Sacramento Valley Water Newsletter
May 2026

Curt Pierce, UCCE Irrigation and Water Resources Advisor

Glenn, Tehama, Shasta, and Colusa Counties

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What's Inside

Upcoming UC Extension Events

	Event	Date	Location	Contact
1	**Nickels Farm Field Day**	May 19, 2026	Arbuckle, CA	Franz Niederholzer, fjniederholzer@ucanr.edu
2	**CA Water Course NSV Tour**	May 30, 2026	Colusa, CA	Curt Pierce, calpierce@ucanr.edu

Article 1: New Stem Water Potential Calculator Available Online

Curt Pierce, UCCE Irrigation and Water Resources Advisor, Glenn, Tehama, Colusa, and Shasta Counties

If you are using a pressure chamber or FloraPulse sensors to manage your orchard irrigations, you may be interested in our new online tool for stem water potential (SWP) measurements. Currently, most folks utilize tables previously developed and published by UC to determine baseline SWP values. These values are determined not only by crop, but temperature and relative humidity (RH) at the location where SWP samples are being taken. Once you cross-reference your temperature and RH on the appropriate table, you can determine the baseline value for that sample and compare the SWP from the pressure chamber to it to determine if it is time to start irrigating.

Now, we have created an online calculator that you can use instead of the tables. To use it, simply 1) select your crop, 2) enter the temperature and RH, and 3) enter the SWP reading you get from your sample. The tool will output both the baseline value, and your sample's deviation from it. In the example shown in the screenshot (Figure 1), we had a pressure chamber reading of -7 bars, and a baseline of -5.7 bars. The deviation from baseline is -1.3 bars, so the tool displays that your pressure chamber reading is 1.3 "bars below baseline."

You can find much more information on SWP such as the tables and calculator, along with articles on how to interpret results, at https://www.sacvalleyorchards.com/irrigation-mgmt/stem-water-potential.

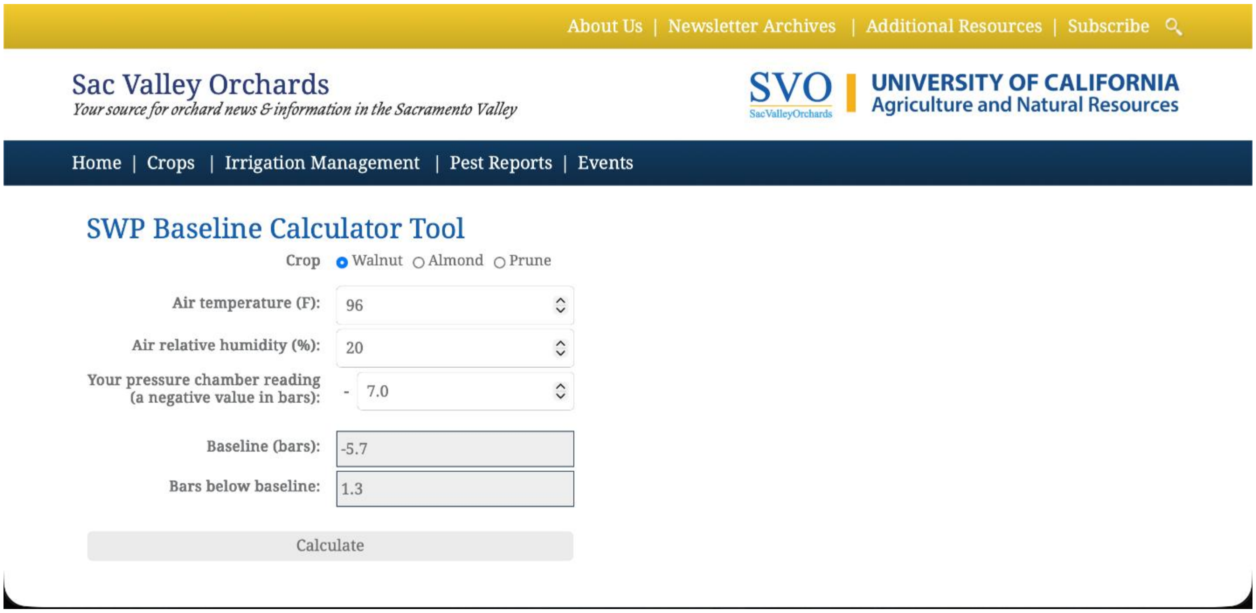

Figure 1. The new online SWP calculator provides both baseline and bars below baseline values for SWP samples provided with temperature and relative humidity data. https://www.sacvalleyorchards.com/swp-baseline-calculator-tool/

Links:
SWP Tables
https://www.sacvalleyorchards.com/wp-content/uploads/2025/03/UCCE_SWPbaseline_Farenheit.pdf

Online SWP Calculator
https://www.sacvalleyorchards.com/swp-baseline-calculator-tool/

Article 2: Drip Irrigation Calculations for a Small Farm/Garden with Bed and Tree Crops

Hardeep Singh, UCCE Local Food Systems Advisor
Gerry Spinelli, UCCE Production Horticulture Advisor

This article will help you with calculating the irrigation system runtime for various types of crops, including bed crops, trees, and vines, within the same irrigation system on a small farm or garden. Most of the irrigation water recommendations are in inches and one acre-inch is the volume of water that could cover an area of one acre to a depth of one inch, comprising approximately 27,000 gallons of water. Therefore, it becomes a challenge to determine how long to run your system just based on an inch unit. To calculate the run time of your system, you would need to find the application rate of your drip line.

