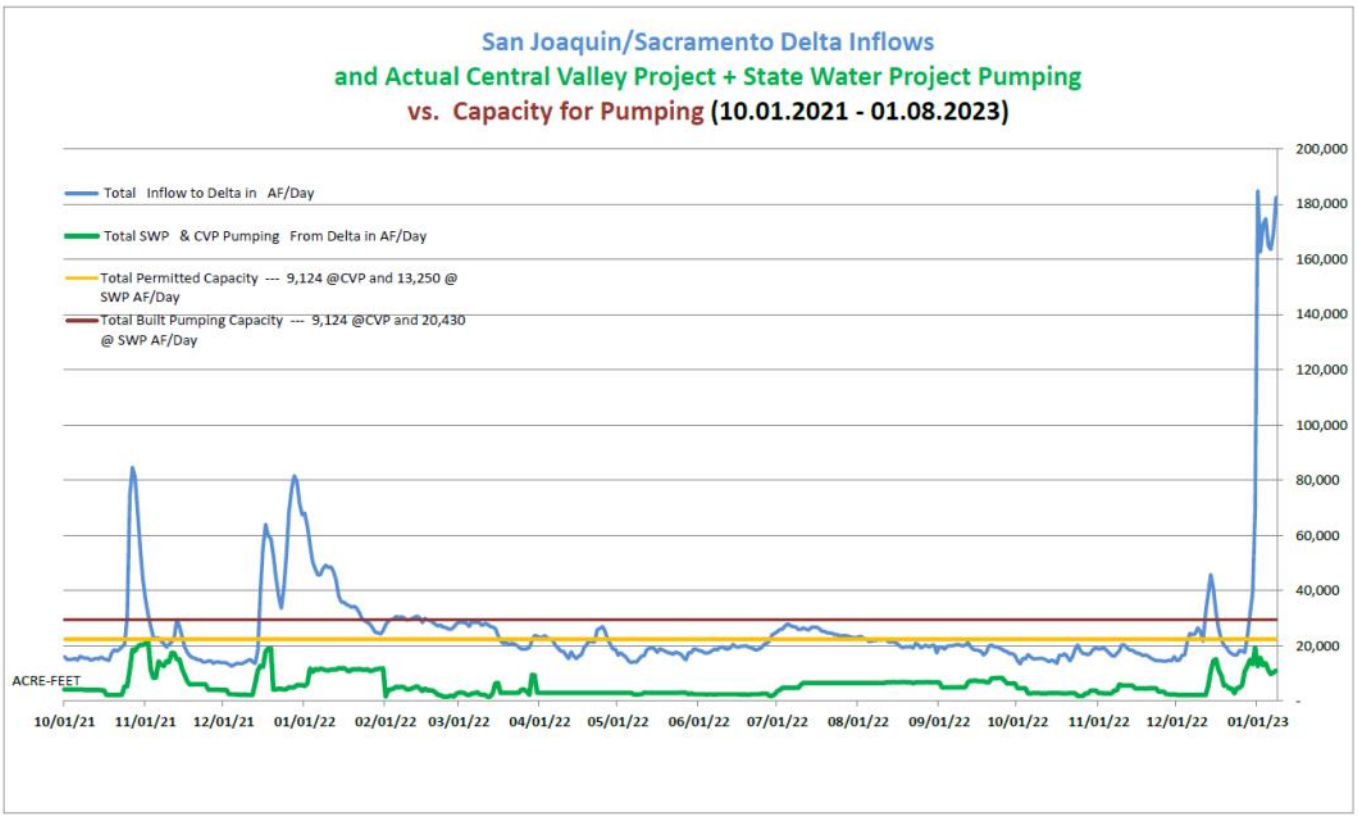
From pages 30 and 25

Reservoir Conditions

As of January 8, 2023, Northern California reservoirs (Shasta [SHA], Trinity [CLE], Oroville [ORO], and Folsom [FOL]) are between 40-113% of historical average and 24-47% of capacity. The central ones (San Luis [SNL], New Melones [NML], Don Pedro [DNP], Pine Flat [PNF], and Millerton [MIL]) are between 57-139% of historical average and 32-75% of capacity.



