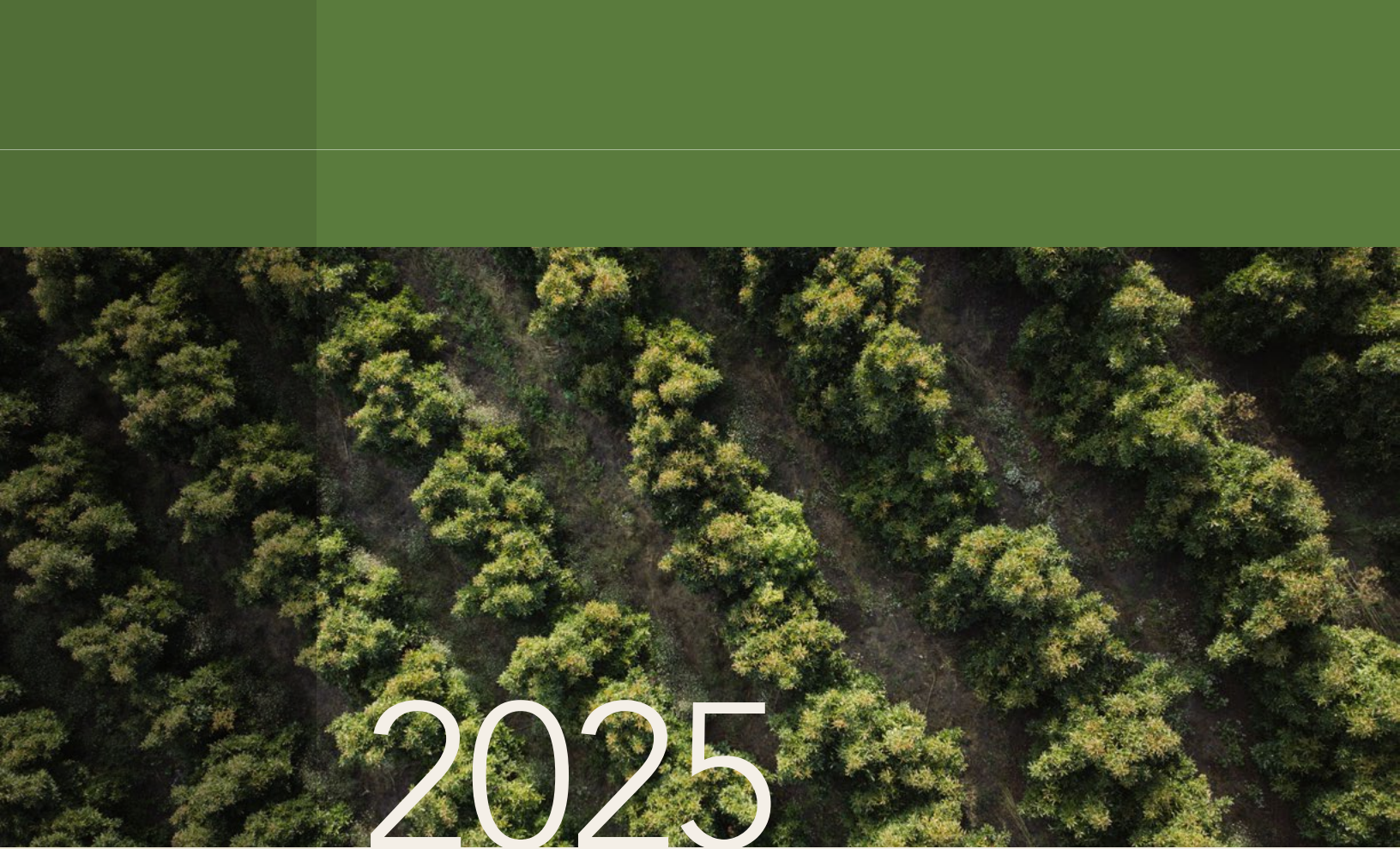




2025

STATEWIDE AVOCADO ACREAGE & CONDITION ANALYSIS

Prepared for
California Avocado Commission

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EXECUTIVE SUMMARY

Spatial land use information is essential for the California Avocado Commission to make informed decisions for budgeting and marketing of crops. Accurate and timely land use information is the foundation of these analyses and is vital to the decision-making process.

Increased availability of digital satellite imagery, aerial photography and new analytical tools make remote sensing land use surveys possible at the grove scale. These technologies allow accurate, large-scale crop and land use identification to be performed at time increments as desired and make highly accurate and comprehensive statewide avocado mapping possible.

Growers, industry, regulators, government agencies, and commodity groups also benefit from spatial data related to crop type, location, condition, and density. These data are key components for management of environmental resources and proximity to sensitive areas including water quality, air quality, and disease or pest vectors.

For 2025, the total planted avocado acreage in California was 55,484 acres.



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INTRODUCTION

Accurate acreage information is critically important to the work of the California Avocado Commission (CAC). Acreage drives a multitude of activities that range from yield forecasting to member data tracking and budgeting. In response to this need for information, Land IQ was contracted by CAC to develop a comprehensive and accurate statewide spatial land use database of avocado groves and condition on a grove scale using remote sensing, statistical, and temporal analysis methods.





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FORECASTING METHODS

Land IQ integrated crop production knowledge with multiple satellite and aerial image resources to conduct remote sensing land use analysis at the grove scale. The mapping approach employs advanced spatial statistical analysis to determine prediction probabilities and inform QA/QC efforts. A rigorous QA/QC and photo interpretive analysis is employed to improve predictions on all lower confidence groves. In addition, these groves are also back-checked with the CAC industry representatives.

Individual avocado polygon boundaries (areas of homogeneous crop types representing true cropped area rather than legal parcel boundaries) are used so that each independent avocado polygon could be analyzed independently and assigned a condition class. The results represent the true cropped area and not legal or other less detailed boundaries that may be available elsewhere.

The condition legend was developed by CAC and is summarized in Table 1.