This article will walk you through the steps to calculate the run time of your system based on an inch recommendation. To calculate the application rate of a drip line you will first need to find its flow rate. Flow rate is typically specified by the manufacturer on the product label in $\left(\frac{\text{gpm}}{\text{100ft}}\right)$ of tape.

Alternatively, the application rate can be calculated from the emitter discharge rate by sampling the emitters. Also, over time, emitters may clog and have a different discharge rate than reported by the manufacturer. Therefore, the best way to measure the emitter discharge rate is to go out into the field and measure it. Please follow the instructions below to calculate the emitter discharge rate, flow rate, system application rate and runtime:

1. Clean and backflush the filters, flush the main and lateral lines, and ensure pressure is relatively uniform and within the range recommended by the emitter/tape manufacturer across the system.

2. Sample at least 25 or more emitters per acre or an irrigation block to obtain reliable results.

3. Make sure to collect samples from any location that may have a different discharge rate, for example, high or low elevation locations or known areas of high or low pressure.

4. Use any short container to collect the discharge for 5 minutes from each emitter sample and then measure the volume of water collected in millimeters (ml) with the help of graduated cylinder.

5. Now, convert the ml of water collected per 5 minutes into an emitter discharge rate in gallons per hour (gph) using the following formula:

$$\frac{\text{ml of water collected in 5 minutes}}{315.4} = \text{Emitter discharge rate (gph)}$$

Sample No.	Volume of water collected (ml)	Emitter discharge rate (gph)
1	180	0.57
2	160	0.51
3	160	0.51
4	150	0.47
5 to 25	140......	0.44......
Average	158	0.50

6. Find the spacing (inch) between the emitters on a drip tape for bed crops, and for tree/permanent crops, divide the tree-to-tree spacing by the number of emitters per tree and use that number as the emitter spacing (inch).

7. Now, calculate the flow rate $\left(\frac{\text{gpm}}{100\text{ft}}\right)$ as follows:

$$\frac{\text{Emitter discharge rate (gph)} \ * \ 20}{\text{emitter spacing (inch)}}$$

$$\text{Flow Rate } \left(\frac{\text{gpm}}{100\text{ft}}\right) = \frac{0.50 * \ 20}{12}$$

Assuming a spacing of 12-inch, this yields a flow rate of 0.83 $\left(\frac{\text{gpm}}{100\text{ft}}\right)$

8. With the flow rate determined; you can now calculate the application rate of the system as follows:

$$\text{Application rate } \left(\frac{\text{inch}}{\text{hour}}\right) = \frac{\text{flow rate } * \ 1 \ * \ 11.55}{\text{center to center bed width or row to row spacing for tree crops (inch)}}$$

$$\text{Application rate } \left(\frac{\text{inch}}{\text{hour}}\right) = \frac{0.83 \ * \ 1 \ * \ 11.55}{36} = 0.27 \ \frac{\text{inch}}{\text{hour}}$$

The result represents the amount of water delivered by the system in an hour, in inches. Now, if you know the recommended water usage in inch, you can calculate the total run time of your system to meet the recommendation.

9. Please account for the system emission uniformity as well, 90% distribution uniformity is considered good. To calculate and find more information about emission uniformity please follow: https://cetulare.ucanr.edu/files/82036.pdf

10. Let us assume the water recommendation for a particular crop is 1 inch per week. The total run time of the above system can be calculated as follows:

$$\text{Run time} = \frac{\text{recommendation in inch}}{\text{application rate}} * \ 60$$

$$\text{Run time} = \frac{1}{0.27} * 60 = 222 \text{ minutes or 3 hours and 42 minutes}$$

You may also contact your local University of California Cooperative Extension Office or USDA NRCS office for irrigation system evaluation or system efficiency tests.

References

Spinelli Gerry, Cahn Michael. "How to Estimate the Application Rate of Drip and Sprinkler Systems." n.d. ANR Blogs. Accessed April 11, 2024. https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=25303.

Peacock Bill, Handley Dale. "Drip Irrigation Must Apply Water Uniformly to Be Efficient." University of California Tulare County Cooperative Extension, n.d. https://cetulare.ucanr.edu/files/82036.pdf.

Article 3: Unusual Winter Weather 2025-2026

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Winter rainfall

California growers may be facing increased water stress and reduced chill accumulation - a unique and concerning combination. Rainfall amounts this winter were around average in the Sacramento Valley, but their temporal distribution was uneven. Frequent fog events fortunately acted as a humid blanket over much of the Central Valley.

The distribution of precipitation between rain and snow has been concerning due to persistently high winter temperatures and summer-like conditions in March. Snow accumulation continues to decline under these warmer conditions. This is particularly important given that the California Department of Water Resources estimates that snowpack accounts for about 30% of the state's water storage. Fortunately, state water managers were able to store above-average volumes in reservoirs.

Water balance

Looking at long-term data for the Sacramento Valley (CIMIS station #6 in Davis), 30-year winter (November 1–March 31) trends in evapotranspiration (PM ETo) and precipitation (PcP) indicate that there used to be a greater water surplus (PM ETo − PcP). However, current trends are converging toward increasing water deficit, punctuated by extreme precipitation events - often referred to as *hydroclimatic whiplash*.

The winter of 2025–2026 had slightly lower than average precipitation and near-average evapotranspiration, resulting in a modest surplus (approximately a 2-inch difference).