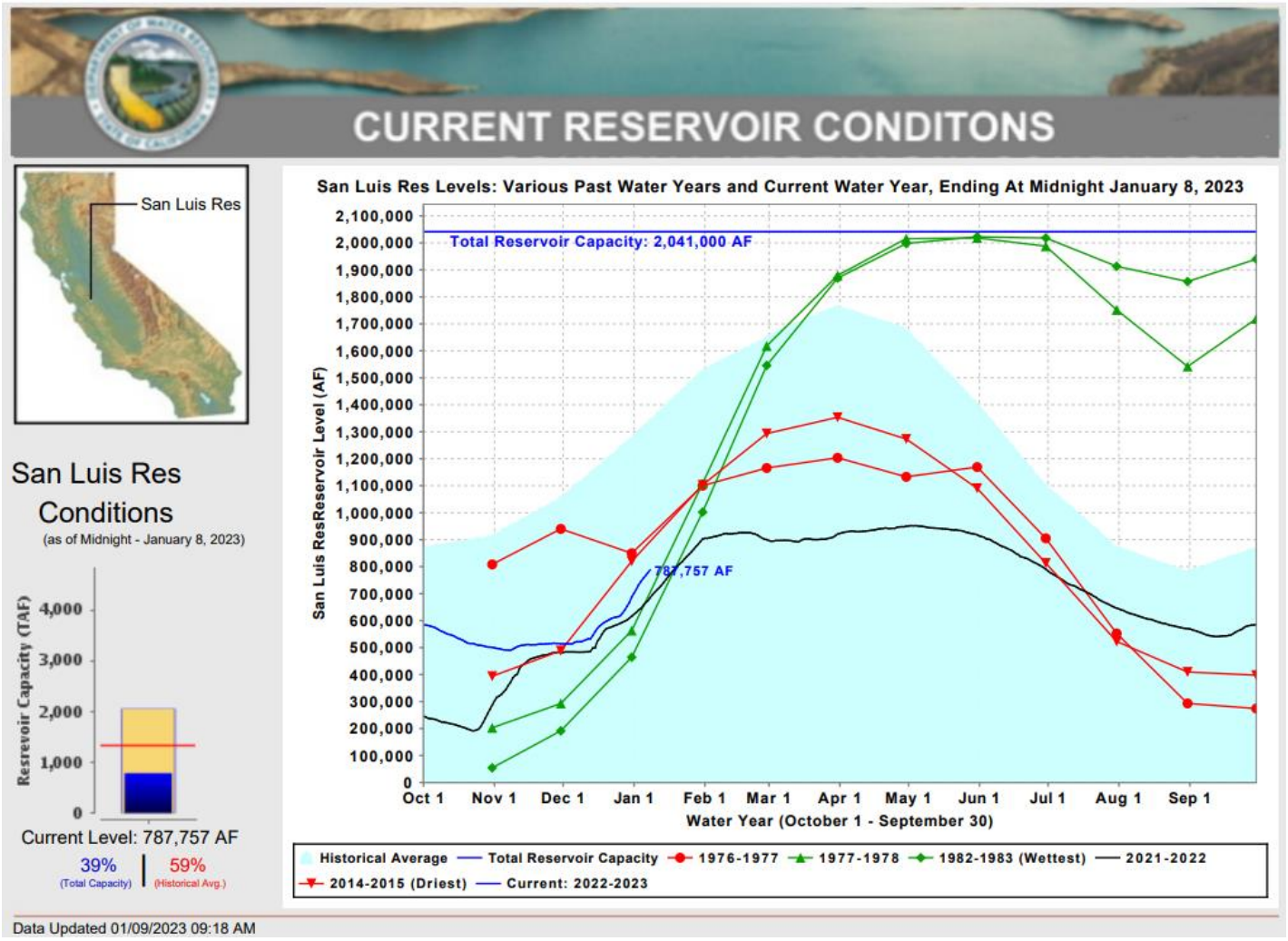

Wasted Water 10/01/21 to 01/08/2023
Total Inflows to Delta = 12,289,600 AF
Sacramento River + Tributaries @ Freeport 10,552,300 AF
Yolo Flood Bypass & Misc 60,600AF
Sacramento
Sac Regional Treatment Plant 155,500AF
To OCEAN
Net Outflow Index*
8,594,400 AF
69.9% of Inflow
East Side Streams 713,200AF
Net In-Delta Consumption 996,700 AF
Stockton
SWP Banks Pumps = 889,300AF
CVP Jones Pumps = 1,692,500AF
Tracy
San Joaquin River @ Vernalis 808,000 AF
Data source: USBR
Data compiled by The Water Agency, Inc.


San Joaquin/Sacramento Delta Inflows
and Actual Central Valley Project + State Water Project Pumping
vs. Capacity for Pumping (10.01.2021 - 01.08.2023)
Total Inflow to Delta in AF/Day
Total SWP & CVP Pumping From Delta in AF/Day
Total Permitted Capacity --- 9,124 @CVP and 13,250 @ SWP AF/Day
Total Built Pumping Capacity --- 9,124 @CVP and 20,430 @ SWP AF/Day
ACRE-FEET
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
-
10/01/21
11/01/21
12/01/21
01/01/22
02/01/22
03/01/22
04/01/22
05/01/22
06/01/22
07/01/22
08/01/22
09/01/22
10/01/22
11/01/22
12/01/22
01/01/23

San Luis Reservoir

As of January 8, 2023, San Luis is at 59% of the historical average. San Luis total (CVP + SWP) storage is at 787,757AF (up 71,894 AF from last week) and is at 39% of the 2,041,000AF of capacity.

As of January 8, 2023, the CVP share is 321,688 AF (at 33.3% of capacity).

