

# **ACTUAL EVAPOTRANSPIRATION ANALYSIS**

## **January 2022**

Prepared for  
**East Kaweah Groundwater Sustainability Agency**

Prepared by  
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## SUMMARY

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

	ET (ac-ft)	Precipitation (in)
Past 12 months	254,609	0.0
Prior water year (OCT 1 – JAN 31)	38,301	0.0
Prior calendar year (JAN 1 – JAN 31)	9,148	0.0

**TABLE 2. SENSORS USED IN DAILY AND MONTHLY ET<sub>A</sub> ANALYSIS BY CROP CATEGORY**

	Number of Active Stations	Number of Used Stations in model
Alfalfa	9	6
Almonds	23	10
Annuals	6	3
Citrus	15	9
Fallow/Native	7	7
Grapes	0	0
Olives	2	0
Pistachios	14	7
Pomegranates	1	0
Walnuts	1	1

**TABLE 3. PRECIPITATION MEASURED BY FIELD STATIONS**

Station ID	Source	January Precipitation (in)
<b>CIMIS #205: Coalinga</b>	CIMIS	0.01
<b>CIMIS #5: Shafter</b>	CIMIS	0.04
<b>CIMIS #39: Parlier</b>	CIMIS	0.09
<b>CIMIS #105: Westlands</b>	CIMIS	0.06
<b>CIMIS #80: Fresno State</b>	CIMIS	0.17
<b>CIMIS #182: Delano</b>	CIMIS	0.04
<b>CIMIS #169: Porterville</b>	CIMIS	0.1
<b>CIMIS #258: Lemon Cove</b>	CIMIS	0.01
<b>CIMIS #125: Arvin_Edison</b>	CIMIS	0.04
<b>LandIQ_EK_Full_Sumos</b>	Land IQ	0.01
<b>LandIQ_GK_Full_Murcotts</b>	Land IQ	0.04

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
January 26, 2022	Sentinel 2

TABLE 5. MONTHLY DISTRICT ET<sub>A</sub>

Unit	JAN
(mm)	23.8
(inch)	0.9
(AF)	9,148

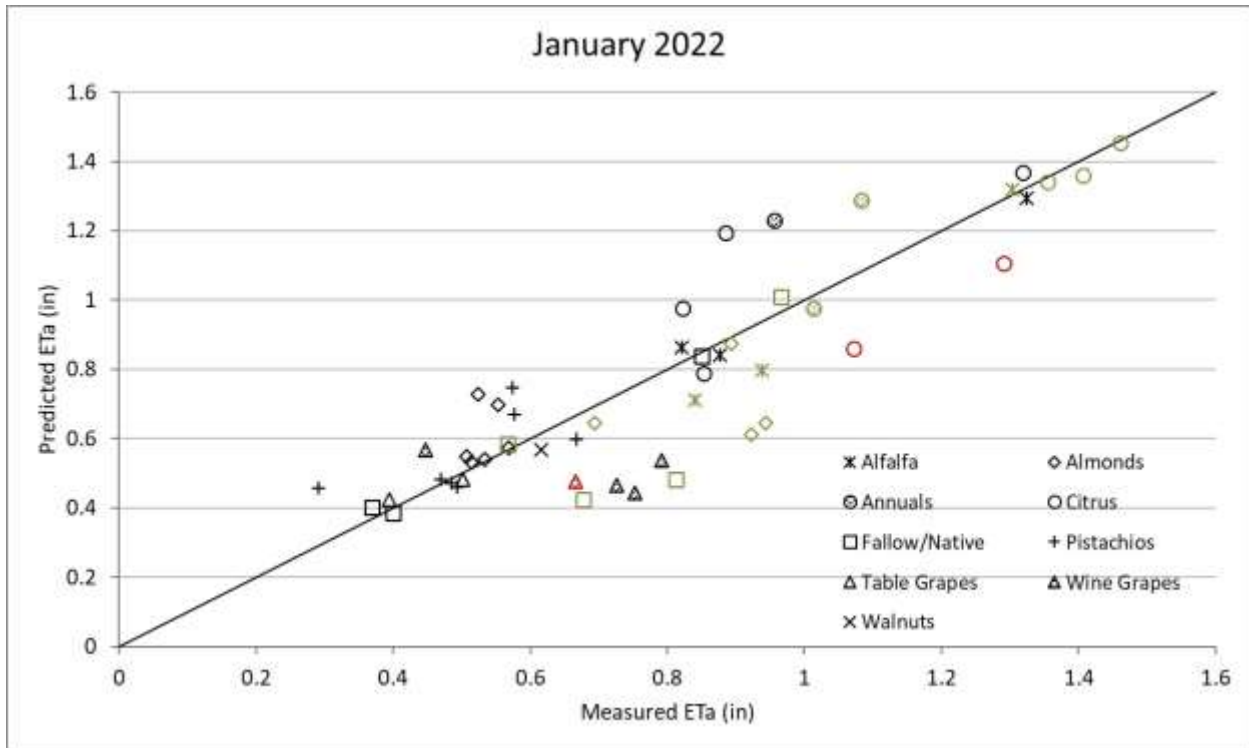
TABLE 6. MONTHLY FIELD ET<sub>A</sub>

ET <sub>A</sub> (in) Including Fallow		
	Field Size (ac)	JAN
<b>Maximum</b>	230.1	1.5
<b>Minimum</b>	0.1	0.4
<b>Average</b>	10	1.0
ET <sub>A</sub> (in) Excluding Fallow		
	Field Size (ac)	JAN
<b>Maximum</b>	230.1	1.5
<b>Minimum</b>	0.1	0.4
<b>Average</b>	10.3	1.0

TABLE 7. MONTHLY DISTRICT PRECIPITATION

Precipitation Unit	JAN
(mm)	0.9
(inch)	0.0
(AF)	353

## ACCURACY OF REMOTE SENSING RESULTS



**FIGURE 1. MEASURED VERSUS PREDICTED ET<sub>A</sub> FOR THE MONTH. SYMBOL COLORS REPRESENT THE STATION TYPES (BLACK = FULL, GREEN = WATER IQ (WIQ), RED = TULE TECH)**

**TABLE 8. MEASURED VS. PREDICTED MONTHLY ET<sub>A</sub>**

<b>R<sup>2</sup></b>	<b>RMSE (IN)</b>
0.8	0.2

Note: The R<sup>2</sup> value is the relative measure of fit of the observed data to the predicted result, where a value of 1 indicates a perfect fit. RMSE can be interpreted as the standard deviation, where a value of 0 indicates perfect fit to the observed data.