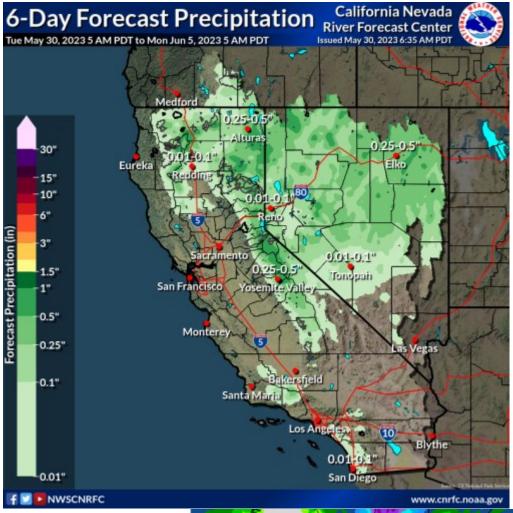
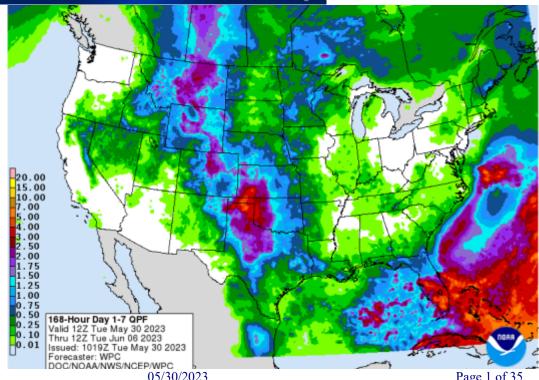
Water Supply Update

6-Day and 7-day Forecasts

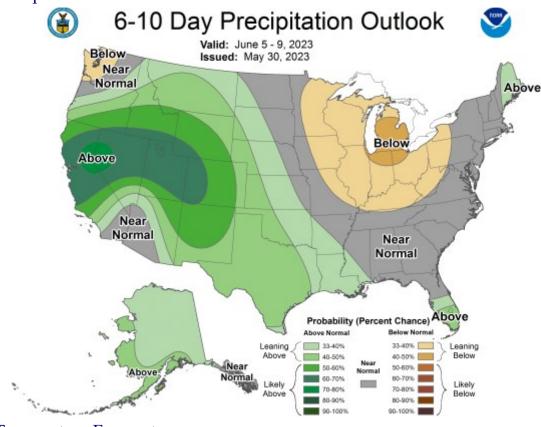




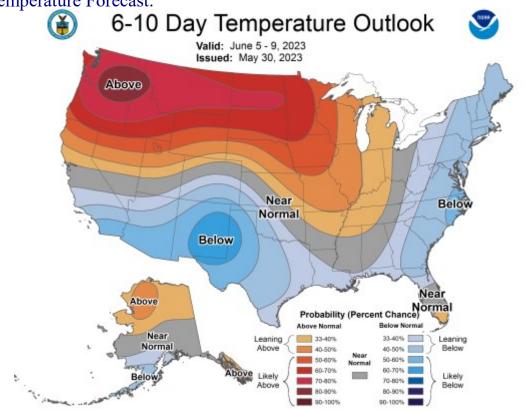
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Water Supply Update

6-10 day Precipitation Forecast:

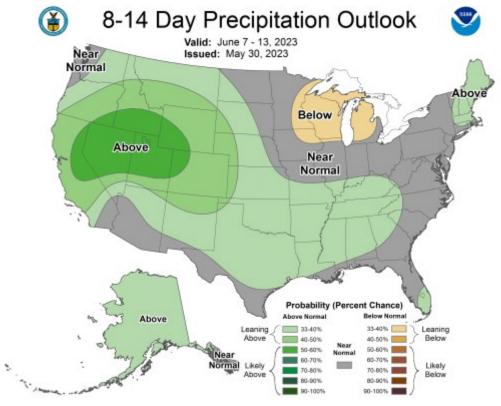


6-10 day Temperature Forecast:

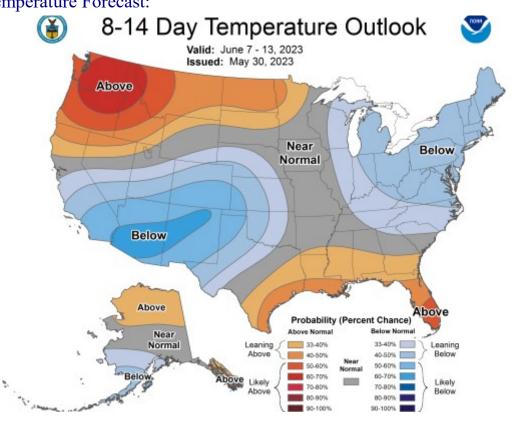


Water Supply Update

8-14 day Precipitation Forecast:



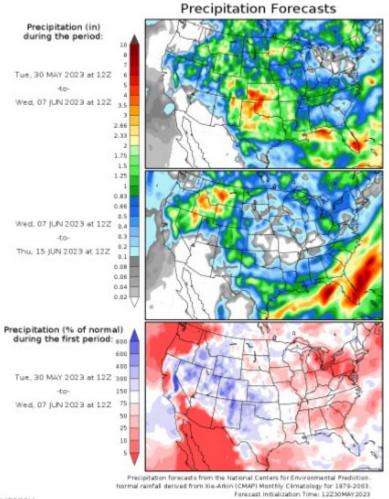
8-14 day Temperature Forecast:



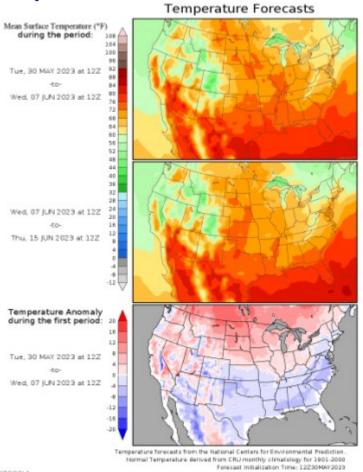
Water Supply Update

Precipitation Forecasts:

S/ADS/COLA



Temperature Forecasts:



GrADS/COLA

10-Day Feather Basin Quantitative Precipitation Forecast (QPF)

Tuesday, May 30, 2023 (each day ends at 0400 PST)

Day	Date		Precip	Snow Level		Average Daily*				
No.				(inches)	(ft)	_	Precip	Snow Depth	Min Temp	
	Sunday, May 21, 2023			0.0	13,000		(inches)	(inches)	(°F)	
	Monday, May 22, 2023			0.0	12,500					
	Tuesday, May 23, 2023			0.0	11,500					
	Wednesday, May 24, 2023			0.0	10,500					
	Thursday, May 25, 2023		Actual	0.0	9,500					
	Friday, May 26, 2023	A		0.0	9,500					
	Saturday, May 27, 2023		L	0.0	10,000					
	Sunday, May 28, 2023			0.0	10,000					
	Monday, May 29, 2023			0.0	9,500					
	Tuesday, May 30, 2023		ŧ .	0.1	10,000		0.0	0.0	47.0	
	Total observed:			0.1						
1	Wednesday, May 31, 2023			0.0	10,500		0.1	0.0	47.5	
2	Thursday, June 1, 2023			0.0	10,000		0.1	0.0	46.8	
3	Friday, June 2, 2023		I	0.0	9,500		0.0	0.0	48.0	
4	Saturday, June 3, 2023		TS	0.0	11,000		0.0	0.0	47.8	
5	Sunday, June 4, 2023			0.0	12,000		0.1	0.0	47.8	
6	Monday, June 5, 2023		ē	0.0	12,000		0.0	0.0	48.2	
7	Tuesday, June 6, 2023		. —	0.0	12,000		0.0	0.0	48.0	
8	Wednesday, June 7, 2023			0.1	11,500		0.1	0.0	47.5	
9	Thursday, June 8, 2023			0.0	11,500		0.0	0.0	47.5	
10	Friday, June 9, 2023	,	 	0.1	12,000		0.1	0.0	48.0	
11	Saturday, June 10, 2023			0.0	12,000		0.0	0.0	48.2	
	10-Day Total:						0.5			