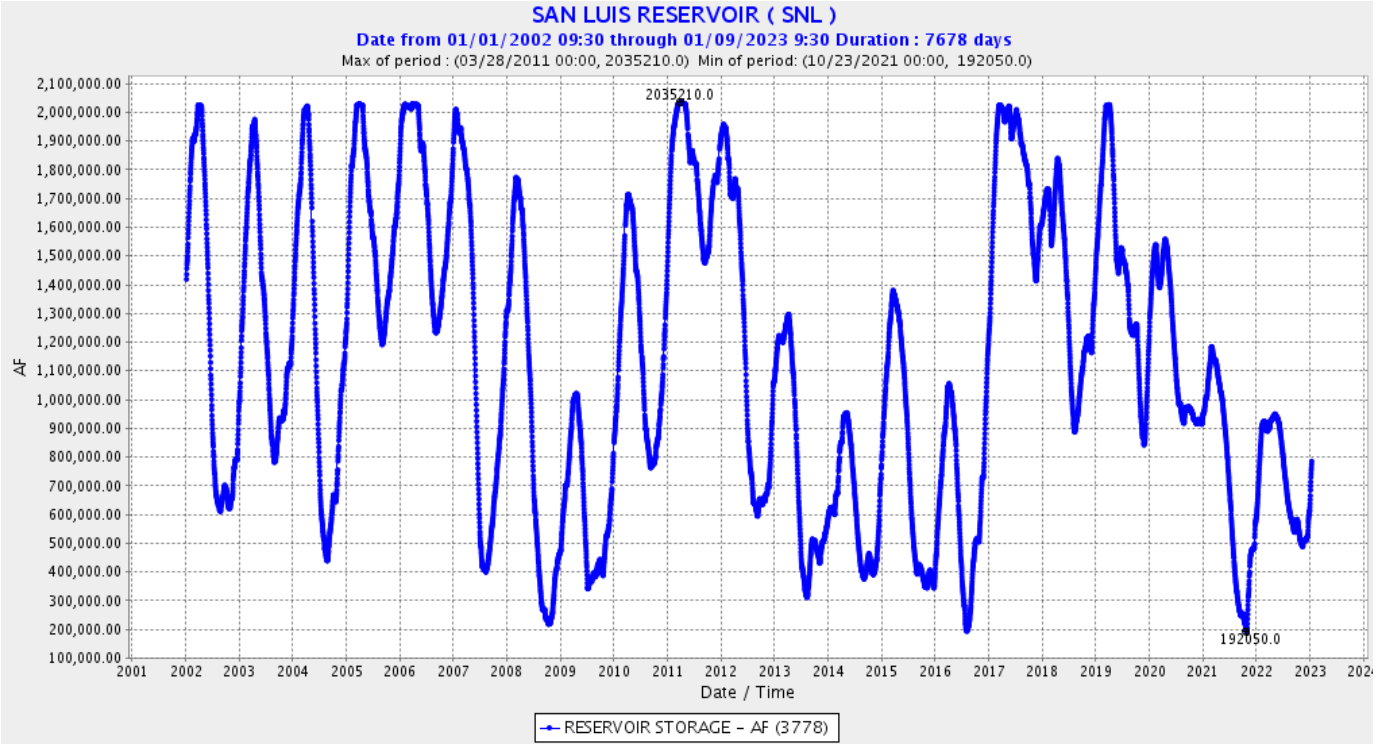


Federal Storage within San Luis Reservoir

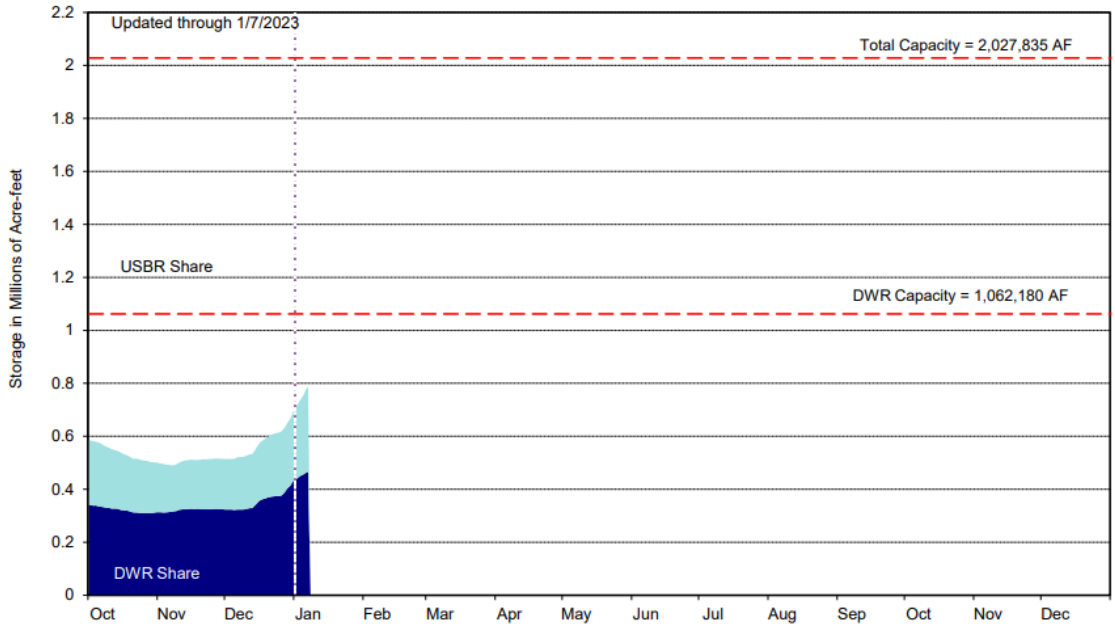
As of January 8, 2023, federal storage was at 321,688 AF and 33.3% capacity (up 46,404AF from last week). Total federal storage capacity is 965,655AF.

State Storage within San Luis Reservoir

As of January 8, 2023, state storage was at 466,069 AF and 43.9% capacity (up 25,490AF from last week). Total state storage capacity is 1,062,180AF.

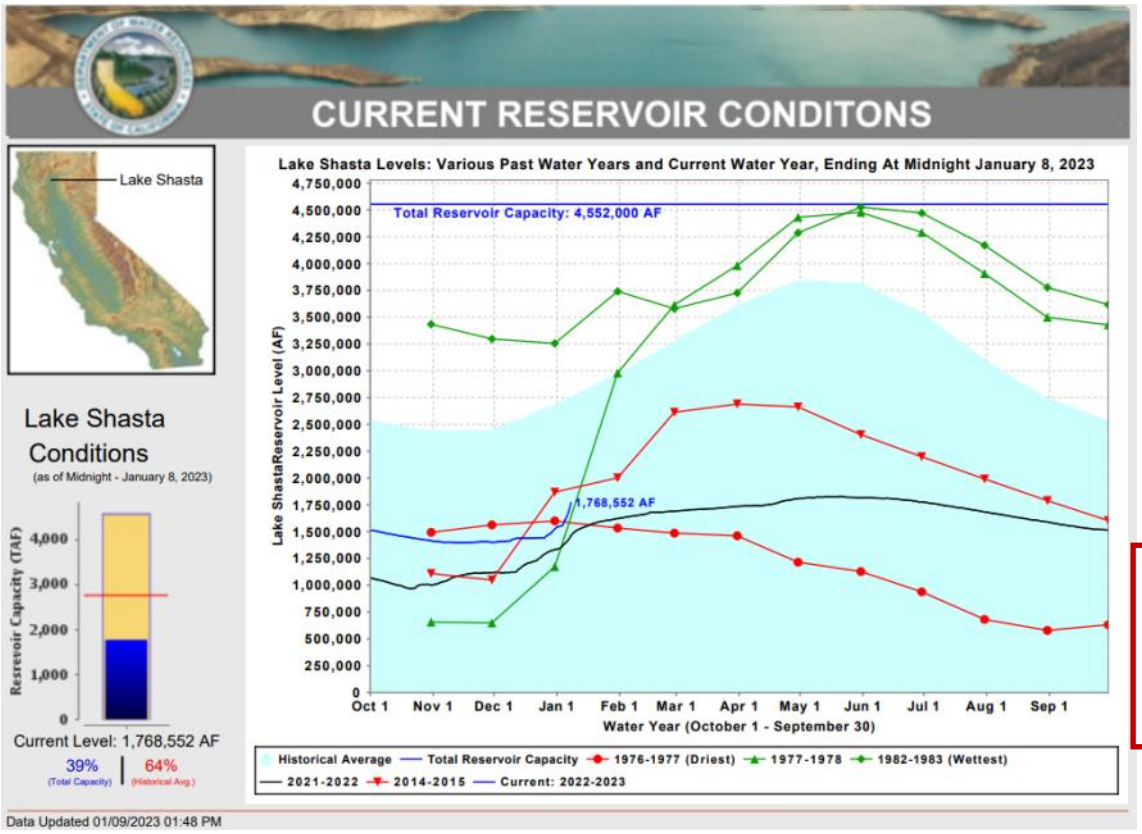


San Luis Reservoir Storage
Combination Water/Calendar Year



Shasta Lake Storage

As of January 8, 2023, storage in Shasta Lake was approximately 1,768,552 AF (39% of capacity and 64% of the historical average). That's up 228,319 AF from last week.