Table 1. Avocado Condition Description

Condition	Description
Producing	Groves that are greater than 4 years old.
Topped/Stumped	Groves that have been topped and/or stumped and not producing.
New/Young	Groves that are 4 years old or younger.
Abandoned	Groves previously identified as avocados that do not return to healthy growth statistics as represented by spectral data.



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Data Collection

Satellite data resources were used for the classification. Avocado boundaries from 2024 avocado mapping were used as a base layer for 2025. Multiple Landsat 8 images were used for the initial crop classification. Imagery from the Landsat 8 satellite is free of charge, available every 16 days, and used for temporal analysis throughout the growing season. Following analysis with Landsat 8 images, various sources of localized high resolution imagery were used to further evaluate groves for condition, age, and boundary updates. Data provided by Maxar is higher resolution but requires a paid subscription.





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Analysis

The Land IQ avocado mapping unit is a grove-scale layer focused on avocado polygons equal to or greater than 0.5 acres across the state. 19,653 delineated polygons were classified using multiple image sources and dates. The images are used as the base layer data, in which classification algorithms are applied for crop identification.

Classified groves with a lower confidence level are carefully reviewed by assessing image resources using photo interpretation methods. Results are also cross-validated with ancillary data sources such as the coinciding USDA Crop Data Layer, county agricultural surveys and county crop reports to assess and evaluate significant differences.

The geospatial database is attributed with avocado polygon size in acres, relevant county, and the appropriate condition category per the CAC legend (Table 1). Table 2 summarizes the database attributes associated with the final mapping product and their definitions.

Table 2. Definition of Database Fields

Avocado Polygon Attribute	Description
Acres	Area of the avocado polygon
County	Indicates the county that the centroid of each avocado polygon resides in
Crop 2025	Crop classification type for the year 2025
Modified By	Name of person who last modified the record
Date Data Refers To	Date the data refers to
Last Modified Date	Date record was last modified
Condition	Describes condition of the avocado polygon
Year Planted	Year the grove was planted or stumped
Comments	Any user-provided comments
Source	Original source of the boundary and attribute information



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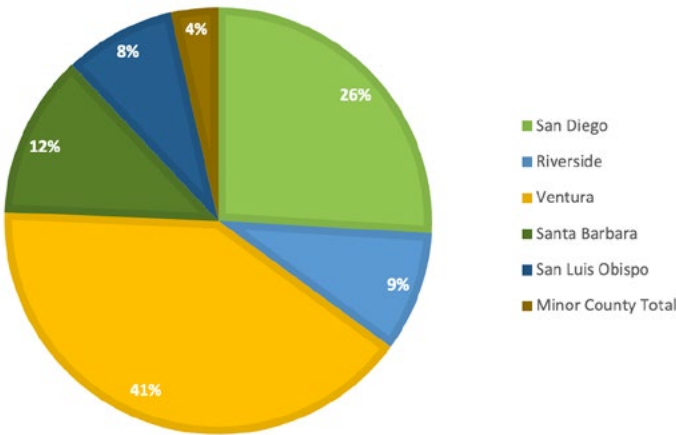
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The avocado acreage classification for the 2025 year totaled 19,653 avocado fields and 55,484 planted acres. The five main avocado growing counties are Ventura, San Diego, Santa Barbara, Riverside, and San Luis Obispo. Small acreages were also present in Orange, San Bernardino, Monterey, Tulare, Los Angeles, Fresno, Kern, Sacramento, Santa Cruz and Stanislaus Counties. Statewide avocado acreages by county are summarized in Table 3 and Figure 1.

Table 3. Summary of 2025 Statewide Avocado Acreage by County

Five County	Acres	Number of Fields	Minor County	Acres	Number of Fields
San Diego	14,396	6,119	Orange	893	376
Riverside	5,059	2,659	San Bernardino	612	193
Ventura	22,527	7,175	Monterey	353	71
Santa Barbara	6,844	2,019	Tulare	76	35
San Luis Obispo	4,675	975	Los Angeles	21	17
			Fresno	11	6
			Kern	3	1
			Sacramento	11	5
			Santa Cruz	2	1
			Stanislaus	0	1
Five County Total	53,500	18,947	Minor County Total	1,983	706
Overall Total: 55,484 Classified Acres/19,653 Fields					

Figure 1. Summary of 2025 Statewide Avocado Acreage by County





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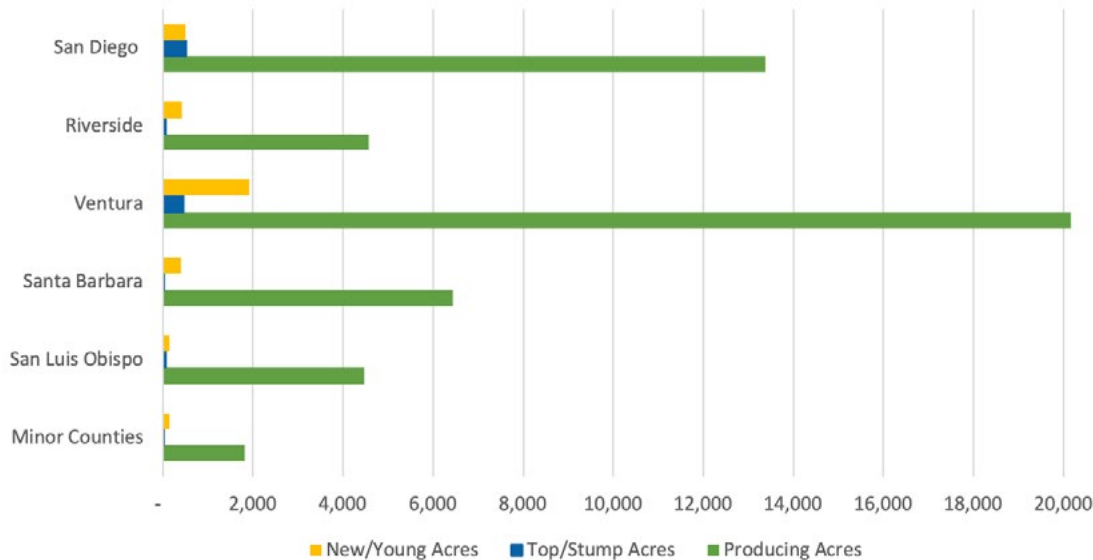
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Acreage by county and condition for the five main growing areas are summarized in Table 4 and Figures 2 and 3.