10-Day Total: 0.2 10-Day Percent of Normal: 40%

10-Day Percent of Normal. 40%

Accumulated Observed Precip for WY 2023: 67.4 (WY 2022: 45.5)

Comments: (139% YTD Ave)

Today will be mostly sunny during the morning and then cloudy with a chance of showers and thunderstorms during the afternoon. The next few days are expected to be clear sunny mornings with a possibility of showers and thunderstorms in the afternoon. The cooler temperatures will be reutrning to near normal temperatures over the weekend. The temperatures highs are expected to peak in the upper 80's F by the end of the week with lows expected in the 30's F. The current previaling west winds are at 10 mph are forecast to continue throughout the remainder of the week. Snow levels currently around 10,000 feet are expected to increase to around 12,000 feet during the expected warmer weather over the weekend.

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=STO&version=0
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

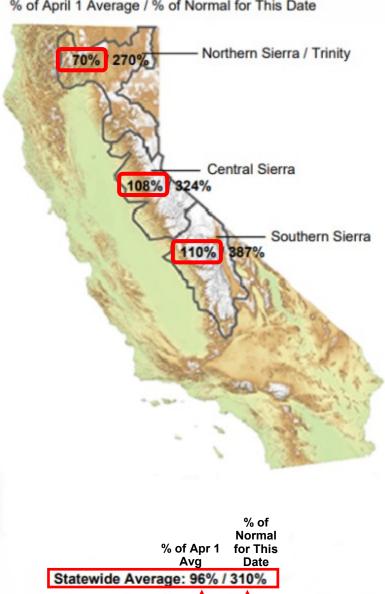
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^{*} Normal daily values are the average of Western Regional Climate Center's daily records for Quincy, de Sabla, Sierraville, and Oroville. Annual average precipitation is 51*.



CURRENT REGIONAL SNOWPACK FROM AUTOMATED SNOW SENSORS

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



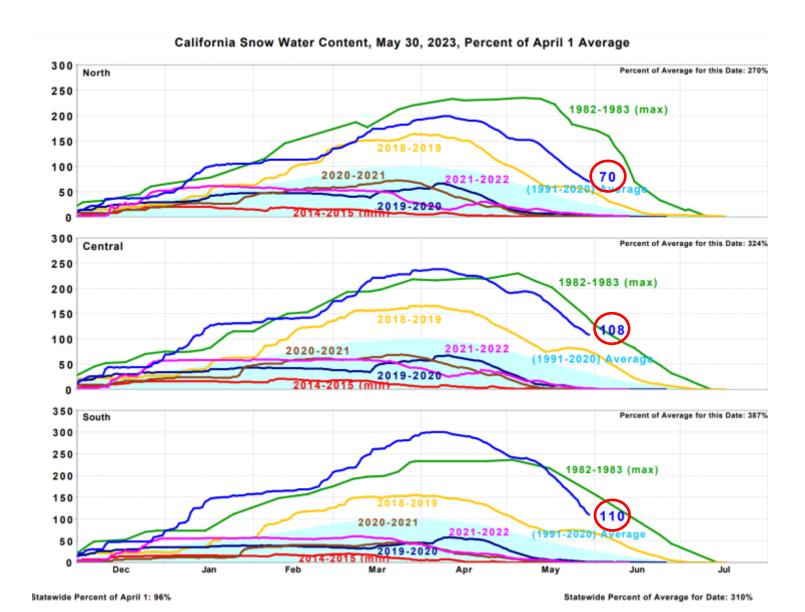
NORTH				
Data as of May 30, 2023				
Number of Stations Reporting	24			
Average snow water equivalent (Inches)	20.7			
Percent of April 1 Average (%)	70			
Percent of normal for this date (%)	270			

CENTRAL	
Data as of May 30, 2023	
Number of Stations Reporting	39
Average snow water equivalent (Inches)	26.4
Percent of April 1 Average (%)	108
Percent of normal for this date (%)	324

SOUTH	
Data as of May 30, 2023	
Number of Stations Reporting	23
Average snow water equivalent (Inches)	21.8
Percent of April 1 Average (%)	110
Percent of normal for this date (%)	387

STATE				
Data as of May 30, 2023				
Number of Stations Reporting	86			
Average snow water equivalent (Inches)	23.6			
Percent of April 1 Average (%)	96			
Percent of normal for this date (%)	310			

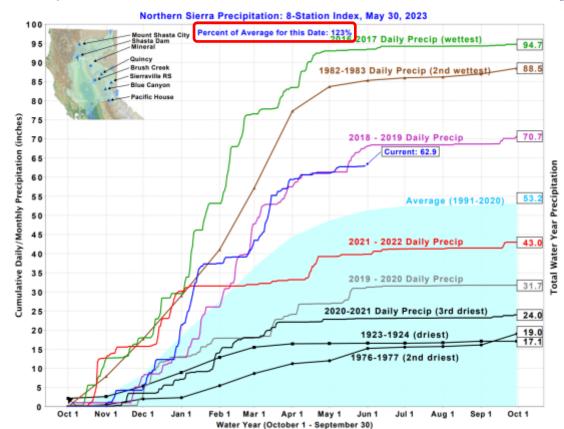
Data as of May 30, 2023



Water Supply Update

Northern Sierra Precipitation

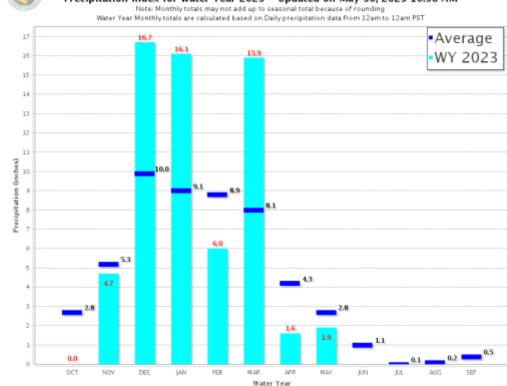
As of May 30, 2023, the 8-station North Sierra index has recorded 62.9 inches of precipitation for the



2022-2023 Water Year (up 0.2 of an inch from last week). This represents 123% 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 62.9 inches is 118.2% of the yearly total.)

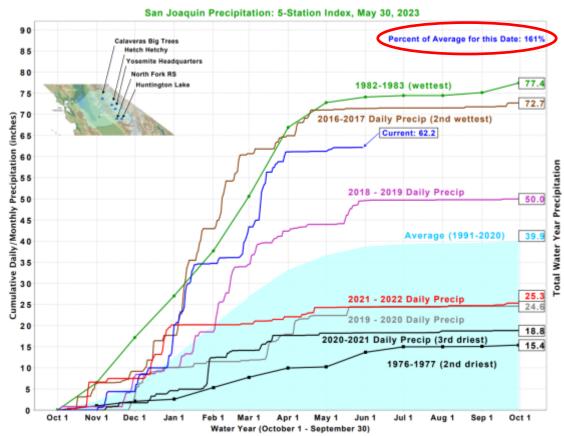


Northern Sierra 8-Station Precipitation Index for Water Year 2023 - Updated on May 30, 2023 10:36 AM



San Joaquin Precipitation

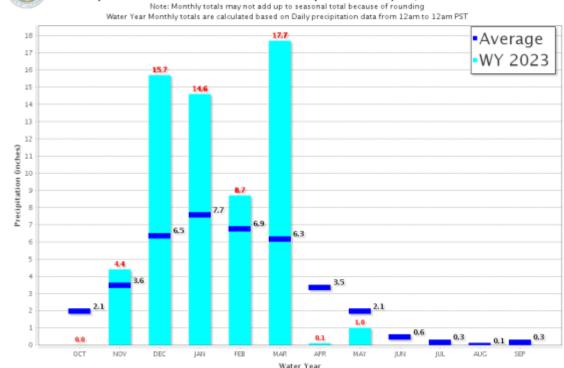
As of May 30, 2023, the 5-station San Joaquin index has recorded 62.2 inches of precipitation for this



2022-23 Water Year (unchanged from last week). This represents 161% 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 62.2 inches is 156% of the yearly total.)