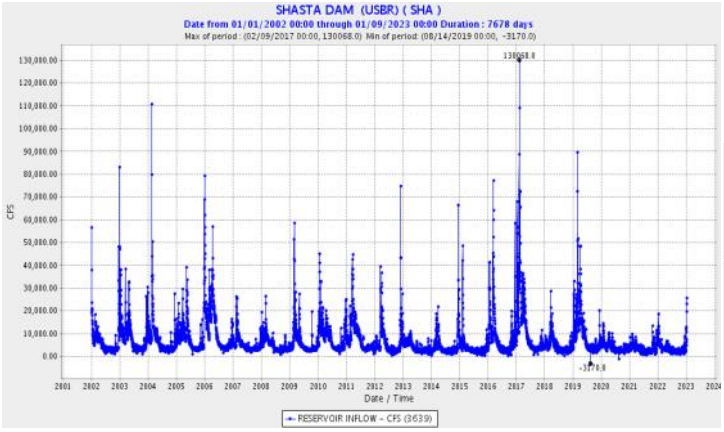


Total capacity is about 4,552,000 AF.

As of Sunday, the weekly average daily inflows were calculated as 14,569 CFS, and the weekly average daily outflows were calculated as 1,824CFS.

As of January 7, 2023, total inflows into Shasta for Water Year 2022 are 775,723 AF.

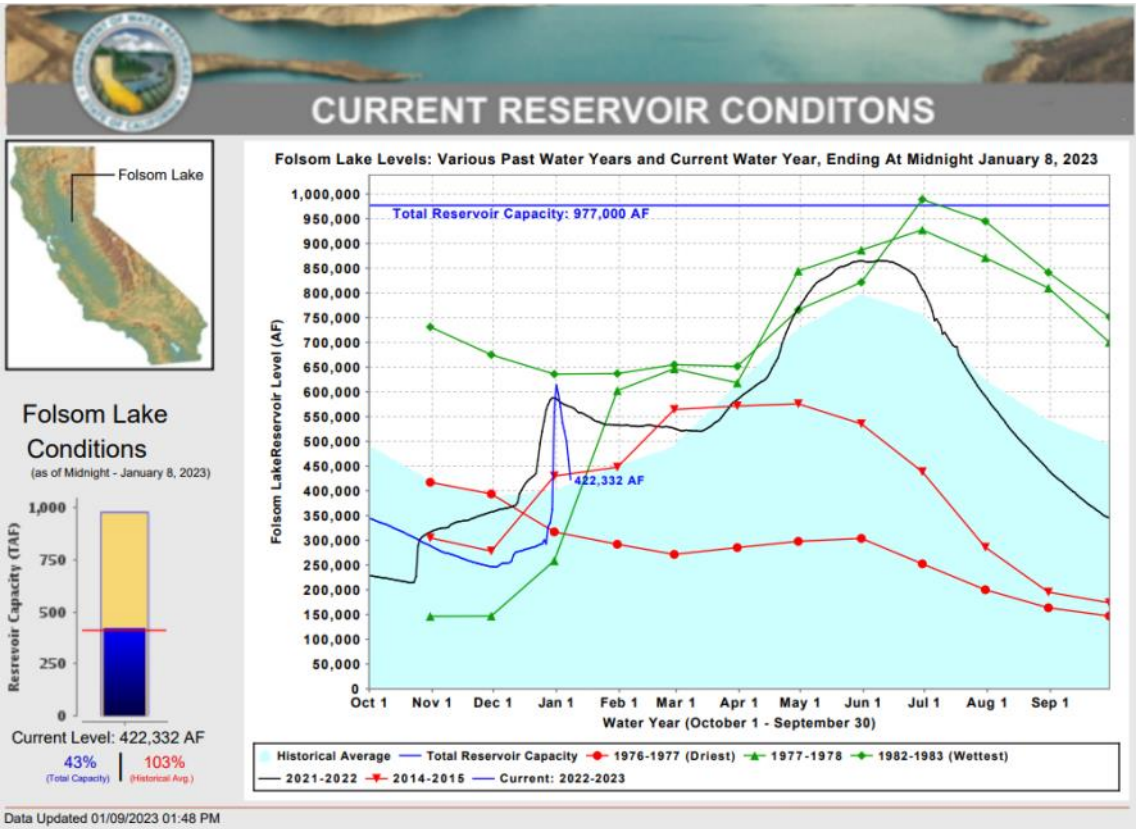
Inflows



Outflows

Folsom Storage

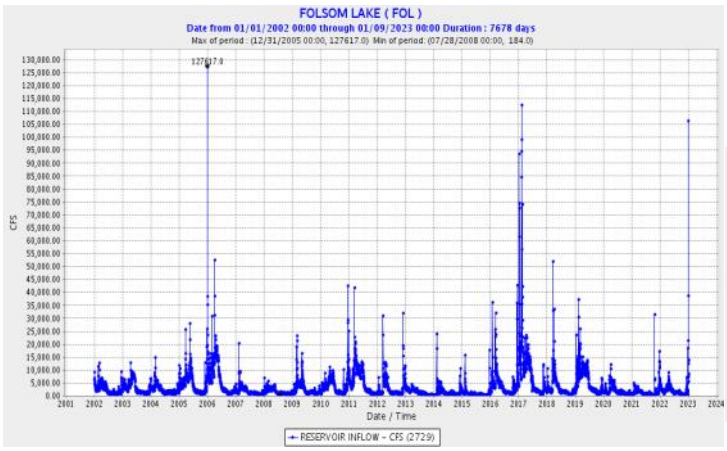
As of January 8, 2023, storage in Folsom Lake was approximately 422,332 AF (43% of capacity and 103% of the historical average). That's down 191,856 AF from last week.



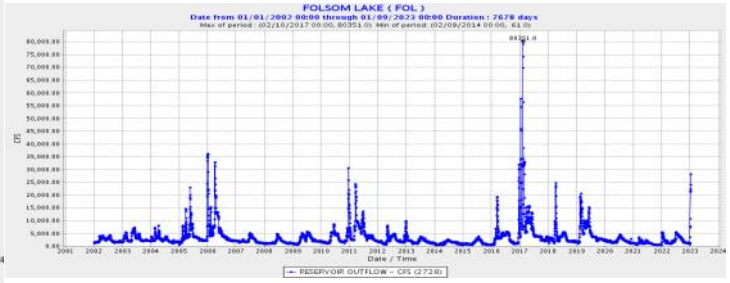
Total capacity is about 977,000 AF.

As of Sunday, the weekly average daily inflows were calculated as 10,484 CFS, and the weekly average daily outflows were calculated as 23,256 CFS.