Table 4. Summary of 2025 Statewide Avocado Acreage by Condition

County	Producing Acres	Top/Stump Acres	New/Young Acres	Planted Acres
San Diego	13,381	522	493	14,396
Riverside	4,567	69	423	5,059
Ventura	20,163	453	1,911	22,527
Santa Barbara	6,427	26	392	6,844
San Luis Obispo	4,472	56	146	4,675
Five County Total	49,010	1,126	3,364	53,500
Minor Counties	1,820	15	149	1,983
Total	50,830	1,141	3,513	55,484

Figure 2. 2025 Avocado Acreage by Condition and County





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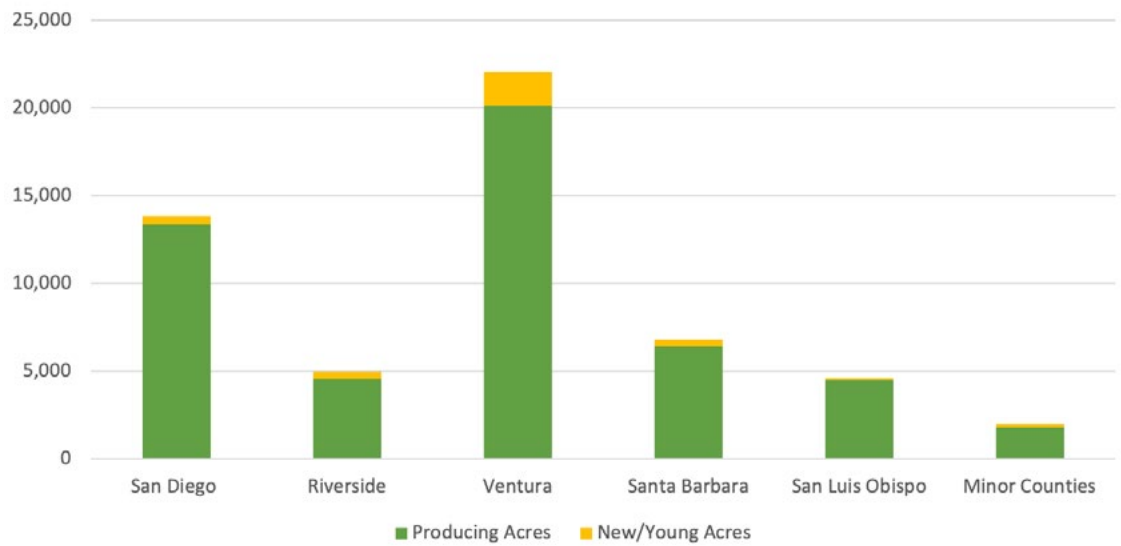
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Figure 3. 2025 Avocado Acreage of Producing and New/Young Acreage by County





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In addition to acreage and condition summaries, a spatial analysis was completed to determine acreage by other jurisdictional boundaries including zip code. Acreage by zip code is summarized in Table 5.

Table 5. Summary of 2025 Statewide Avocado Acreage by Zip Code

San Diego		Riverside		Ventura	
Zip Code	Producing Acres	Zip Code	Producing Acres	Zip Code	Producing Acres
91935	-	92028	25	90265	4
92003	630	92220	3	91320	1
92019	4	92503	94	91360	35
92021	280	92504	98	91361	5
92025	314	92506	3	93001	1,550
92026	880	92507	13	93003	208
92027	1,428	92508	19	93004	130
92028	3,586	92521	12	93010	276
92029	13	92530	4	93012	1,330
92040	5	92543	2	93013	39
92055	0	92544	13	93015	3,311
92057	265	92557	12	93021	2,324
92059	137	92562	150	93022	2
92061	1,327	92570	7	93023	944
92064	224	92583	9	93030	37
92065	186	92590	3,944	93033	258
92069	238	92592	86	93036	103
92078	55	92595	20	93040	537
92082	3,226	92881	17	93060	4,972
92084	582	92882	16	93065	122
		92883	21	93066	3,972



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Santa Barbara

Zip Code	Producing Acres
93013	2,075
93103	40
93105	294
93108	135
93109	12
93110	24
93111	559
93117	3,070
93436	60
93454	50
93455	109

San Luis Obispo

Zip Code	Producing Acres
93401	247
93402	16
93405	174
93420	624
93422	2
93428	230
93430	363
93442	601
93444	559
93452	22
93454	1,590
93465	44

Orange

Zip Code	Producing Acres
92602	595
92610	47
92618	66
92620	13
92624	0
92675	95
92694	0
92705	2
92782	7
92887	1

Stanislaus

Zip Code	Producing Acres
95363	0

San Bernardino

Zip Code	Producing Acres
91709	17
91784	7
92313	13
92346	6
92359	131
92373	76
92374	337
92407	4

Los Angeles

Zip Code	Producing Acres
90265	9
90631	5
91301	0
91711	1
91768	5

Monterey

Zip Code	Producing Acres
93907	3
93908	5
93960	281
95012	1
95076	7

Fresno

Zip Code	Producing Acres
93609	1
93654	2
93662	1
93706	0
93725	7

Sacramento

Zip Code	Producing Acres
95615	9
95690	3

Kern

Zip Code	Producing Acres
93215	3
93308	-

Santa Cruz

Zip Code	Producing Acres
95076	2

Tulare

Zip Code	Producing Acres
93221	2
93235	1
93244	3
93247	3
93257	15
93286	17
93292	9
93631	4
93647	6



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In 2025, a separate analysis was performed to determine the year the grove was either planted or stumped. Table 6 shows the acreage that was either planted or stumped within that year. Table 7 and Figure 4 show the age as a percentage of planted acreage.