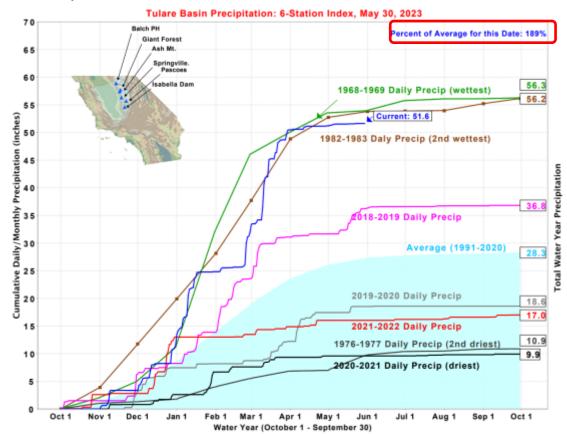
Precipitation Index for Water Year 2023 - Updated on May 30, 2023 10:33 AM



*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 May 30, 2023, the 6-station Tulare Basin index has recorded 51.6 inches of precipitation for this



(unchanged from last week). This represents 189% 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 51.6 inches is 182% of the yearly total.)



Tulare Basin 6-Station

Precipitation Index for Water Year 2023 - Updated on May 30, 2023 10:35 AM

MAY

APR

AUG

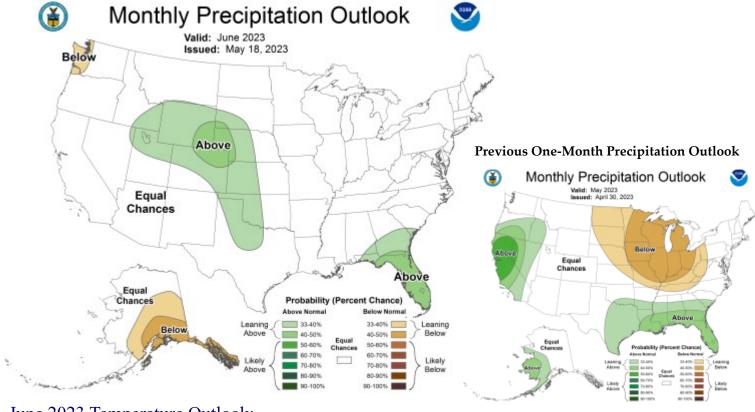
FEB

MAR

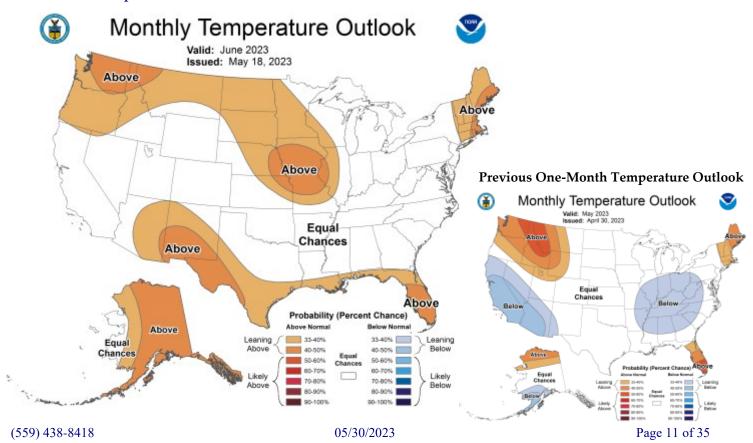
NOV

DEC

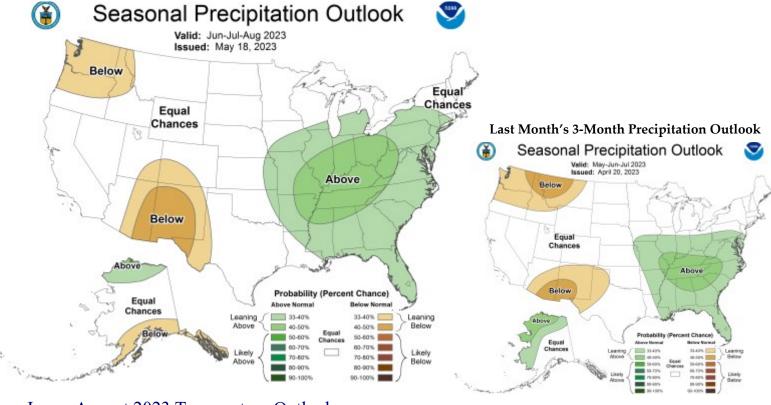
June 2023 Precipitation Outlook:



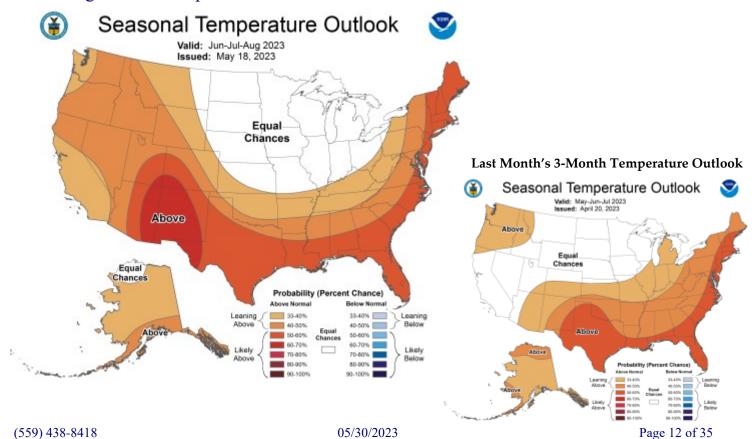
June 2023 Temperature Outlook:



June - August 2023 Precipitation Outlook:



June - August 2023 Temperature Outlook:



Water Supply Update

Long-Range Forecast—

The Climate Prediction Center/NCEP/NWS issued its new Update on May 30, 2023:

ENSO Alert System Status: El Niño Watch

- ENSO-neutral conditions are observed.*
- Equatorial sea surface temperatures (SSTs) are near-to-above average across most of the Pacific Ocean.
- A transition from ENSO-neutral is expected in the next couple of months, with a greater than 90% chance of El Niño persisting into the Northern Hemisphere winter.*

* 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/

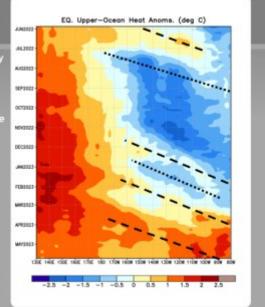
Weekly Heat Content Evolution in the Equatorial Pacific

Significant equatorial oceanic Kelvin wave activity (dashed and dotted lines) has been present throughout the period shown.

From August through November 2022, negative subsurface temperature anomalies persisted in the east-central and eastern Pacific Ocean.