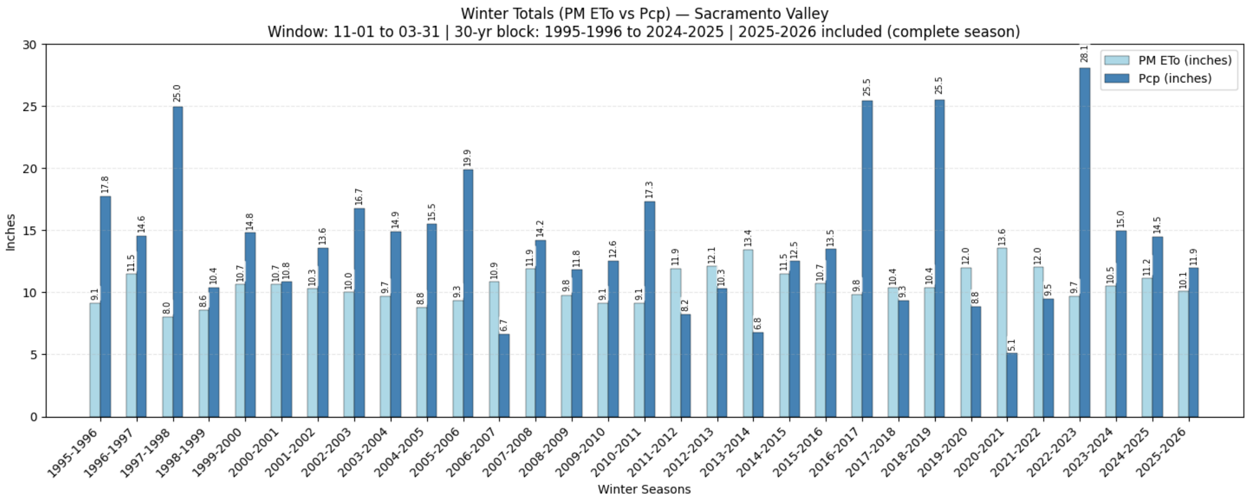

Figure 1. Comparison of cumulative winter (November - March) precipitation and Penman Monteith reference evapotranspiration (PM ETo) from the CIMIS station #6 (Davis; Yolo) over a 30-year period. The winter period is based on data from November 1, 1995 to March 31, 2026.

Winter storm events can deliver substantial rainfall. However, when precipitation is not evenly distributed over time, large short-term inputs may provide limited benefit and can even contribute to flooding. In California, much of the winter water supply comes from atmospheric rivers, typically arriving as multi-day rain or snow events.

If fog-forming conditions follow rainfall, there is a greater opportunity for moisture to infiltrate in the soil and potentially recharge aquifers. Conversely, if clear, sunny, and warm conditions follow a storm, soil moisture can be rapidly lost to the atmosphere (evapotranspiration) or runoff, shortening the window for infiltration.

Some growers experimenting with winter cover crops in this region may have benefited from increased rainwater infiltration into the soil, improving root-zone moisture storage. These conditions may also support opportunities for managed aquifer recharge. Our research on cover cropped orchards in San Joaquin Valley shows that cover crops may increase soil moisture without increasing the evapotranspiration (Flynn et al., 2025)

Temperature-wise, our studies of cover crops in orchards in the San Joaquin Valley show that they can lower nighttime temperatures compared to bare soil orchards. However, we still lack conclusive results on how these systems affect frost risk under different conditions and if there is a way to protect against the frost using irrigation over the cover cropped orchards.

Significance for chill accumulation

Despite a winter that felt humid and foggy, suggesting favorable chill conditions, the data tell a different story. Chill accumulation this season was below average compared to typical years (Figure 2).

A key factor was the delayed onset of chill accumulation, with little to no chill recorded until mid- to late November. Once accumulation began, it progressed relatively quickly due to persistent fog. However, an unusually warm spring brought this process to an abrupt halt as early as mid-February. Since then, little to no additional chill has accumulated in most regions, resulting in one of the lowest totals in recent years.

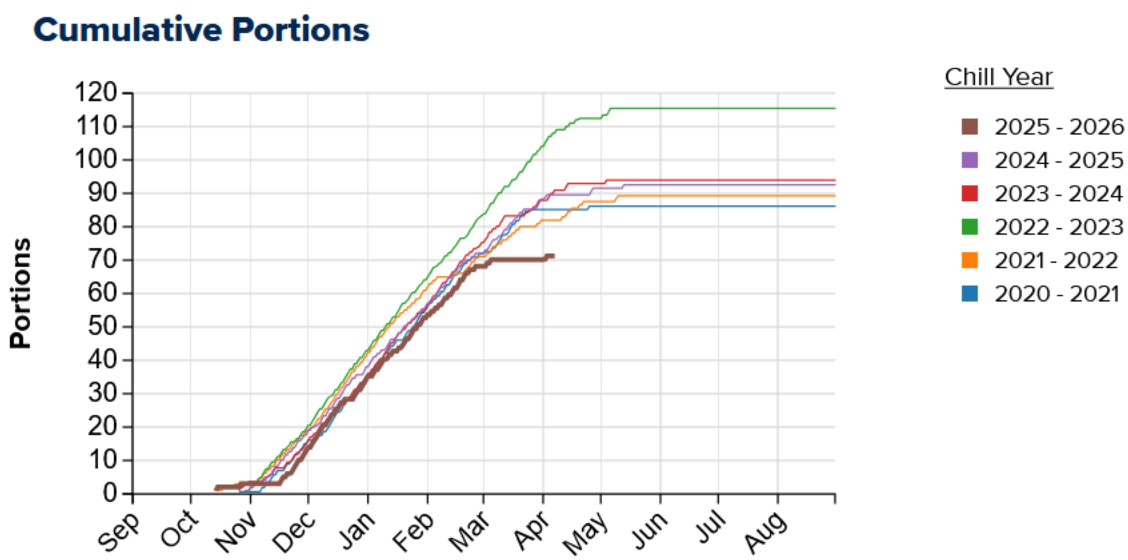

Figure 2. Chill accumulation (Cumulative Portions using Dynamic model https://fruitsandnuts.ucdavis.edu/chill-calculator) for past 6 winters at CIMIS station #222 (Gerber South; Tehama); data downloaded on April 8, 2026. The thicker line corresponds to this season's chill accumulation.