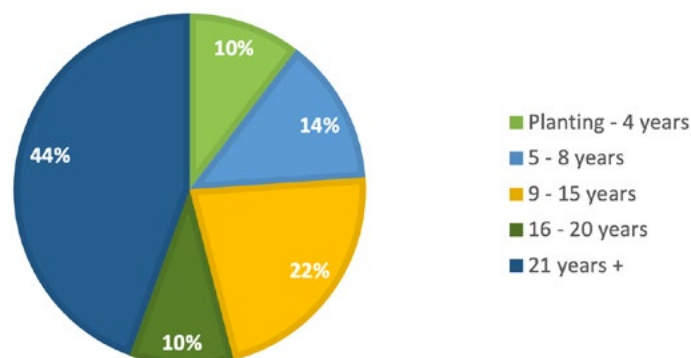
Table 6. 2025 Planted Avocado Acreage by Year Planted or Stumped

Year Planted	Planted Acres	Year Planted	Planted Acres	Year Planted	Planted Acres	Year Planted	Planted Acres
1984	13,175	1994	468	2004	2,058	2014	1,872
1985	5	1995	116	2005	1,187	2015	1,591
1986	42	1996	154	2006	983	2016	3,042
1987	122	1997	127	2007	1,395	2017	1,229
1988	17	1998	240	2008	885	2018	1,728
1989	30	1999	781	2009	1,137	2019	1,752
1990	504	2000	336	2010	913	2020	1,607
1991	174	2001	922	2011	1,038	2021	2,413
1992	153	2002	2,417	2012	1,097	2022	2,047
1993	136	2003	1,504	2013	2,365	2023	1,628
						2024	1,360
						2025	732

Table 7. 2025 Age as a Percentage of Planted Acreage

Age	Acreage	Percentage of Planted Acres
Planting - 4 years	5,766	10.4%
5 - 8 years	7,500	13.5%
9 - 15 years	12,236	22.1%
16 - 20 years	5,313	9.6%
21 years +	24,669	44.5%

Figure 4. Age as a Percentage of Planted Acres





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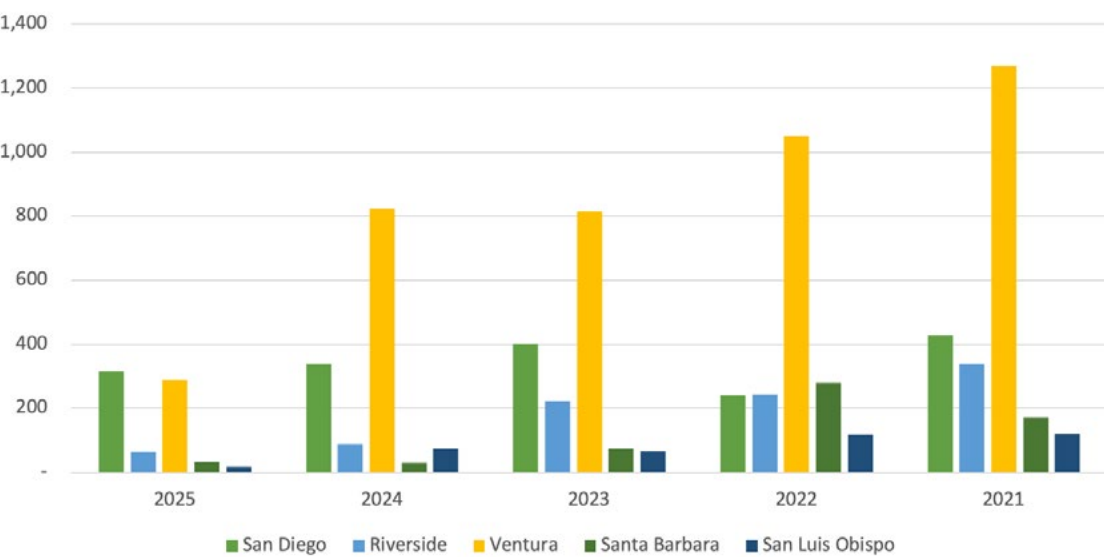
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Table 8 and Figure 5 show the amount of new plantings that have occurred over the last five years. The spatial analysis can only be performed once new groves have reached a certain canopy size. Thus, the acres reported for 2024 and 2025 are only those that have been visually confirmed through ground truthing efforts.

Table 8. New Acres by County and Planting Year

County	2025	2024	2023	2022	2021
San Diego	316	338	403	239	430
Riverside	64	89	223	242	338
Ventura	290	823	817	1,050	1,267
Santa Barbara	31	30	75	278	172
San Luis Obispo	16	73	66	117	119