Inflows

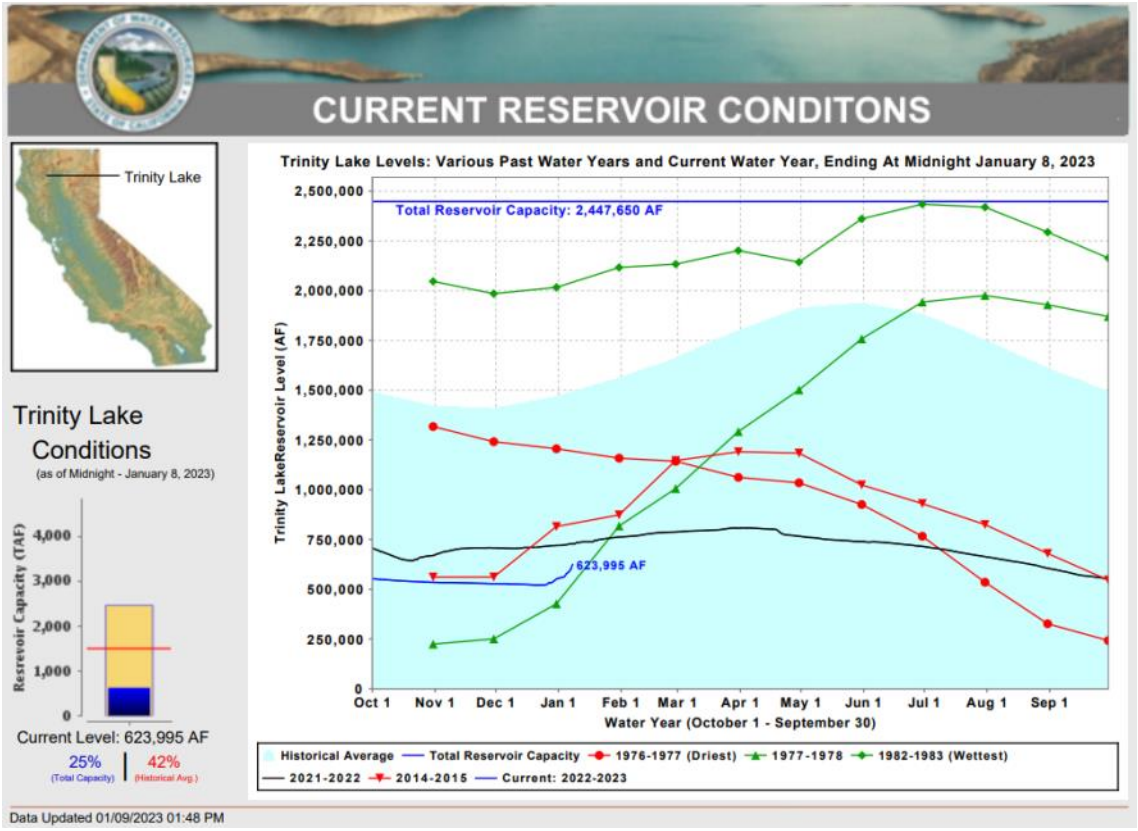


Outflows



Trinity Lake Storage

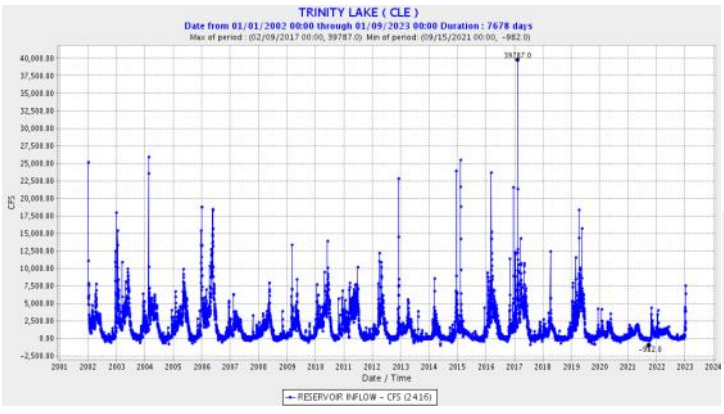
As of January 8, 2023, storage in Trinity Lake was approximately 623,995 AF (25% of capacity and 42% of the historical average). That's up 68,784 AF from last week.



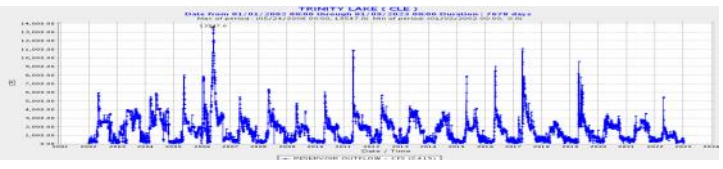
Total capacity is about 2,447,650 AF.

As of Sunday, the weekly average daily inflows were calculated as 3,871 CFS, and the weekly average daily outflows were calculated as 263 CFS.