Since late November 2022, three downwelling Kelvin waves have occurred. Since March 2023, above-average subsurface temperature anomalies have persisted across the Pacific Ocean.

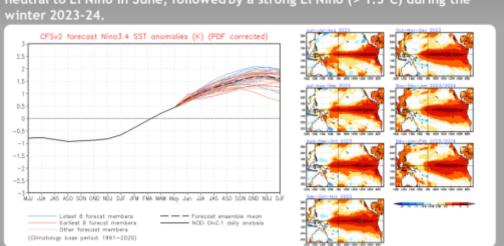
Equatorial oceanic Kelvin waves have alternating warm and cold phases. The warm phase is indicated by dashed lines, Downwelling and warming occur in the leading portion of a Kelvin wave, and up-welling and



SST Outlook: NCEP CFS.v2 Forecast (PDF corrected)

Issued: 30 May 2023

The CFS.v2 ensemble mean (black dashed line) favors a transition from ENSOneutral to El Niño in June, followed by a strong El Niño (> 1.5°C) during the winter 2023-24.

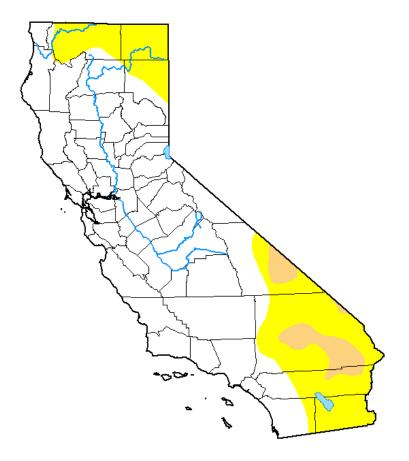


Water Supply Update

Drought Monitor for California

U.S. Drought Monitor

California



May 23, 2023

(Released Thursday, May. 25, 2023)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Сиптепт	70.86	29.14	4.63	0.00	0.00	0.00
Last Week 05-16-2023	68.02	31.98	5.95	0.00	0.00	0.00
3 Month's Ago 02-21-2023	0.61	99.39	84.60	32.62	0.00	0.00
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 05-24-2022	0.00	100.00	99.86	97.56	59.81	11.59

Intensity:

None D2 Severe Drought
D0 Abnormally Dry D3 Extreme Drought
D1 Moderate 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

<u>Author:</u>

Brad Rippey

U.S. Department of Agriculture







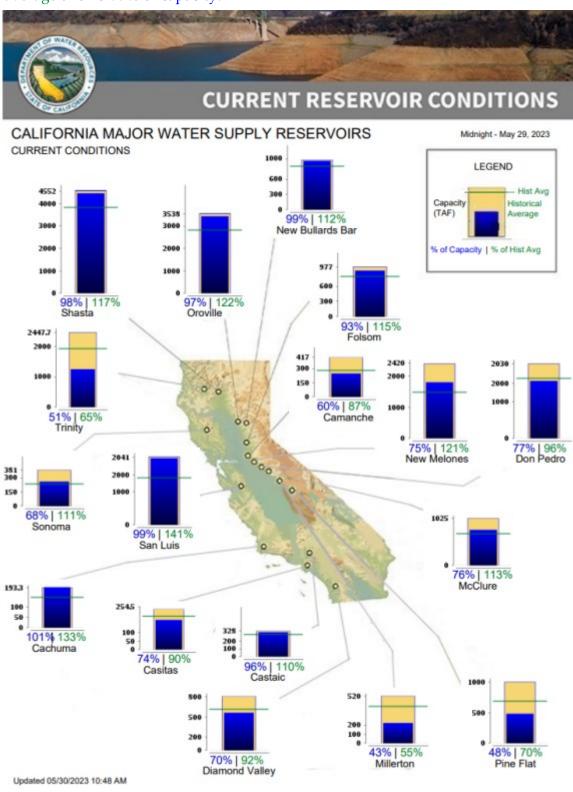


droughtmonitor.unl.edu

Water Supply Update

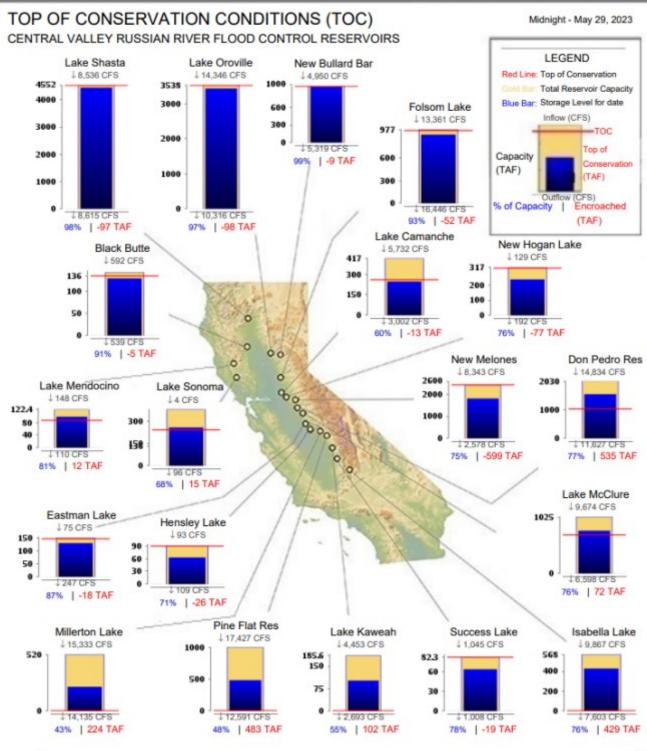
Reservoir Conditions

As of May 29, 2023, Northern California reservoirs (Shasta [SHA], Trinity [CLE], Oroville [ORO], and Folsom [FOL]) are between 65-122% of historical average and 51-98% of capacity. The central ones (San Luis [SNL], New Melones [NML], Don Pedro [DNP], Pine Flat [PNF], and Millerton [MIL]) are between 55-141% of historical average and 43-99% of capacity.



Water Supply Update



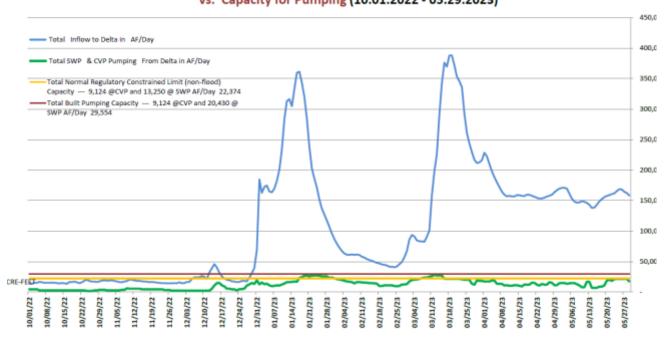


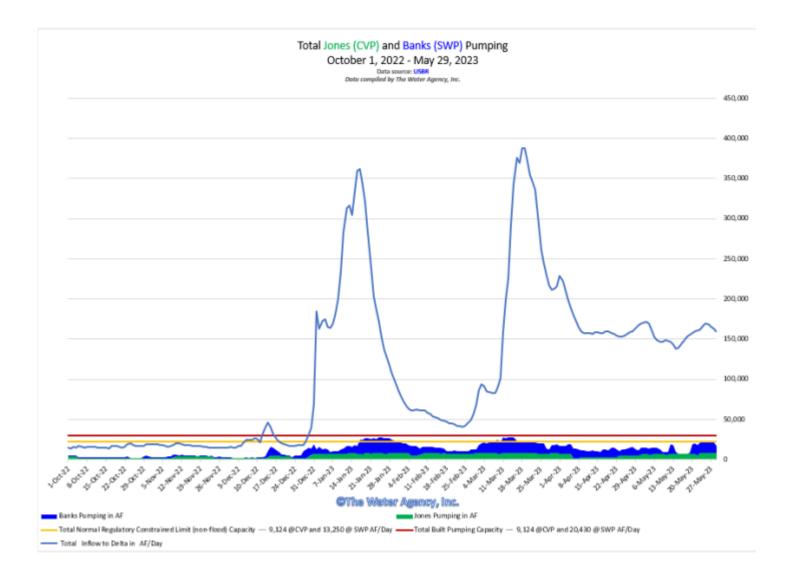
Water Supply Update



San Joaquin/Sacramento Delta Inflows

and Actual Central Valley Project + State Water Project Pumping vs. Capacity for Pumping (10.01.2022 - 05.29.2023)