Figure 5. Young Avocado Acreage by Planting Year





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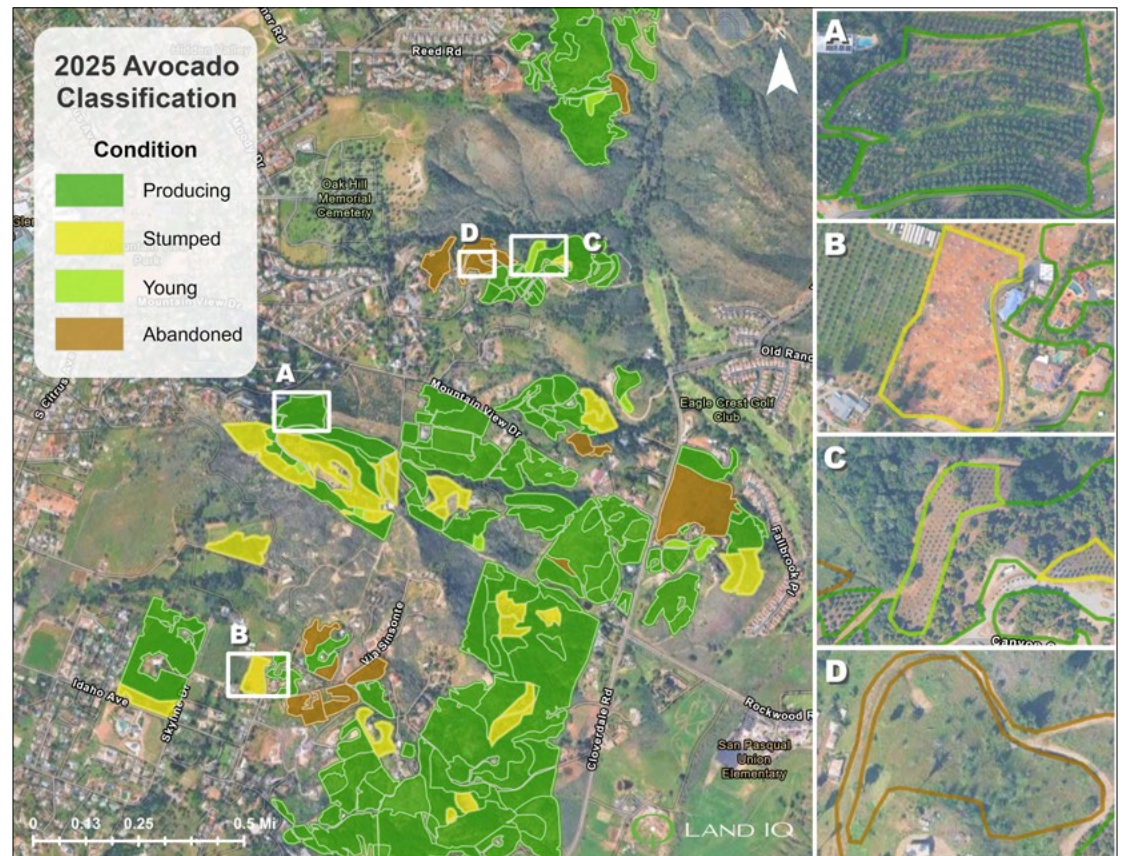
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A series of maps are provided to demonstrate the avocado classification results. Figures 6 through 11 show the avocado acreage and condition classification example as well as maps of the five CAC districts.

Figure 6. Example of 2025 Avocado Classification Conditions





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Figure 7. 2025 Avocado Planted Polygons in CAC District 1

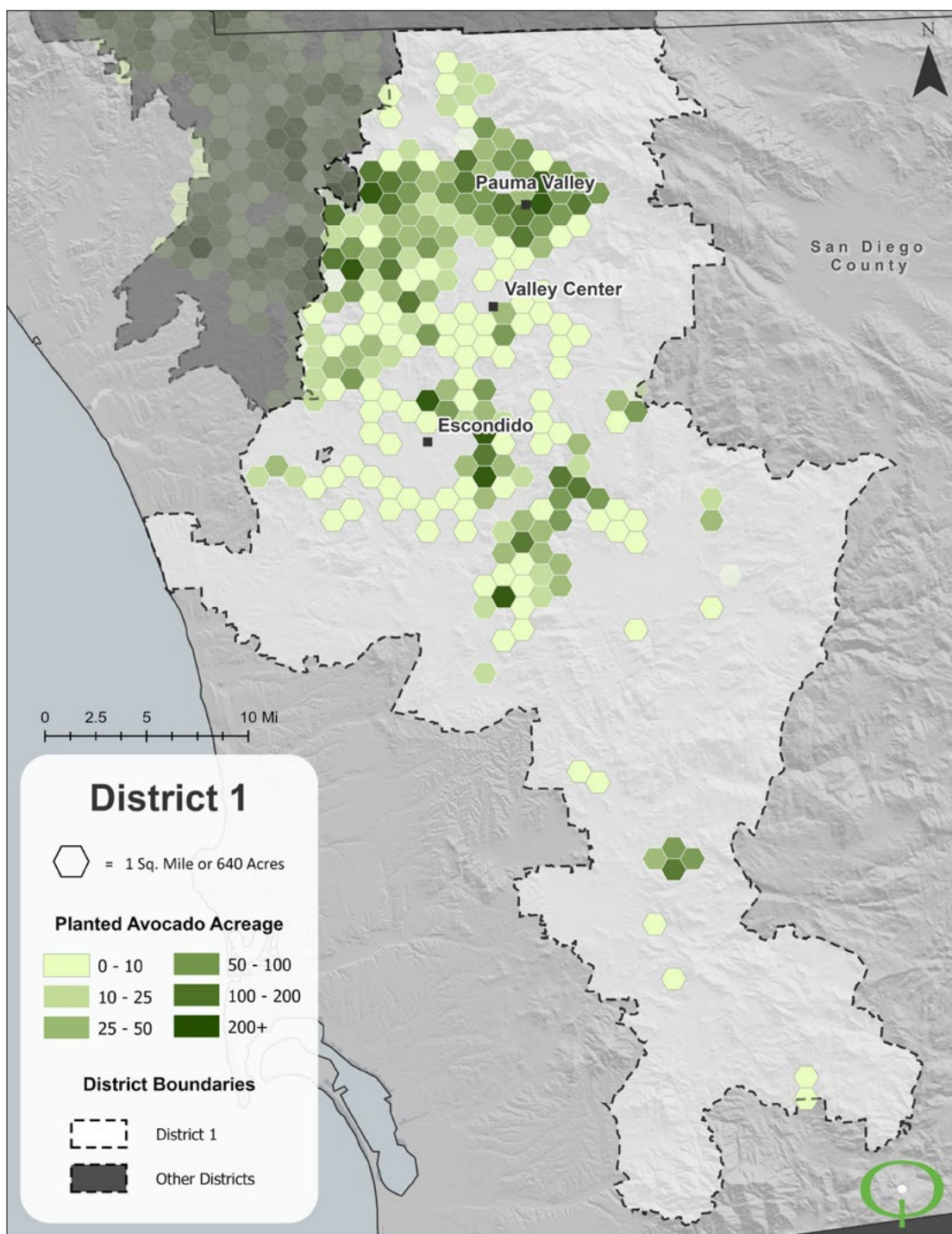
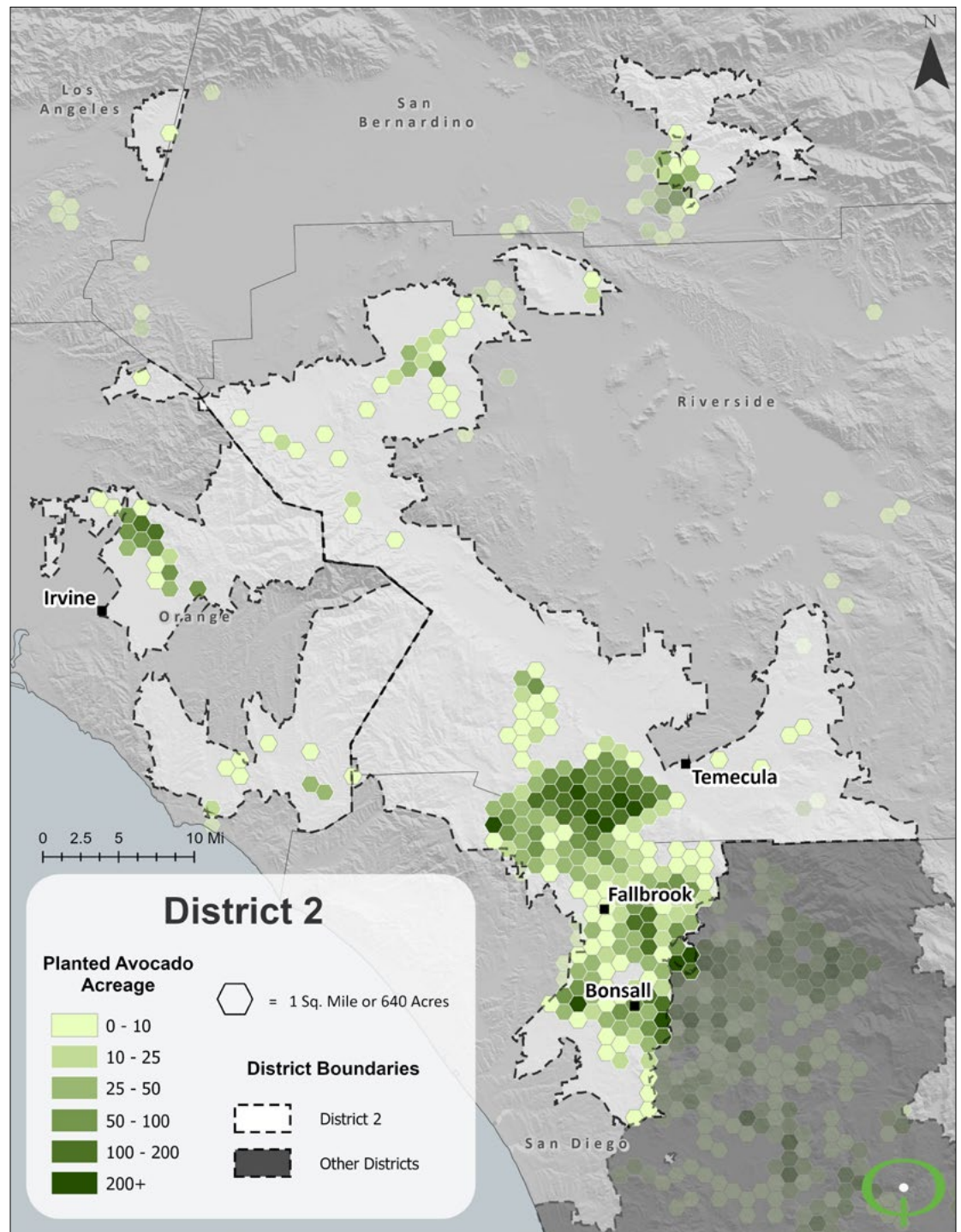