Inflows

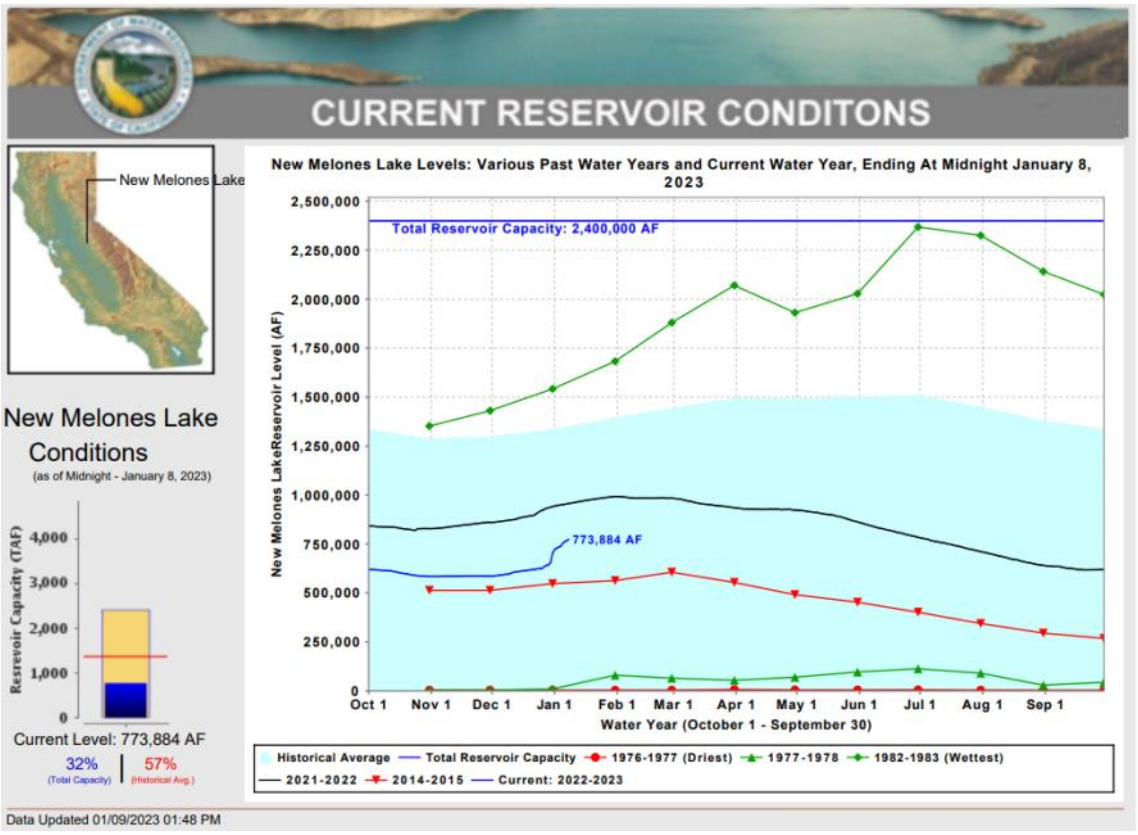


Outflows



New Melones Storage

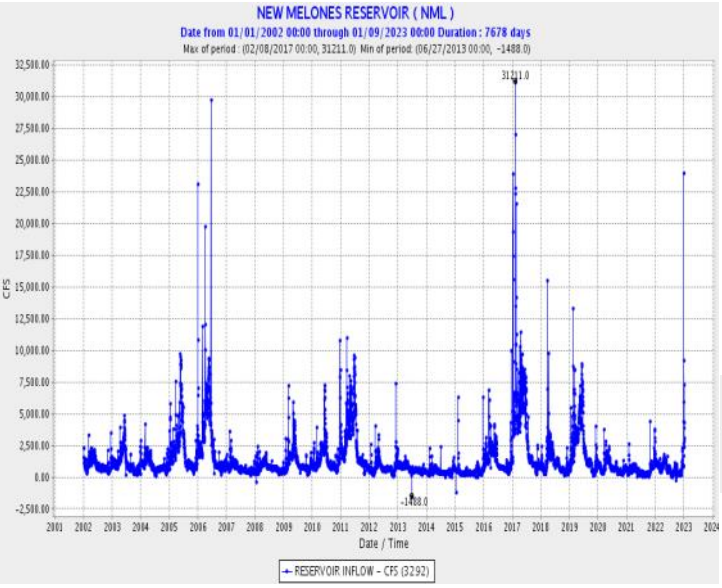
As of January 8, 2023, storage in New Melones was approximately 773,884 AF (32% of capacity and 57% of the historical average). That's up 52,928 AF from last week.



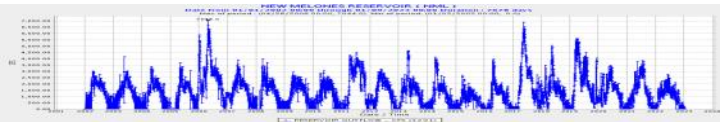
Total capacity is about 2,400,000 AF.

As of Sunday, the weekly average daily inflows were calculated as 3,985 CFS, and the weekly average daily outflows were calculated as 78 CFS.

Inflows

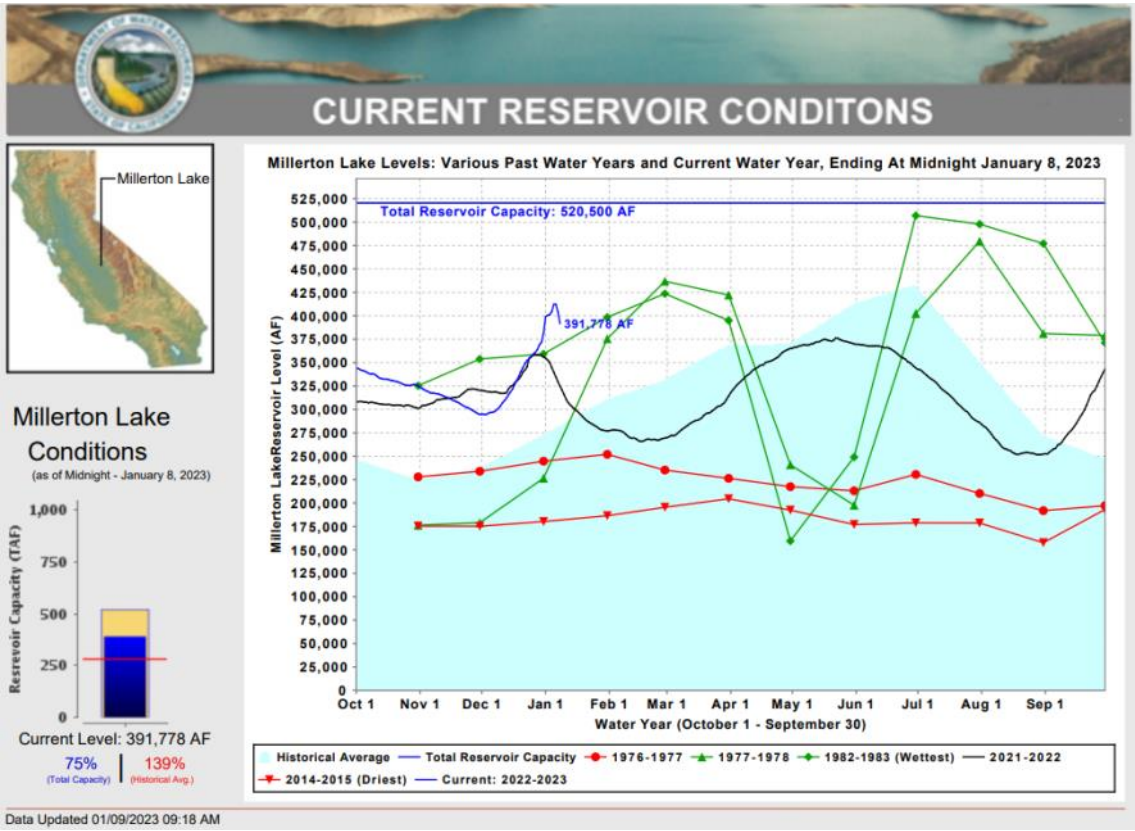


Outflows



Friant Storage

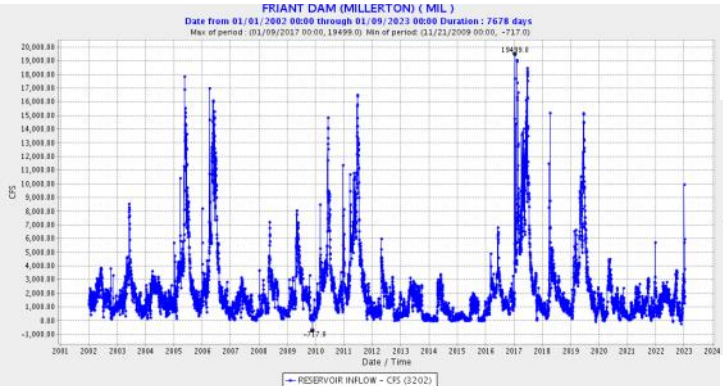
As of January 8, 2023, storage in Millerton Lake was approximately 391,778 AF (75% of capacity and 139% of the historical average). That's down 7,450AF from last week.