When looking at chill accumulation from the tree's perspective rather than relying solely on air temperature, the situation appears even more limiting. Estimates based on tree temperature indicate that the pace of chill accumulation slowed earlier, but declined significantly later in the season (Guzmán-Delgado et al., 2025). In particular, the southern San Joaquin Valley showed very little tree chill accumulated after the second half of January (see the TreeChill calculator at https://ucanr-igis.shinyapps.io/cherrychill/). This occurs because, under high solar radiation, tree tissues can become warmer than the surrounding air, reducing the trees' actual chill. Using this approach, there are estimated differences of more than 10 chill portions; for example, about 60 chill portions based on air temperature compared to roughly 50 when calculated using tree temperature. This is the largest discrepancy observed in recent years.

These observations highlight an important and still unresolved question: not all chill may be equal. The timing of chill accumulation, whether early, mid, or late in the season, may be playing a critical role in dormancy release and blooming. Admittedly, this remains an active area of research.

Finally, while chill accumulation often receives the most attention, it is important not to overlook the role of heat. Although warm conditions are necessary to bring trees out of dormancy, elevated temperatures during bloom and fruit set can negatively affect bud viability, pollination, and fruit retention, ultimately contributing to yield losses.

Conclusions

Winter temperature, precipitation, fog, and frost events all play important roles in perennial crop production. However, their timing and duration are often more critical than individual events. This past winter was characterized by frequent fog and elevated temperatures, which contributed to reduced soil moisture, chill accumulation and snowpack.

While management practices such as cover cropping and soil moisture conservation may help buffer some of the winter weather variability, their effects on orchard microclimate and frost risk remain site-specific and require further study. At the same time, limitations in weather forecast accuracy beyond a 14-day window continue to make long-term land and crop management decisions challenging.

References

Paula Guzmán-Delgado, Emily Santos, Mohammad Yaghmour, Emilio A. Laca, Kari Arnold, Amrit Pokhrel, Kosana Suvočarev, Mohamed Nouri, Katherine Jarvis-Shean, Louise Ferguson, Aileen Salas, Daniel Ruiz, Giulia Marino, The TreeChill model: A new framework for predicting the impact of erratic winter weather on trees, Agricultural and Forest Meteorology, Volume 371, 2025, 110647, ISSN 0168-1923, https://doi.org/10.1016/j.agrformet.2025.110647.

Flynn, Margot T, Olmo Guerrero-Medina, Ian F McDonald, Jarin Tasnim Anika, Emma C War, Kyaw Tha Paw U, Amélie CM Gaudin, et al. 2025. “A Case Study of Evapotranspiration at Five Almond Orchards on a Spectrum of Conventional to Regenerative Management.” *California Agriculture: The Journal of UC Agriculture and Natural Resources* 79 (2): 54–60. https://doi.org/10.3733/001c.133243.

Article 4: Quarterly Groundwater March 2026

QUARTERLY GROUNDWATER REPORT

Spring 2026

June 2024 - March 2026

Telemetered Monitoring Well Sites (regions extending from south to north) — Well Depth (feet below ground surface)