Figure 8. 2025 Avocado Planted Polygons in CAC District 2





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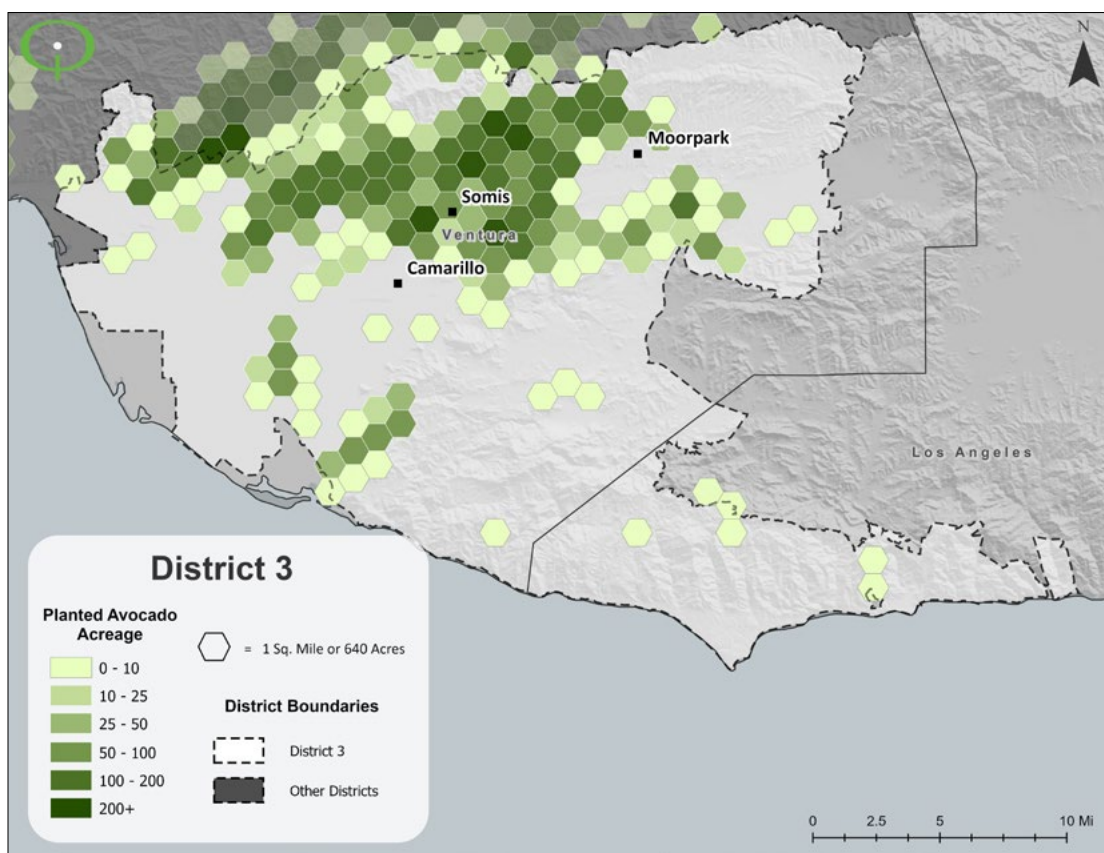
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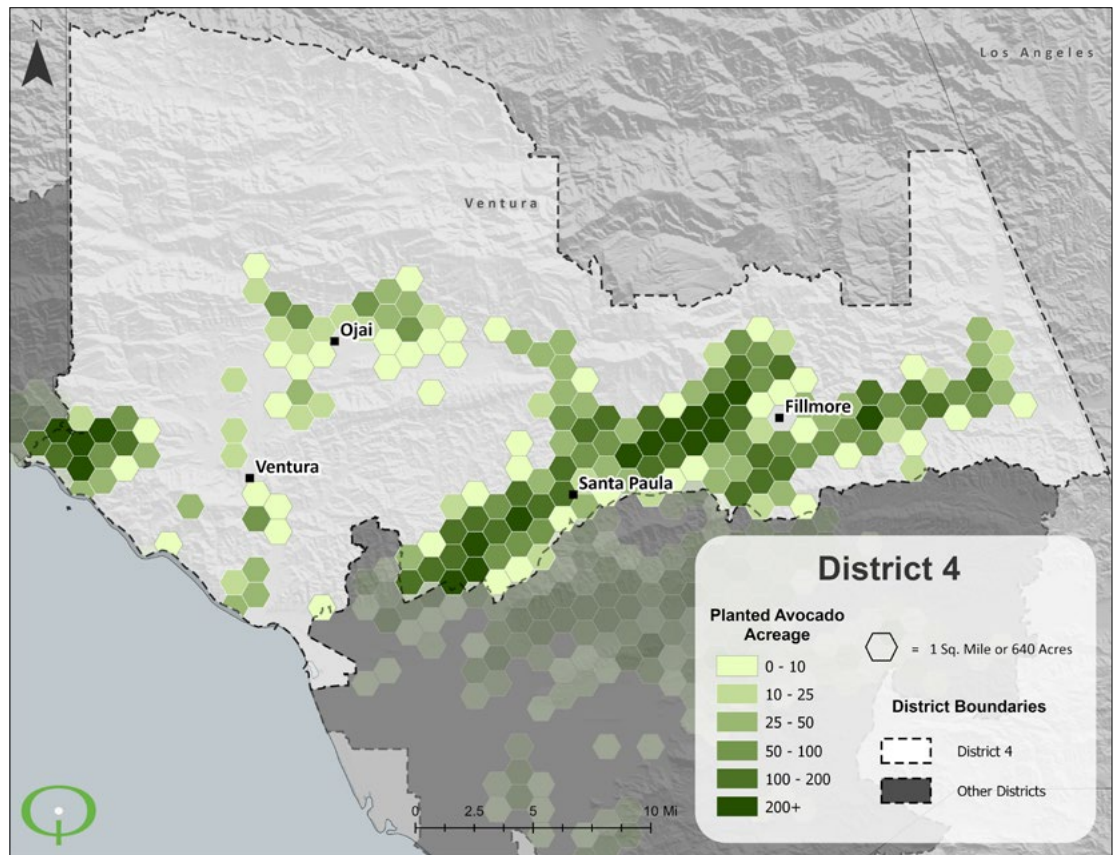