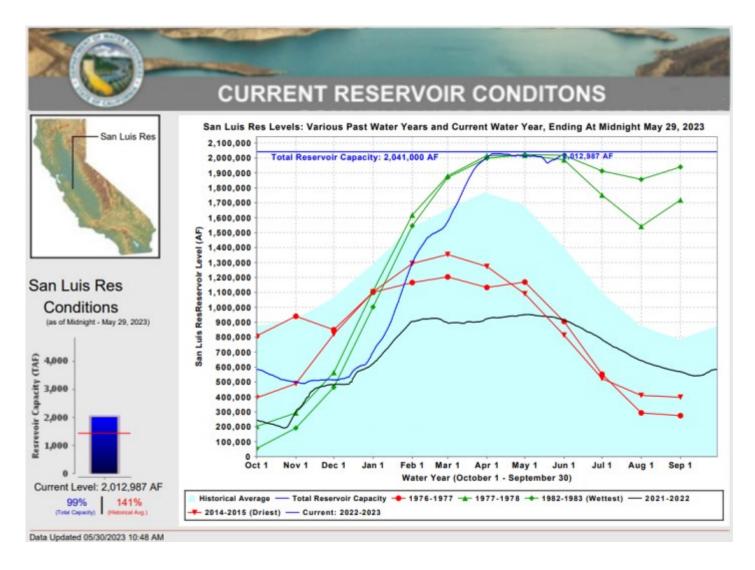




San Luis Reservoir

As of May 29, 2023, San Luis is at 141% of the historical average. San Luis total (CVP + SWP) storage is at 2,012,987AF (up 29,708 AF from last week) and is at 99% of the 2,041,000AF of capacity.

As of May 29, 2023, the CVP share is 954,803 AF (at 98.9% of capacity).



Water Supply Update

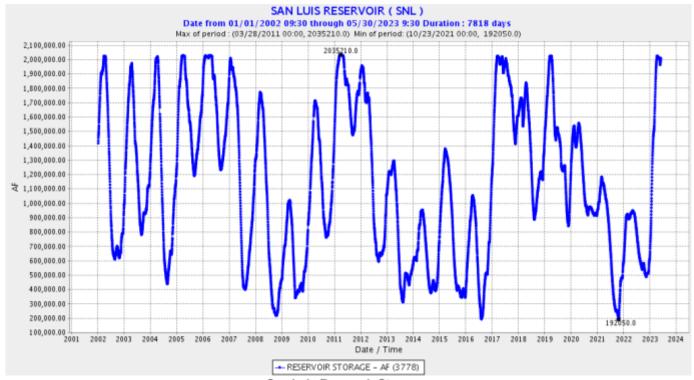


Federal Storage within San Luis Reservoir

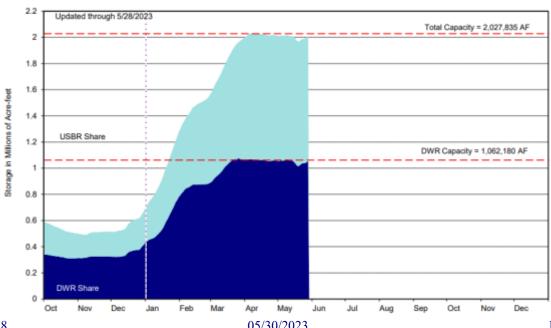
As of May 29, 2023, federal storage was at 954,803 AF and 98.9% capacity (up 4,513AF from last week). Total federal storage capacity is 965,655AF.

State Storage within San Luis Reservoir

As of May 29, 2023, state storage was at 1,058,184 AF and 99.6% capacity (up 25,195AF from last week). Total state storage capacity is 1,062,180AF.



San Luis Reservoir Storage Combination Water/Calendar Year

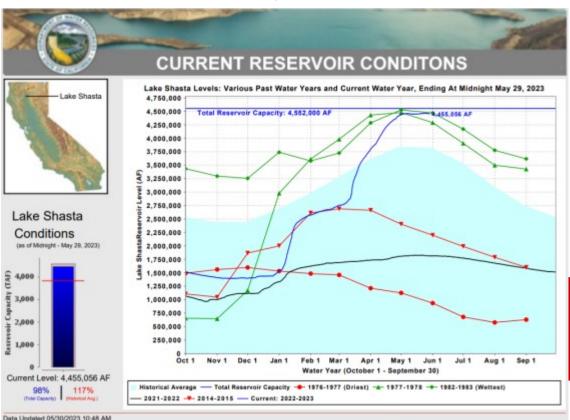


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Shasta Lake Storage

As of May 29, 2023, storage in Shasta Lake was approximately 4,455,056 AF (98% of capacity and 117% of the historical average). That's down 6,454 AF from last week.



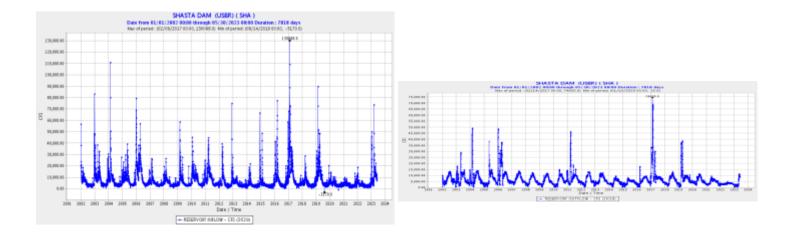
Total capacity is about 4,552,000 AF.

As of Monday, the weekly average daily inflows were calculated as 8,771 CFS, and the weekly average daily outflows were calculated as 9,012 CFS.

As of May 29, 2023, total inflows into Shasta for Water Year 2022 are 4,628,000 AF.

Inflows

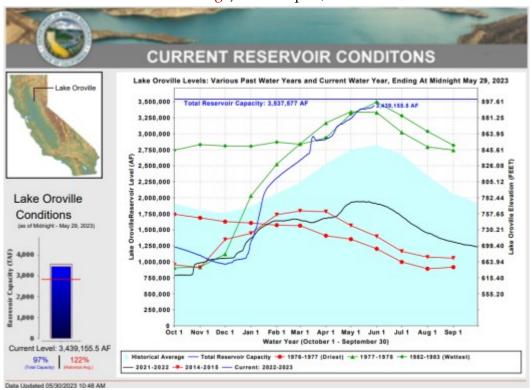
Outflows



Water Supply Update

Lake Oroville Reservoir

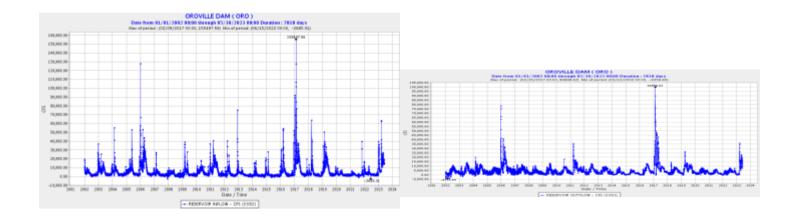
As of May 29, 2023, storage in Lake Oroville was approximately 3,439,156 AF (97% of capacity and 122% of the historical average). That's up 37,953 AF from last week.