Site	SWN	Site Code	Well Screen Range (ft)	County	Type	Coordinates	Site Description	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25	Mar-26
Colusa															
1	14N01E35P001M	390124N1218291W001	985-995	Colusa	Farm	39°00'44.8"N 121°49'44.6"W	Between Wilson Bend Rd & Fruchtenicht	27.06	33.02	29.46	25.26	25.86	31.62	29.14	24.32
	14N01E35P002M	390124N1218291W002	545-555, 610-520, 695-705					25.25	28.49	23.06	19.88	23.16	28.93	24.31	20.02
	14N01E35P003M	390124N1218291W003	135-145,215-225					17.67	17.88	13.87	14.23	17.08	16.95	17.12	14.43
	14N01E35P004M	390124N1218291W004	50-60					15.72	17.41	15.09	17.10	15.53	16.69	17.04	17.02
2	14N02W22A002M	390540N1220607W002	1026-1036	Colusa	Farm	39°03'14.3"N 122°03'38.4"W	Hahn Rd, Between Ohm Rd & Frontage Rd	80.71	88.81	79.92	70.67	76.58	86.57	76.96	67.26
	14N02W22A003M	390540N1220607W004	865-875, 926-936					102.43	100.59	79.52	68.71	94.18	98.80	77.68	66.51
	14N02W22A004M	390540N1220607W006	583-603					150.56	108.21	72.81	64.41	134.73	110.18	73.70	68.35
	14N02W22A005M	390540N1220607W008	290-300					142.22	103.04	69.86	61.71	127.96	101.77	70.74	65.22
3	15N03W20Q001M	391330N1222165W001	370-410	Colusa	Farm	39°07'58.8"N 122°12'59.2"W	Pumphouse Rd & E Camp Rd	29.23	29.56	29.38	29.30	28.27	28.47	28.53	28.20
	15N03W20Q002M	391330N1222165W002	130-160					15.86	17.07	18.74	13.99	15.10	16.63	16.24	13.94
	15N03W20Q003M	391330N1222165W003	30-80					15.72	16.93	18.72	13.96	15.02	16.52	16.08	13.78
4	16N03W14H003M	392414N1221535W001	1370-1380, 1410-1420	Colusa	Farm	39°14'29.3"N 122°09'12.7"W	Pole Line Rd & 2 Mile Rd	2.27	2.32	1.99	1.97	1.75	1.67	1.40	1.34
	16N03W14H004M	392414N1221535W002	1140-1150, 1170-1180					14.63	14.44	14.08	13.68	12.28	12.09	12.17	12.03
	16N03W14H005M	392414N1221535W003	720-730					27.95	30.76	26.38	20.28	23.53	29.33	24.86	19.06
	16N03W14H006M	392414N1221535W004	295-305					15.28	19.76	13.48	9.02	14.43	19.06	13.20	8.50
5	16N02W05B001M	392753N1221057W001	730-750	Colusa	Farm	39°16'31.0"N 122°06'20.4"W	Maxwell Rd	26.56	31.04	23.56	16.27	23.72	29.75	24.30	15.89
	16N02W05B002M	392753N1221057W002	462-473					25.63	30.68	21.56	14.30	23.91	31.08	22.06	13.99
	16N02W05B003M	392753N1221057W003	461-471, 531-541, 611-631, 641-691, 711-771					19.84	19.49	10.99	8.32	17.37	18.43	11.86	8.53
6	17N02W09H002M	393417N1220838W001	779-800	Colusa	Farm	39°20'30.1"N 122°05'01.6"W	Willow Creek & 4 Mile Rd	18.36	18.71	13.91	7.42	15.92	18.45	16.31	7.56
	17N02W09H003M	393417N1220838W002	470-480, 510-520					17.19	16.28	3.02	5.14	14.34	15.62	14.95	5.53
	17N02W09H004M	393417N1220838W003	250-260					11.50	14.14	12.28	3.50	8.55	9.00	8.00	3.63
7	19N02W08Q001M	395157N1221122W001	856-876	Glenn	Farm	39°30'56.5"N 122°06'44.0"W	Hwy 162, Between Rd S & Rd R	43.02	55.07	45.15	36.97	41.14	53.70	43.24	34.96
	19N02W08Q002M	395157N1221122W002	208-218					10.19	10.27	5.24	5.98	8.72	7.37	6.98	8.08
	19N02W08Q003M	395157N1221122W003	77-87					5.06	7.73	2.87	6.71	4.80	6.70	2.28	4.76
8	20N02W25F001M	395595N1220326W001	940-960	Glenn	Farm	39°33'34.2"N 122°01'57.4"W	Sidds Rd, Between Rd W & Rd X	7.75	11.87	10.52	7.05	6.28	10.82	10.09	4.59
	20N02W25F002M	395595N1220326W002	420-430, 460-470					14.44	12.34	3.51	3.73	14.51	12.13	8.01	4.84
	20N02W25F003M	395595N1220326W003	190-200, 250-260					7.68	7.82	1.69	3.92	7.64	6.68	5.16	4.51
	20N02W25F004M	395595N1220326W004	55-65					3.19	5.58	2.61	3.98	3.34	4.33	3.30	4.25
9	21N02W01F001M	397043N1220387W001	547-557	Glenn	Farm	39°42'15.6"N 122°02'19.0"W	Rd VV & Rd 24	51.75	48.46	32.97	26.81	48.17	48.63	32.97	26.25
	21N02W01F002M	397043N1220387W002	297-307					62.40	41.79	27.84	24.86	42.96	40.25	29.54	25.18
	21N02W01F003M	397043N1220386W001	109-119					35.61	34.92	27.41	24.45	32.48	33.19	28.36	23.93
	21N02W01F004M	397043N1220386W002	55-65					33.85	33.44	26.95	23.67	31.02	32.07	27.63	22.74
10	21N02W33M001M	396299N1221007W001	869-890	Glenn	Farm	39°37'47.7"N 122°06'02.4"W	Co Rd S, Between Rd 31 & Rd 33	65.83	70.51	57.57	50.20	65.73	71.72	56.50	48.32
	21N02W33M002M	396299N1221007W002	540-550					61.00	67.89	47.29	40.30	59.50	63.91	52.16	40.14
	21N02W33M003M	396299N1221007W003	140-150					35.60	31.90	25.82	24.19	27.43	33.09	25.59	21.91
11	22N02W30H002M	397325N1221233W001	850-880	Glenn	Farm	39°43'56.8"N 122°07'24.0"W	Co Rd 18 & Rd Q	104.46	121.63	103.13	91.02	104.02	121.24	101.73	88.73
	22N02W30H004M	397325N1221233W003	45-55, 60-70					19.59	23.73	20.24	14.78	18.63	22.30	22.02	14.30
12	22N03W24E001M	397473N1221559W001	800-200	Glenn	Farm	39°44'50.4"N 122°09'21.2"W	Hwy 32, Between Rd N & Rd O	205.44	230.59	224.84	210.72	210.23	233.49	225.25	208.42
	22N03W24E002M	397473N1221559W002	130-150, 170-180					72.48	59.05	37.36	32.76	62.91	66.68	39.63	34.29
	22N03W24E003M	397473N1221559W003	49-59					22.01	22.49	17.88	15.63	21.20	22.07	21.89	15.47
Butte															
13	18N01E35L001M	393678N1218288W001	816-836	Butte	Farm	39°22'02.8"N 121°49'40.4"W	Colusa Hwy & Cherokee Canal Rd	-0.20	0.40	-1.59	-3.46	-0.32	0.24	-1.14	-3.82
14	19N01E35B001M	394635N1218276W001	85-95, 125-135	Butte	Farm	39°27'48.4"N 121°49'39.9"W	Hwy 162 & Aguas Frias Rd	3.46	4.54	1.86	3.26	2.26	3.40	57.13	3.04
	19N01E35B002M	394634N1218278W001	930-950					-2.56	-1.36	-2.62	-4.09	-2.26	-1.07	-2.68	-4.13
	19N01E35B003M	394634N1218278W002	490-510					2.41	3.29	1.17	0.90	2.28	3.02	1.56	0.95
15	19N02E07K002M	395118N1217880W001	560-570	Butte	Farm	39°30'42.5"N 121°47'16.7"W	Bradford Rd & Aguas Frias Rd	4.19	3.46	2.09	0.63	3.89	3.43	2.28	-0.71
	19N02E07K003M	395118N1217880W002	330-340					2.89	3.95	1.99	2.86	2.51	2.90	2.71	3.28
	19N02E07K004M	395118N1217880W003	140-150					3.01	3.87	2.05	2.84	2.59	2.87	2.14	2.95