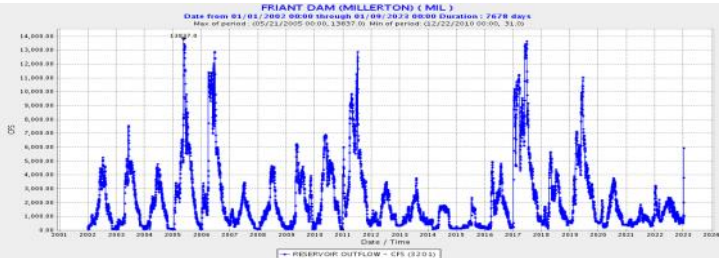
Total capacity is about 520,500 AF.

As of Sunday, the inflow was 1,698 CFS, and 295 CFS was released into the Friant/ Kern Canal, 900 CFS was released into the Madera Canal, and 6,610 CFS was released into the San Joaquin River. The eight upstream San Joaquin River reservoirs are about 43% full, holding 263,900 AF of their 610,288AF capacity.

Inflows

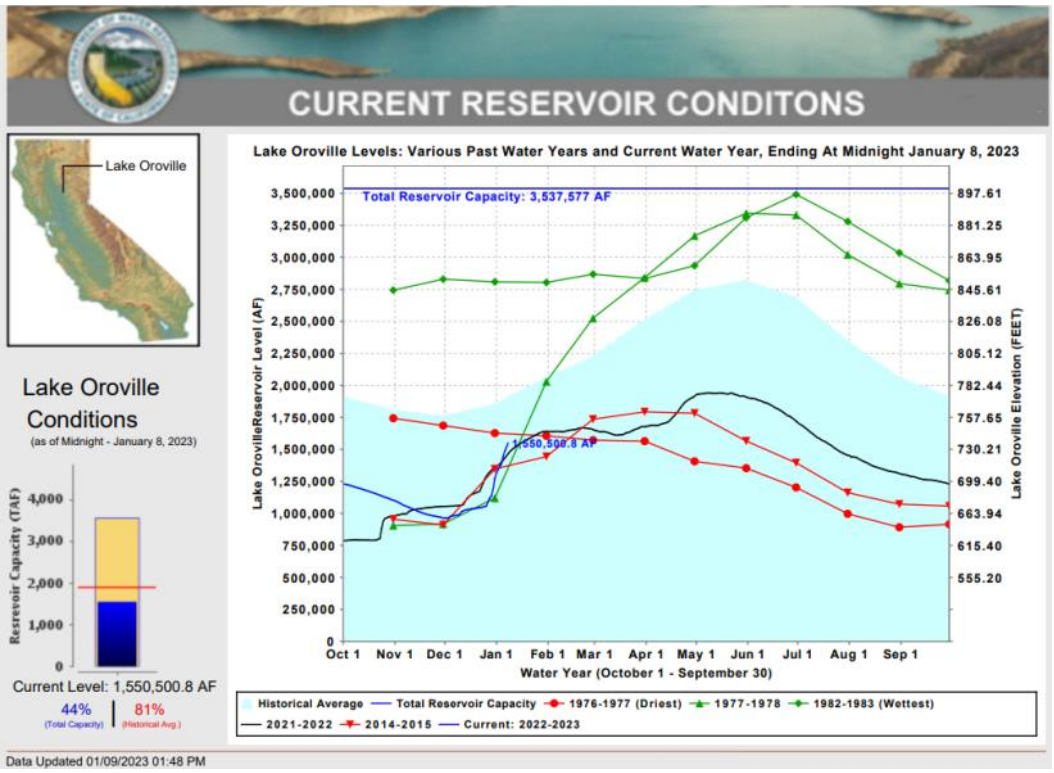


Outflows



Lake Oroville Reservoir

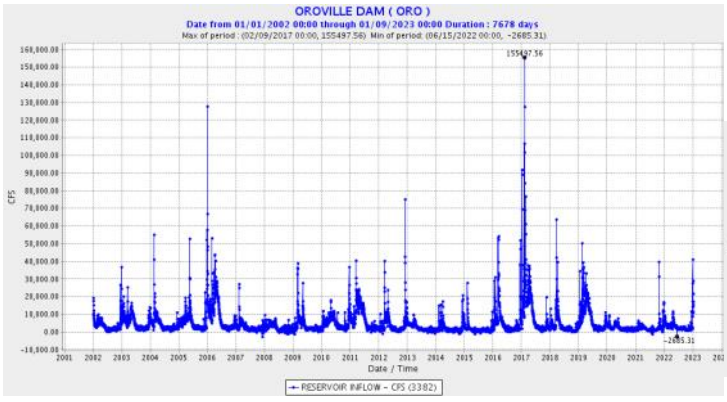
As of January 8, 2023, storage in Lake Oroville was approximately 1,550,501 AF (44% of capacity and 81% of the historical average). That's up 234,976 AF from last week.



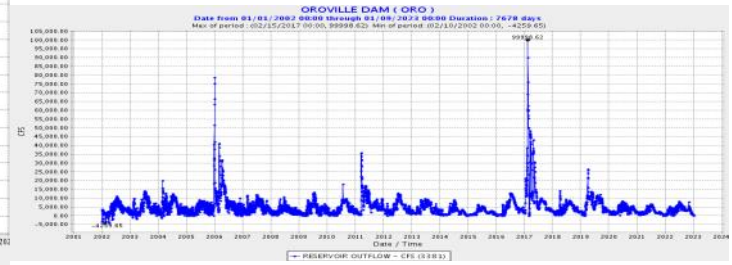
Total capacity is about 3,538,000 AF.

As of Sunday, the weekly average daily inflows were calculated as 17,227 CFS, and the weekly average daily outflows were calculated as 279 CFS.