Total capacity is about 3,538,000 AF.

As of Monday, the weekly average daily inflows were calculated as 15,061 CFS, and the weekly average daily outflows were calculated as 12,210 CFS.

Inflows Outflows

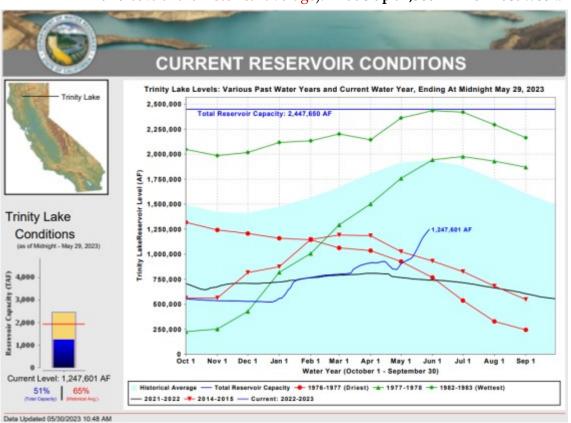


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Trinity Lake Storage

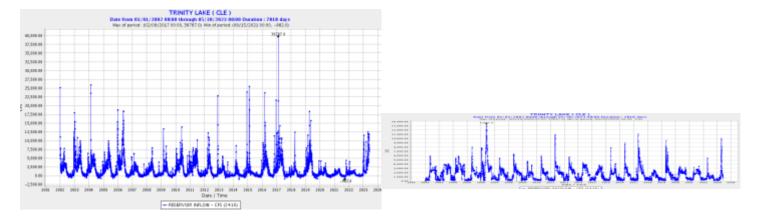
As of May 29, 2023, storage in Trinity Lake was approximately 1,247,601 AF (51% of capacity and 65% of the historical average). **That's up 92,380 AF** from last week!



Total capacity is about 2,447,650 AF.

As of Monday, the weekly average daily inflows were calculated as 7,780 CFS, and the weekly average daily outflows were calculated as 1,063CFS.

Inflows Outflows

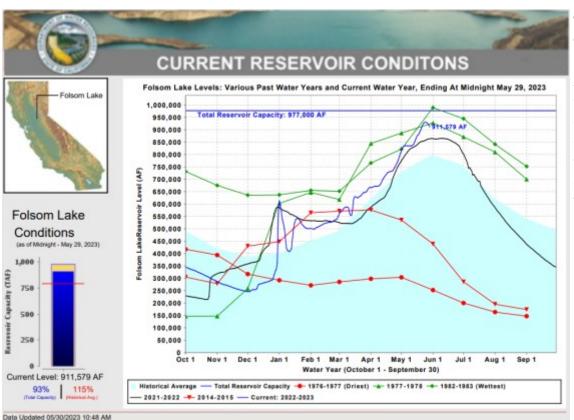


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Folsom Storage

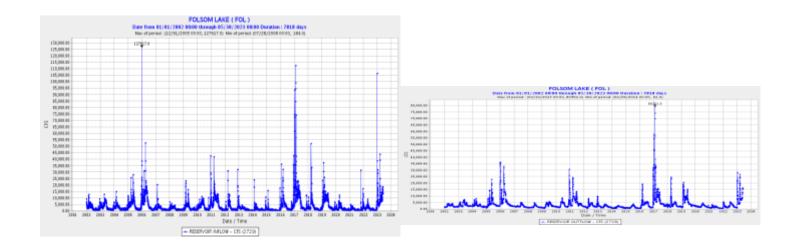
As of May 29, 2023, storage in Folsom Lake was approximately 911,579 AF (93% of capacity and 115% of the historical average). That's down 10,098 AF from last week.



Total capacity is about 977,000 AF.

As of Monday, the weekly average daily inflows were calculated as 15,193 CFS, and the weekly average daily outflows were calculated as 15,832 CFS.

Inflows Outflows

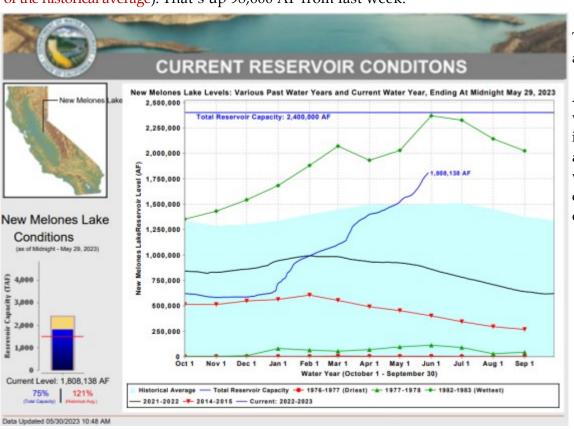


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New Melones Storage

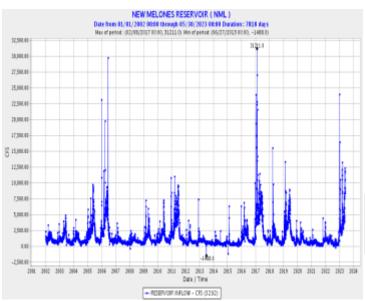
As of May 29, 2023, storage in New Melones was approximately 1,808,138 AF (75% of capacity and 121% of the historical average). That's up 98,600 AF from last week.



Total capacity is about 2,400,000 AF.

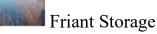
As of Monday, the weekly average daily inflows were calculated as 9,949 CFS, and the weekly average daily outflows were calculated as 2,760 CFS.

Inflows

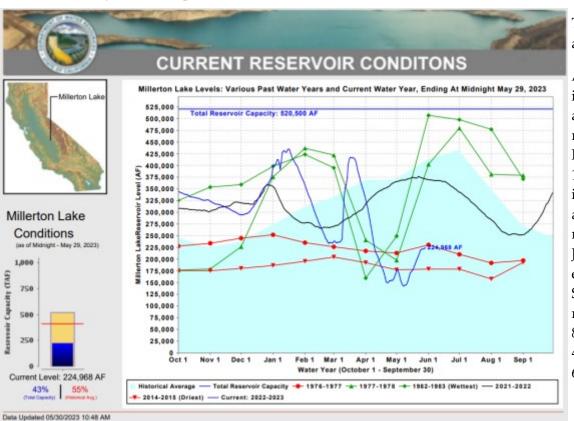


Outflows

- MWWWWWWWWWW



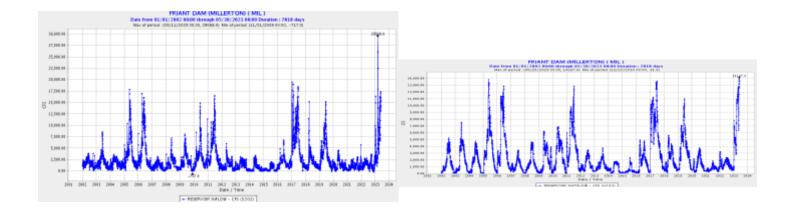
As of May 29, 2023, storage in Millerton Lake was approximately 224,968 AF (43% of capacity and 55% of the historical average). That's up 19,064 AF from last week.