Telemetered Monitoring Well Sites (regions extending from south to north)								Well Depth (feet below ground surface)							
Site	SWN	Site Code	Well Screen Range (ft)	County	Type	Coordinates	Site Description	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25	Mar-26
16	20N01E18L001M	395771N1219082W001	767-810, 873-894	Butte	Farm	39°34'37.5"N 121°54'29.6"W	7 Mile Rd, Between Grainland Rd & Nelson Rd	10.50	11.31	8.13	4.28	8.78	10.86	8.93	3.85
	20N01E18L002M	395771N1219083W001	510-530, 550-560					10.00	9.79	6.13	4.21	9.19	9.98	8.62	4.32
	20N01E18L003M	395771N1219083W002	98-108					5.01	6.25	2.52	2.73	4.35	7.66	4.22	2.88
17	21N01W24B001M	396655N1219250W001	800-820	Butte	Farm	39°39'55.9"N 121°55'30.1"W	River Rd & Ord Ferry Rd	26.54	28.06	19.78	14.61	27.85	25.54	20.88	14.12
18	17N01W10A001M	393437N1219519W001	770-780, 790-800	Colusa	Farm	39°20'37.6"N 121°57'07.0"W	Gridley Rd & E Glenn Rd	6.59	11.04	6.68	1.58	7.35	10.96	7.18	2.07
	17N01W10A002M	393437N1219519W002	380-390, 415-425					8.48	9.75	4.15	2.58	8.96	9.21	5.93	3.77
	17N01W10A003M	393437N1219519W003	148-158					1.77	4.83	1.20	2.67	2.00	3.59	1.35	3.60
	17N01W10A004M	393437N1219519W004	88-98					1.43	4.28	1.26	2.83	1.50	3.00	1.33	3.63
19	19N01W22D004M	394927N1219648W001	780-790	Glenn	Farm	39°29'33.7"N 121°57'53.3"W	Afton Blvd, Between Rd Y & Rd B	11.52	11.69	8.22	5.00	9.96	12.06	9.68	5.60
	19N01W22D005M	394927N1219648W002	520-530					27.49	17.89	10.09	6.54	22.93	18.66	12.95	7.58
	19N01W22D006M	394927N1219648W003	340-350					46.29	20.24	10.40	6.94	38.74	21.54	14.47	8.25
	19N01W22D007M	394927N1219648W004	80-90					27.49	22.37	11.18	6.85	22.77	23.25	20.29	9.00
	Wyandotte Creek														
20	18N04E19D001M	394051N1215736W001	714-734	Butte	Farm	39°24'18.4"N 121°34'25.0"W	Lone Tree Rd, Between Sunnybrook Ln & Cox Ln	17.91	20.11	19.94	18.46	17.62	19.41	19.37	17.85
	18N04E19D002M	394051N1215736W002	435-455, 557-577					23.22	26.89	25.70	23.36	22.33	25.84	25.10	22.26
	18N04E19D003M	394051N1215736W003	120-130, 190-200					56.51	56.85	38.03	31.59	46.03	54.35	36.06	30.17
	Vina														
21	20N02E24C001M	395812N1217026W001	124-134	Butte	Farm	39°34'52.3"N 121°42'09.3"W	Nelson Rd, Between Adobe Rd & Golden State Hwy	63.85	60.92	55.31	49.83	58.46	62.48	56.71	50.08
	20N02E24C002M	395812N1217026W002	336-346, 367-377					64.99	60.57	55.27	49.87	58.15	62.03	56.64	50.04
	20N02E24C003M	395812N1217026W003	484-505					64.48	60.37	55.20	49.75	57.94	61.71	56.53	49.92
22	21N01E13L002M	396735N1218144W001	735-760	Butte	Farm	39°40'24.5"N 121°48'51.9"W	Nicholas C Shouten Ln	97.16	82.09	70.26	63.54	83.64	80.81	68.15	66.43
	21N01E13L003M	396735N1218144W002	540-560					99.97	82.40	70.23	63.44	81.16	80.42	67.98	66.06
	21N01E13L004M	396735N1218144W003	240-340					104.95	81.26	70.42	63.45	80.50	80.38	68.64	64.30
23	23N01W31M001M	398028N1220294W001	1020-1030	Butte	Farm	39°48'10.0"N 122°01'45.9"W	Wilson Landing Rd	35.01	41.73	26.01	16.59	30.48	43.33	26.26	16.63
	23N01W31M002M	398028N1220294W002	590-600					39.12	32.85	16.71	10.13	32.90	34.95	19.13	11.92
	23N01W31M003M	398028N1220294W003	969-979, 1020-1030					38.39	27.88	13.96	11.10	30.87	24.12	18.78	13.23
	23N01W31M004M	398028N1220294W004	66-76					19.60	21.66	12.99	14.76	18.50	21.15	19.96	16.12
	Corning														
24	22N01W29N001M	397263N1220105W001	859-879, 990-1010, 1116-1135	Glenn	Farm	39°43'34.6"N 122°00'37.9"W	Rd 45, Between St John Rd & 1st St	31.77	40.47	30.28	22.51	22.00	22.00	36.77	21.40
	22N01W29N002M	397263N1220105W002	549-559, 595-605, 631-641					39.30	34.77	34.77	16.80	32.46	35.62	24.43	16.97
	22N01W29N003M	397263N1220105W003	189-199, 255-265, 320-330, 370-380					32.04	22.13	12.22	13.09	29.73	26.75	18.38	13.98
	22N01W29N004M	397263N1220105W004	88-99					17.67	17.74	11.60	10.00	16.92	17.57	14.79	10.83
25	22N02W15C002M	397634N1220771W001	760-781	Glenn	Farm	39°45'48.5"N 122°04'37.7"W	6th Ave, Between Co Rd 9 & Hwy 32	94.62	108.08	73.22	61.87	102.06	121.46	74.64	67.13
	22N02W15C003M	397634N1220771W002	370-380					85.10	74.49	45.45	37.84	77.36	73.62	46.24	40.80
	22N02W15C004M	397634N1220771W003	210-220					80.98	66.11	41.27	34.41	69.92	65.53	43.16	41.28
	22N02W15C005M	397634N1220771W004	60-70					34.25	37.16	28.80	22.13	30.92	35.31	29.32	22.00
26	22N04W01A001M	397974N1222523W001	680-700	Glenn	Farm	39°47'50.7"N 122°15'08.3"W	Between Sour Grass Rd & Co Rd 3	213.91	217.73	217.73	217.73	208.43	208.43	208.43	210.89
	22N04W01A002M	397974N1222523W002	520-530					152.46	156.71	156.81	156.81	147.28	147.28	147.28	146.94
	22N04W01A003M	397974N1222523W003	321-331					129.81	129.53	128.78	128.78	119.73	119.73	119.73	117.85
	22N04W01A004M	397974N1222523W004	40-50					8.65	9.36	9.75	9.75	10.01	10.01	10.01	8.89
27	24N03W15A001M	399408N1221823W001	740-750, 800-810, 840-850	Tehama	Farm	39°56'27.1"N 122°10'56.4"W	Gallagher Ave, Between State Hwy 99w & Houghton Ave	90.21	103.56	81.13	71.16	87.09	98.10	79.83	68.49
	24N03W15A002M	399408N1221823W002	480-490, 530-540, 590-600					84.06	95.83	79.22	68.24	80.43	94.17	77.87	66.18
	24N03W15A003M	399408N1221823W003	260-270					83.68	94.72	78.58	67.67	80.36	93.67	77.33	65.81
	24N03W15A004M	399408N1221823W004	470-190					83.06	94.53	79.00	68.03	79.80	93.22	77.62	65.99
	Los Molinos														
28	26N02W22E003M	400921N1220855W002	730-750	Tehama	Farm	40°05'31.6"N 122°05'08.0"W	Shasta Blvd, Bwtween 3rd Ave & 68th Ave	29.06	30.99	28.24	26.74	27.48	30.51	28.83	26.07
	26N02W22E004M	410921N1210855W001	560-570, 620-630, 660-670					29.63	31.91	29.08	27.42	28.46	31.53	29.78	26.86
	26N02W22E005M	400921N1220855W003	100-110, 190-200					34.06	34.75	30.90	29.60	32.66	34.61	33.20	29.85
	26N02W22E006M	400921N1220855W001	40-50					37.66	33.05	29.39	27.63	29.84	32.08	31.13	27.58