Inflows

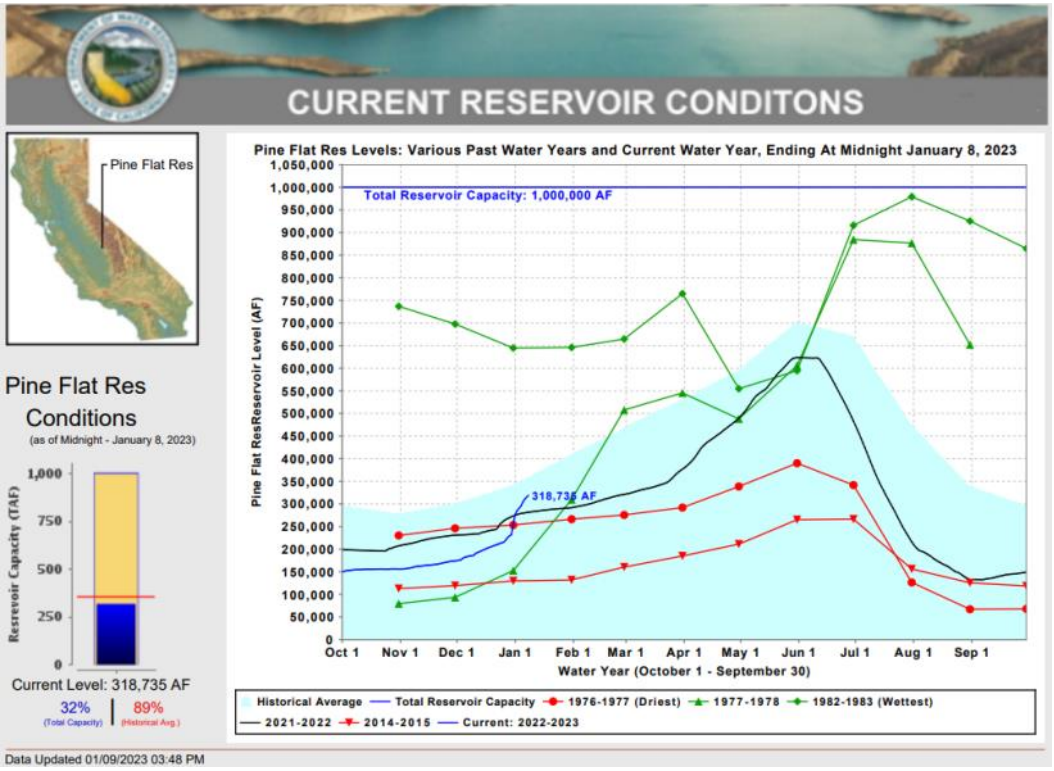


Outflows



Pine Flat Reservoir

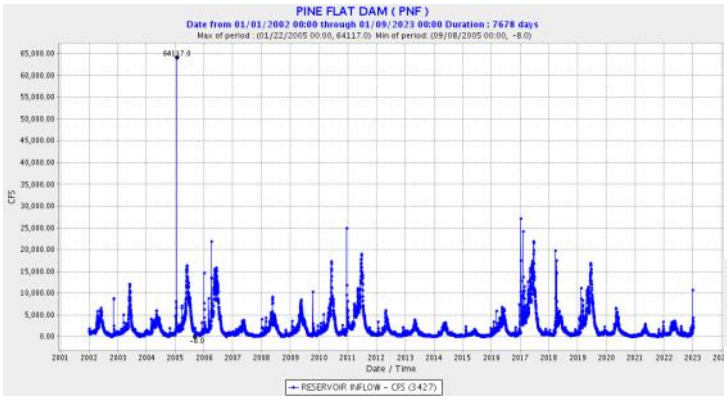
As of January 8, 2023, storage in Pine Flat was approximately 318,735 AF (32% of capacity and 89% of the historical average). That's up 41,462 AF from last week.



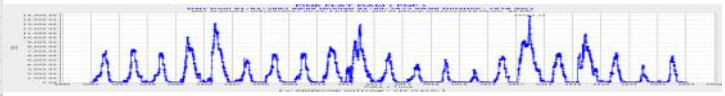
Total capacity is about 3,538,000 AF.

As of Sunday, the weekly average daily inflows were calculated as 3,047 CFS, and the weekly average daily outflows were calculated as 56 CFS.

Inflows



Outflows



2023 Water Allocations—

SWP:

As of December 1, 2022, the 2023 allocation is essentially 5% with SWP Human Health and Safety Needs.

https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/22-04-2023-Initial-Allocation-Notice---5-Percent-web-120122a.pdf

CVP: TBD

2022 Water Allocations—

SWP:

As of March 18, 2022, the 2022 allocation is decreased to 5%.

https://water.ca.gov/News/News-Releases/2022/March-22/SWP-Allocation-March

https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/22-03-2022-SWP-Allocation-Decrease-5-Percent-031822.pdf

CVP — South of Delta Allocations:

As of July 20, 2022, Friant Division water supply allocation is increased from 20% to 30% for Class 1 while Class 2 remains at 0%; M&I remain at Public Health and Safety (https://www.usbr.gov/newsroom/#/news-release/4157) and irrigation water service and repayment contractors remain at 0% (https://www.usbr.gov/newsroom/#/news-release/4104)

https://www.usbr.gov/mp/cvo/vungvari/water_allocations_historical.pdf

2021 Water Allocations—

SWP:

As of March 23, 2021, the 2021 allocation is decreased to 5%.

https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/NTC_21-06_032321.pdf

CVP — South of Delta Allocations:

As of May 26, 2021, the allocation for Agricultural water service contractors north-of-Delta and south-of-Delta is decreased to 0%.

https://www.usbr.gov/newsroom/#/news-release/3869

***Disclaimer**: The information contained herein is compiled from a number of sources. Some of what we report is gleaned from news articles or meetings we attend. While we strive for this information to be accurate, it may be in error, and much of the information and data contained herein is provisional and subject to future revisions. If you plan on using this information to make business decisions about your water assets or needs, we strongly suggest that you do your own independent verification of the accuracy of this information. THE WATER AGENCY, INC. provides no guarantee as to the accuracy or completeness of the information. Neither THE WATER AGENCY, INC., nor any of the sources of the information contained herein are responsible for any errors or omissions, or for the use or results obtained from the use of this information. Please feel free to send us information or opinions, which are contrary to what we write, so we can try to integrate them into future updates.*

Erick H. Johnson
ErickHJ@WaterAgency.com
THE WATER AGENCY, INC.
455 West Fir Avenue, Clovis, CA 93611
Phone: (559) 438-8418
Fax: (559) 438-0480