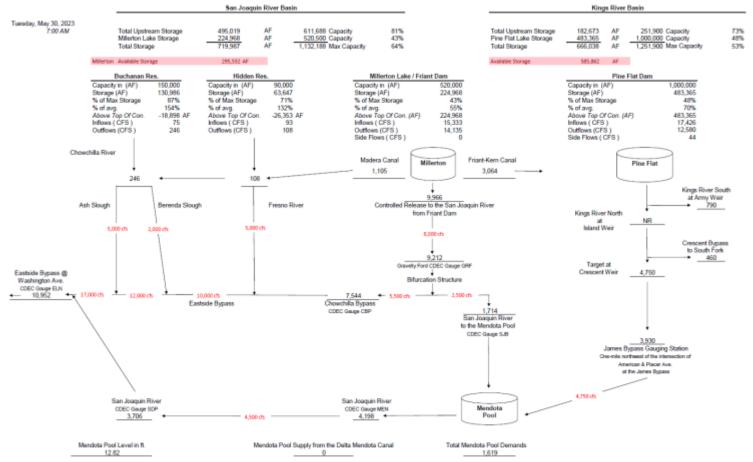
Total capacity is about 520,500 AF.

As of Monday, the inflow was 15,333 CFS, and 3.064 CFS was released into the Friant/Kern Canal, 1,105 CFS was released into the Madera Canal, and 9,966 CFS was released into the San Joaquin River. The eight upstream San Joaquin River reservoirs are about 81% full, holding 495,019 AF of their 610,288AF capacity.

Inflows Outflows



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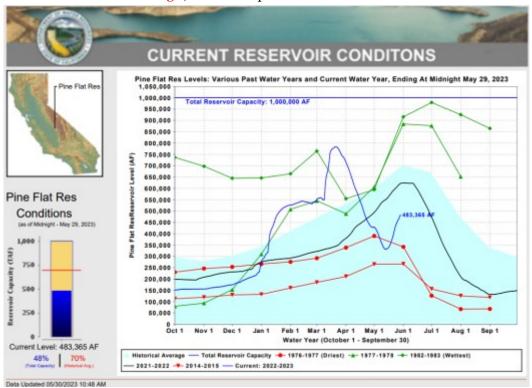
Note: Information in this report is gathered from a variety of sources including DWR-CDEC...BOR...ACOE...KRWA...SURECWA...SURWA along with personal contacts etc. and is for informational purposes only.

From Adam Hoffman, Water Resources Specialist, San Joaquin River Exchange Contractors Water Authority

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Pine Flat Storage

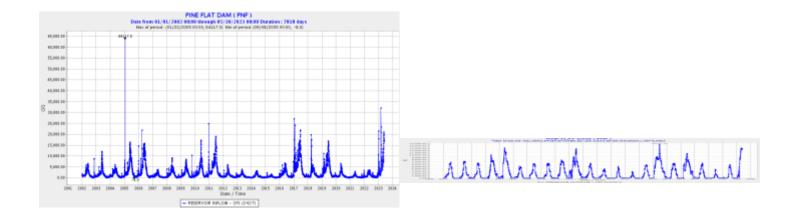
As of May 29, 2023, storage in Pine Flat was approximately 483,365 AF (48% of capacity and 70% of the historical average). That's up 76,370 AF from last week.



Total capacity is about 1,000,000 AF.

As of Monday, the weekly average daily inflows were calculated as 17,739 CFS, and the weekly average daily outflows were calculated as 12,662CFS.

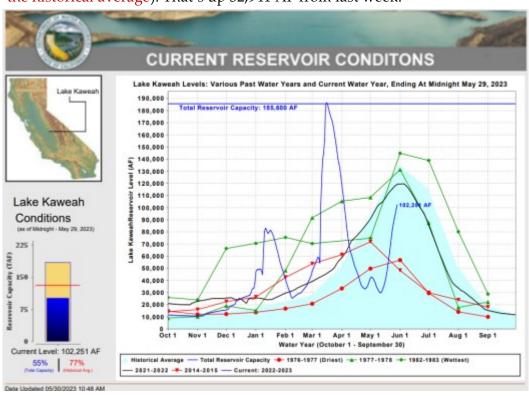
Inflows Outflows



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Lake Kaweah Storage

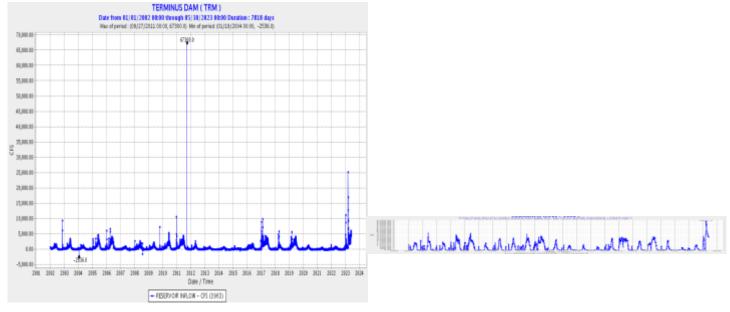
As of May 29, 2023, storage in Lake Kaweah was approximately 102,251 AF (55% of capacity and 77% of the historical average). That's up 32,941 AF from last week.



Total capacity is about 185,600 AF.

As of Monday, the weekly average daily inflows were calculated as 5,084 CFS, and the weekly average daily outflows were calculated as 2,699 CFS.

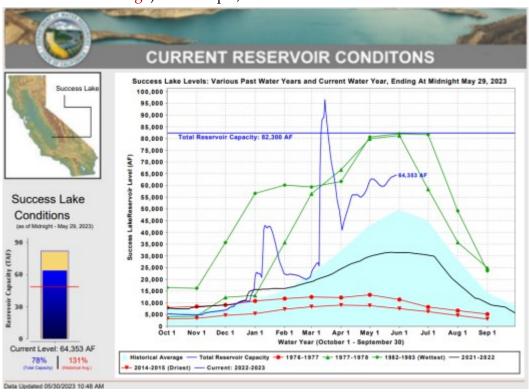
Inflows Outflows



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Success Lake Storage

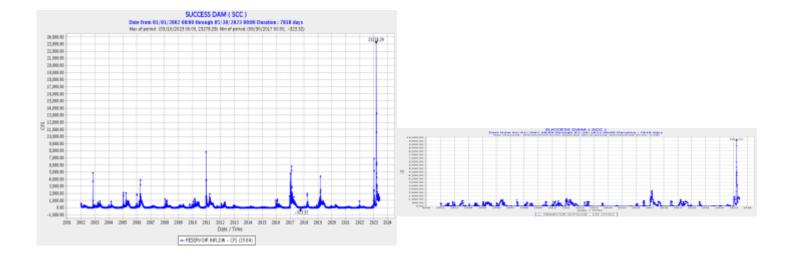
As of May 29, 2023, storage in Success Lake was approximately 64,353 AF (78% of capacity and 131% of the historical average). That's up 1,509 AF from last week.



Total capacity is about 82,300 AF.

As of Monday, the weekly average daily inflows were calculated as 1,227 CFS, and the weekly average daily outflows were calculated as 1,102 CFS.

