

ACTUAL EVAPOTRANSPIRATION ANALYSIS

October 2023

Prepared for
East Kaweah Groundwater Sustainability Agency

Prepared by
 **LAND IQ**

2020 L Street, Ste 210
Sacramento, CA
Contact: Joel Kimmelshue
916.265.6330

NOVEMBER 27, 2023

SUMMARY

TABLE 1. SUMMARY OF GSA ET AND PRECIPITATION (117,346 AC)

	ET (ac-ft)	Precipitation (ac-ft)
2024 Allocation Year to date (OCT 1, 2023 - OCT 31, 2023)	17,745	1,075
Allocation Year 2023 (OCT 1, 2022 - SEP 30, 2023)	261,015	193,051
Allocation Year 2022 (OCT 1, 2021 - SEP 30, 2022)	257,412	84,548

TABLE 2. SENSORS USED IN DAILY AND MONTHLY ET_A ANALYSIS BY CROP CATEGORY

	Number of Active Stations	Number of Used Stations in model
Alfalfa	8	7
Almonds	19	18
Annual	3	3
Citrus	15	13
Fallow/Native	7	6
Grapes	9	9
Olives	0	0
Pistachios	12	10
Pomegranates	1	1
Walnuts	2	1

TABLE 3. PRECIPITATION MEASURED BY FIELD STATIONS

Station ID	Source	October Precipitation (in)	Year to Date (Oct 1, 2023 - Oct 31, 2023)
CIMIS #205: Coalinga	CIMIS	0	0
CIMIS #5: Shafter	CIMIS	0.22	0.22
CIMIS #15: Stratford	CIMIS	0.09	0.09
CIMIS #2: FivePoints	CIMIS	0	0
CIMIS #146: Belridge	CIMIS	0	0
CIMIS #39: Parlier	CIMIS	0	0
CIMIS #105: Westlands	CIMIS	0.02	0.02
CIMIS #80: Fresno State	CIMIS	0	0
CIMIS #182: Delano	CIMIS	0.37	0.37
CIMIS #125: Arvin_Edison	CIMIS	0.56	0.56
CIMIS #148: Merced	CIMIS	0.01	0.01
CIMIS #206: Denair II	CIMIS	0.37	0.37
USC00044957	GHCN	0	0
LandIQ_GK_Full_Murcotts	Land IQ	0	0
LandIQ_EK_Full_Sumos_2023	Land IQ	0	0

CIMIS - California Irrigation Management Information System; CNRFC - California Nevada River Forecast Center; GHCN - Global Historical Climate Network.

REMOTE SENSING RESULTS

TABLE 4. IMAGE DATES AND SOURCES

Date	Image Source
10/3/2023	Sentinel 2A
10/7/2023	Landsat 8
10/15/2023	Landsat 9
10/18/2023	Sentinel 2B
10/28/2023	Sentinel 2B
10/31/2023	Landsat 9

TABLE 5. MONTHLY GSA ET_A

Unit	OCT, 2023	NOV, 2023	DEC, 2023	JAN, 2024	FEB, 2024	MAR, 2024	APR, 2024	MAY, 2024	JUN, 2024	JUL, 2024	AUG, 2024	SEP, 2024	Total
(mm)	46.2												46.2
(inch)	1.8												1.8
(AF)	17,795												17,795

TABLE 6. MONTHLY FIELD ET_A

ET _A (in) Including Fallow														
	Field Size (ac)	OCT, 2023	NOV, 2023	DEC, 2023	JAN, 2024	FEB, 2024	MAR, 2024	APR, 2024	MAY, 2024	JUN, 2024	JUL, 2024	AUG, 2024	SEP, 2024	Ave
Maximum	230.1	3.6												3.6
Minimum	0.04	0.0												0.0
Average	10.1	1.9												1.9
ET _A (in) Excluding Fallow														
	Field Size (ac)	OCT, 2023	NOV, 2023	DEC, 2023	JAN, 2024	FEB, 2024	MAR, 2024	APR, 2024	MAY, 2024	JUN, 2024	JUL, 2024	AUG, 2024	SEP, 2024	Ave
Maximum	230.1	3.6												3.6
Minimum	0.04	0.0												0.0
Average	10.3	2.1												2.1

TABLE 7. MONTHLY GSA PRECIPITATION

Precipitation Unit	OCT, 2023	NOV, 2023	DEC, 2023	JAN, 2024	FEB, 2024	MAR, 2024	APR, 2024	MAY, 2024	JUN, 2024	JUL, 2024	AUG, 2024	SEP, 2024	Total
--------------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-------