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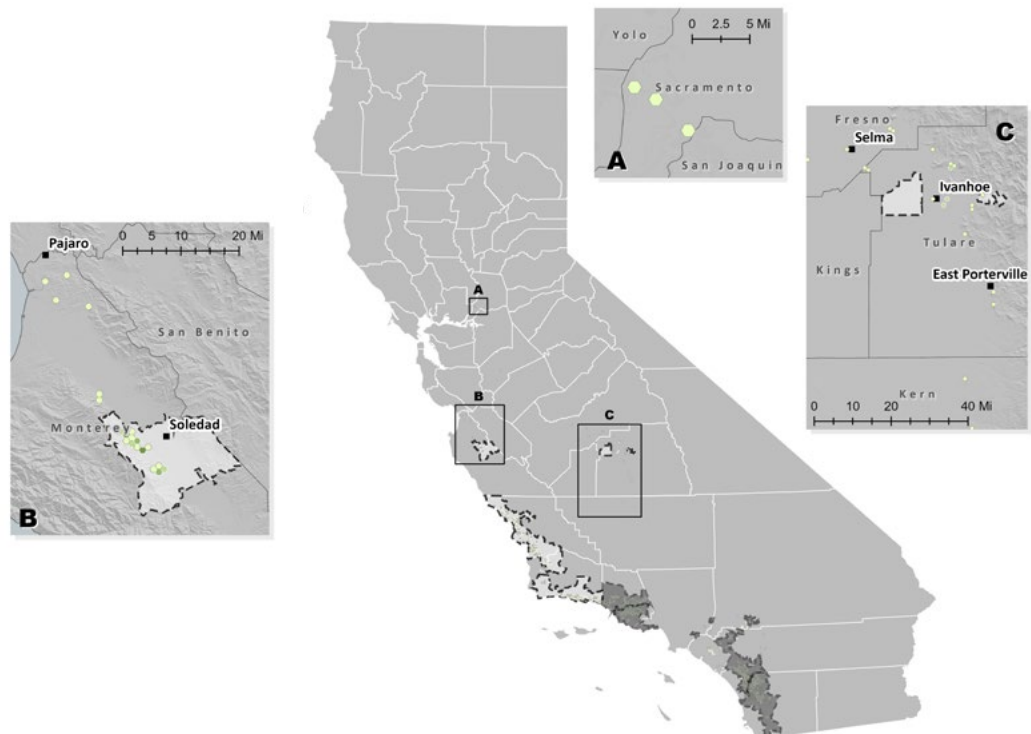
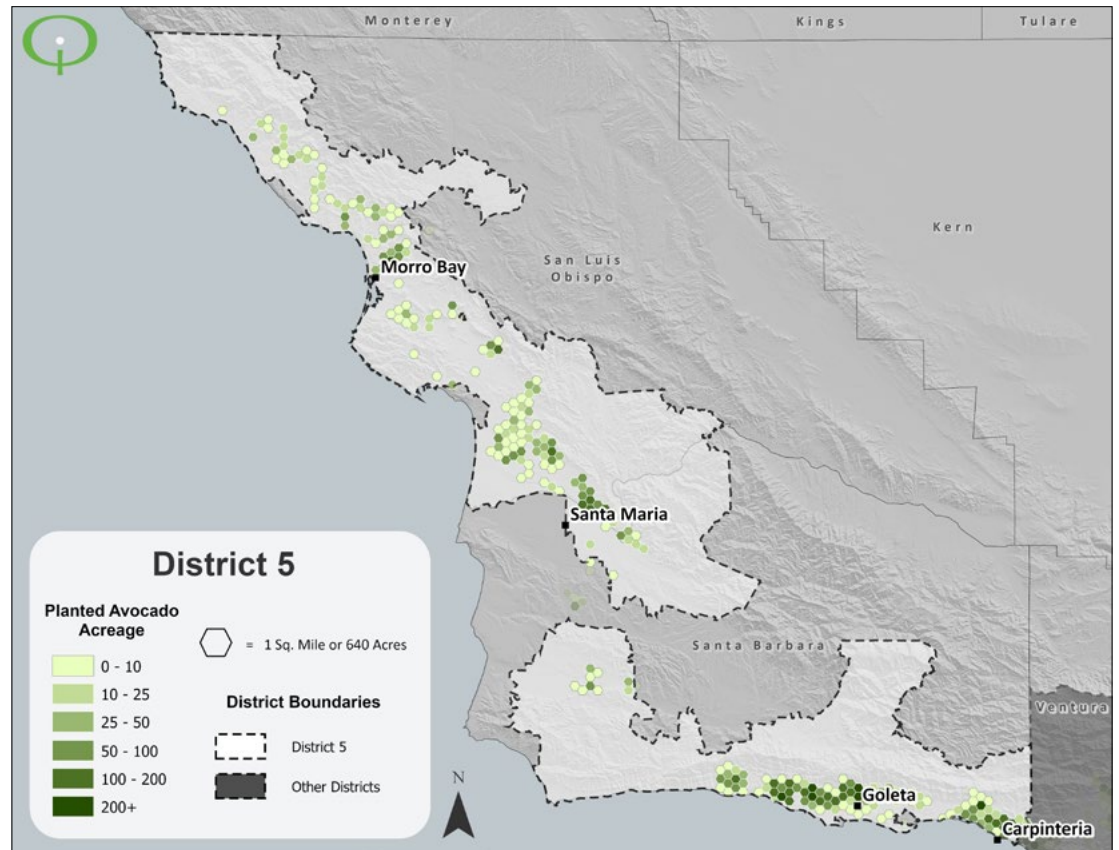
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Figure 11. 2025 Avocado Planted Polygons in CAC District 5