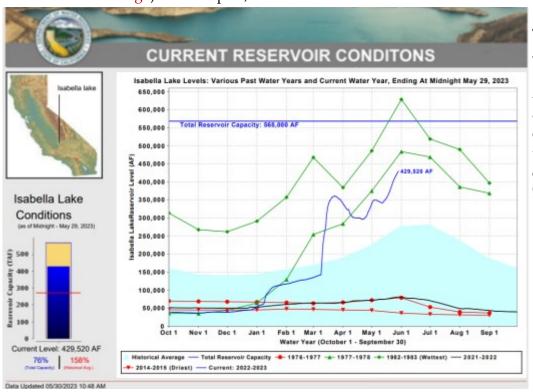
Inflows Outflows



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Isabella Lake Storage

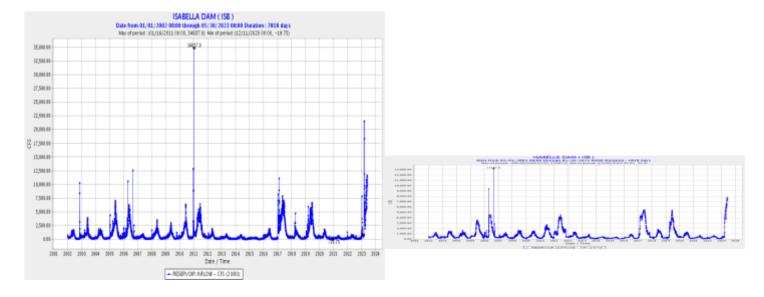
As of May 29, 2023, storage in Isabella Lake was approximately 429,520 AF (76% of capacity and 158% of the historical average). That's up 39,562 AF from last week.



Total capacity is about 568,000 AF.

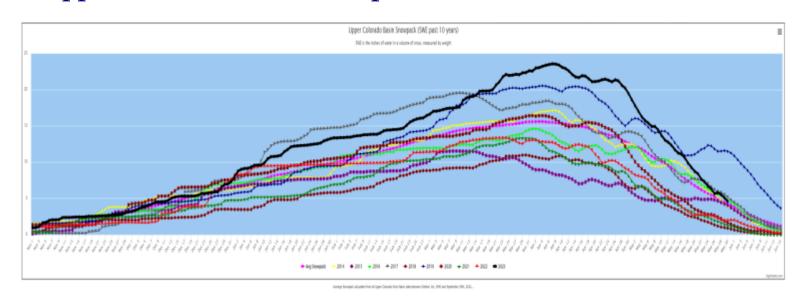
As of Monday, the weekly average daily inflows were calculated as 10,562 CFS, and the weekly average daily outflows were calculated as 7,615 CFS.

Inflows Outflows

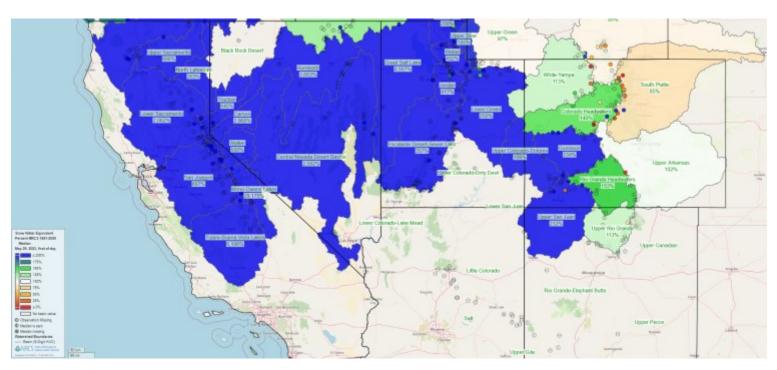


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Upper Colorado Basin Snowpack



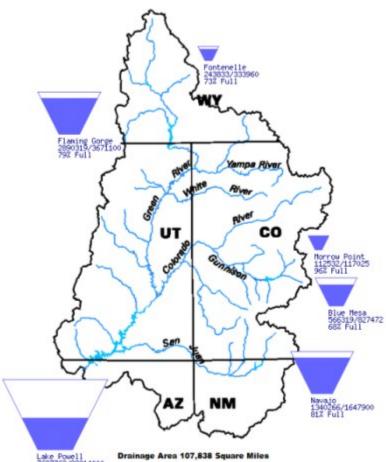
The West Snowpack by Basins



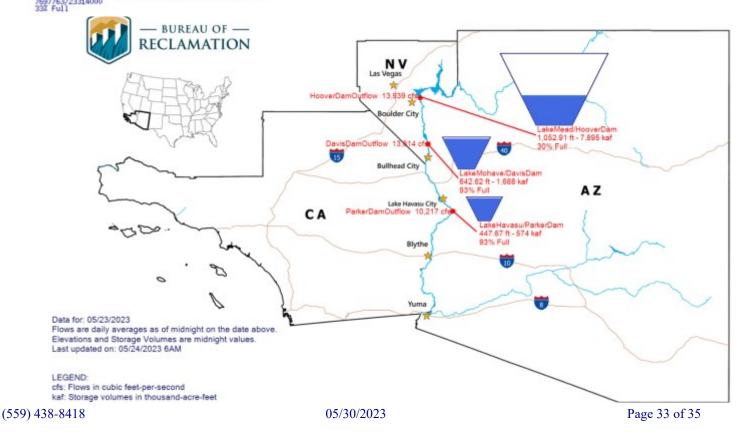
Water Supply Update

05/29/2023

Upper Colorado River Drainage Basin



As of May 29, 2023, Lake Powell is **up 667,572 AF** from May 22, 2023, and as of May 23, 2023, Lake Mead is up 10,000 AF from May 22, 2023.



2023 Water Allocations — SWP:

As of April 20, 2023, the 2023 allocation is increased to 100%.

https://water.ca.gov/News/News-Releases/2023/April-23/State-Water-Project-to-Further-Increase-Water-Supply-Allocation

As of March 24, the 2023 allocation is increased to 75%.

https://water.ca.gov/News/News-Releases/2023/March-23/Harnessing-Series-of-Winter-Storms-California-Increases-State-Water-Project-Allocation (Control of the Control of t

https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/2307SWPAlloccation-increase75 final b032423.pdf (a.g., a.g., a.g.

As of February 22, the 2023 allocation is increased to 35%.

 $https://water.ca.gov/-media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/23-05_final_022223.pdf$

As of January 26, the 2023 allocation is increased to 30%.

https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/23035WP2023-Alloccation-increase30 final 012623.pdf

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:

As of April 20, 2023, the 2023 allocation is increased to 100%.

https://www.usbr.gov/newsroom/news-release/4493

As of March 28, 2023, South-of-Delta Contractors

- Irrigation water service and repayment contractors south-of-Delta are increased to 80% from 35% of their contract total.
- M&I water service and repayment contractors south-of-Delta are increased to 100% from 75% of their historical use.
 Friant Division Contractors

Friant Division contractors' water supply is delivered from Millerton Reservoir on the upper San Joaquin River and categorized by Class 1 and Class 2. The first 800,000 acre-feet of available water supply is considered Class 1; Class 2 is considered the next amount of available water supply up to 1.4 million acre-feet. Class 1 remains at 100% and Class 2 was previously increased from 20% to 70% on March 7.

https://www.usbr.gov/newsroom/news-release/4460

Per Friant Water Authority March Board Meeting Agenda, as of March 7, 2023, the Friant Division Class 2 increased from 20% to 70%.

https://static1.squarespace.com/static/58c2eccc15d5db46200ea426/t/640d045bc0e55c4ccfc68251/1678574685117/FINAL+Revised+March+Meeting+Book++FWA+Executive+Committee+Meeting++March+13%2C+2023.pdf

As of February 22, 2023, the 2023 CVP SOD Ag allocation is 35%. Given the current hydrologic conditions, the Friant Division water supply allocation is 100% of Class 1 and 20% of Class 2.

https://www.usbr.gov/newsroom/news-release/4433

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 February 9, 2023, the Friant Class 1 Allocation increased from 35% to 50%.

On page 9 of 11-https://static1.squarespace.com/static/58c2eccc15d5db46200ea426/t/63e6a017e785253f65f690e5/1676058649974/COMPLETE+February+Meeting+Book++FWA+Executive+Committee+Meeting+.pdf

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)

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<u>Disclaimer</u>: 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.

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