Telemetered Monitoring Well Sites (regions extending from south to north)								Well Depth (feet below ground surface)							
Site	SWN	Site Code	Well Screen Range (ft)	County	Type	Coordinates	Site Description	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25	Mar-26
	Red Bluff														
29	25N05W13P002M	400163N1223809W001	875-895	Tehama	Residential/ Rural	40°00'58.9"N 122°22'51.5"W	Park Terrace & Stagecoach Ln	41.07	42.01	41.81	41.72	42.36	42.83	43.04	42.64
	25N05W13P003M	400163N1223809W002	385-395, 445-455, 535-555					77.34	79.10	77.98	76.48	76.46	77.93	76.40	74.31
	25N05W13P004M	400163N1223809W003	230-280					77.68	80.51	79.10	77.29	77.43	79.48	77.99	75.13
	25N05W13P005M	400163N1223809W004	100-110, 140-170					60.76	62.73	61.14	59.55	60.66	61.96	60.78	58.02
	Antelope														
30	27N03W15N004M	401874N1221988W002	680-700, 730-750	Tehama	Residential/ Farm	40°11'14.8"N 122°11'55.6"W	Antelope Blvd & Trinity Ave	49.04	53.99	34.65	28.33	49.76	52.55	35.35	29.60
	27N03W15N005M	401874N1221988W004	510-550					51.42	54.80	35.28	28.52	52.93	52.75	36.87	30.49
	27N03W15N006M	401874N1221988W006	290-300, 320-340					47.87	51.58	32.35	28.23	46.70	51.54	37.68	30.87
	27N03W15N007M	401874N1221988W008	120-140, 170-210					42.59	46.24	34.04	26.70	37.66	44.85	36.81	29.62
	27N03W15N008M	401874N1221988W010	65-85					32.28	38.84	33.05	24.33	28.83	36.69	34.86	26.61
	Anderson														
31	29N04W03R002M	403929N1222944W001	740-750	Shasta	Residential/ Farm	40°23'34.6"N 122°17'40.0"W	Gas Point Rd & Della Ln	68.56	69.46	67.44	65.16	68.08	69.26	66.91	65.05
	29N04W03R003M	403929N1222945W001	515-525, 590-600, 650-660					67.67	68.54	66.08	64.23	67.12	68.28	65.97	64.19
	29N04W03R004M	403929N1222945W002	380-390					65.89	67.11	65.28	63.55	64.85	66.55	64.79	63.20
	29N04W03R005M	403929N1222945W003	128-138, 178-188					72.95	73.80	70.56	69.31	72.15	73.09	71.11	69.23
	29N04W03R006M	403929N1222945W004	40-60					30.41	30.12	28.24	27.97	27.86	28.25	30.43	28.03
	Enterprise														
32	31N04W22P001M	405224N1223091W002	600-640	Shasta	Residential	40°31'20.6"N 122°18'32.9"W	Shasta View Dr & Bolam Creek Rd	93.15	94.54	92.64	91.57	93.52	95.19	90.99	89.14
	31N04W22P002M	405224N1223091W004	470-510					93.81	95.75	93.95	92.64	94.46	97.24	90.96	89.24
	31N04W22P003M	405224N1223091W006	170-210, 240-280					88.18	91.32	89.21	86.00	87.81	91.71	87.41	84.86
	31N04W22P004M	405224N1223091W008	85-105					87.85	92.13	89.48	85.56	87.28	91.25	87.53	85.04

Note from DWR: The groundwater level data presented are the closest measurement to the target dates of 3/15, 6/15, 9/15, or 12/15 (within 15 days before) for the respective quarterly report. The record is left blank if no data was recorded for that time-period. These data are queried from the Periodic Groundwater Level Measurements data set that is available on the California Natural Resources Agency Open Data (https://data.cnra.ca.gov/dataset/periodic-groundwater-level-measurements). This data set includes manual measurements and automated hourly groundwater level data uploaded via telemetry. Although efforts are made to ensure the accuracy of the data, these data may include water levels that are impacted by instrument malfunction as well as local conditions, such as the pumping of nearby wells, that are not documented. For a more complete depiction of groundwater conditions, full records of groundwater level data can be viewed on the Water Data Library (https:// wdl.water.ca.gov/waterdatalibrary/Map.aspx) or the SGMA Data Viewer (https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#currentconditions). Groundwater level data provided by the Department of Water Resources, Northern Region Office. Report designed in cooperation with the University of California Department of Agriculture and Natural Resouces, Cooperative Extension - Glenn County Office, Curt Pierce Water Resources Advisor, calpierce@ucanr.edu. For questions or additional information, please contact Debbie Spangler at debbie.spangler@water.ca.gov.

Article 5: DWR Groundwater Technical Support

URCTA PROGRAM

DWR's URCTA Program offering:

For Underrepresented Communities, California Tribes and Small Farmers in SGMA regulated basins

Did you know

there are free groundwater technical assistance services available to small farmers and underserved communities to support groundwater supply and water quality challenges?

What we offer

Through the State of California Department of Water Resources' Underrepresented Communities, Tribes and Small Farmers groundwater technical assistance (URCTA) Program you can get help to evaluate groundwater supply and water quality issues.

Services the URCTA can provide include, but are not limited to:

- Analysis of groundwater conditions, interference, impact (for depletion, land subsidence, groundwater dependent ecosystem depletion, etc.), and water quality
- Analysis of long-term water supply demand, and assistance with facilitating water transfers, groundwater sustainability matters, water well and pump repairs
- Design of water systems (supply, production, distribution, treatment, and storage, including fire flow requirements)
- Preparation and submittals of relevant applications, project plans and specifications, equipment and system trainings

More about groundwater technical assistance:

If you or your community is interested, or aware of others who may benefit, and would like to learn more, we would like to schedule a call to connect with you. Please contact URCTA@water.ca.gov or jgray@dudek.com

More on URTCA To obtain more information about the program and services available visit URCTA Program Page: https://water.ca.gov/urctaprogram or scan this QR code.

Article 6: Resources

Weekly Evapotranspiration (ET) Report (view, request, tutorials):
https://www.sacvalleyorchards.com/irrigation-mgmt/2026-et-report-current/
Northern Sierra Precipitation 8-Station Index:
https://cdec.water.ca.gov/reportapp/javareports?name=PLOT_ESI.pdf
Major Water Supply Reservoirs Current Conditions:
https://cdec.water.ca.gov/resapp/RescondMain
Resource Conservation Districts (RCD) Mobile Irrigation Labs – provide free irrigation system evaluations (application rate, distribution uniformity, etc.)
https://www.sacvalleyorchards.com/irrigation-mgmt/mobile-irrigation-labs/:

- Glenn, Tehama, Butte, and Shasta Counties- Kevin Greer, kevin@tehamacountyrcd.org or 530-727-1297
- Yolo, Colusa, Sutter, and Yuba Counties- Conor Higgins, higgins@yolorcd.org or 530-661-1688 ext. 4
- Solano County- Kevin Young-Lai, kevin.young-lai@solanorcd.org or 707-678-1655 ext. 123
- Sacramento County- Chris Timmer, chris@sloughhousercd.org

More articles, information, and resources on NSV water available at

sacvalleyorchards.com