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DATA DELIVERABLES

Data delivered to CAC as a part of the 2025 avocado mapping effort are listed and described in Table 9.

Table 9. Summary of 2025 Avocado Acreage Deliverables

File Name	Description
CAC_2025_Avocados_Districts_Zips	Spatial file of statewide avocado acreage with condition, age, density, zipcode and CAC district delivered through web mapping application.
CAC_2025_Avocado_Acreage_Tables	Tabular data summarizing acreage by county, condition, age, density, zip code and CAC district.
2025_Statewide_Avocado_Mapping	Report

The net change in acreage from 2024 to 2025 is summarized in Table 10.

Table 10. Net Acreage Change from 2024 to 2025 by County

County	Producing	Young	Stumped	Abandoned	Total
San Diego	328	32	206	(34)	533
Riverside	264	(107)	(0)	48	205
Ventura	881	(118)	128	63	953
Santa Barbara	(10)	40	(9)	42	63
San Luis Obispo	77	28	22	22	149
Orange	(4)	(18)	2	6	(14)
San Bernardino	81	(7)	-	(1)	74
Monterey	5	(23)	-	-	(18)
Tulare	(40)	4	13	19	(4)
Los Angeles	0	1	-	(14)	(13)
Fresno	1	-	-	-	1
Kern	-	-	-	-	-
Sacramento	(0)	-	-	-	(0)
Santa Cruz	2	-	-	-	2
Stanislaus	0	-	-	-	0
Total	1,585	(166)	361	151	1,931



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The change in avocado classification from 2024 to 2025 is summarized in Table 11.

Table 11. Change in California Avocado Acreage Classification from 2024 to 2025

County	2024 Classification	2025 Classification			
		Producing	Top/Stump	New/Young	Abandon
San Diego	Producing	12,781	388	31	210
	Top/Stump	127	115	49	3
	New/Young	167	3	264	1
	Abandon	119	4	41	3,336
	Not Classified	189	12	107	98
Riverside	Producing	4,112	61	12	117
	Top/Stump	34	7	19	1
	New/Young	183	0	307	2
	Abandon	73	-	5	589
	Not Classified	165	1	81	55
Ventura	Producing	18,658	352	28	171
	Top/Stump	251	52	7	9
	New/Young	980	-	960	-
	Abandon	49	-	9	291
	Not Classified	225	49	905	4
Santa Barbara	Producing	6,226	18	6	28
	Top/Stump	24	6	2	1
	New/Young	85	1	236	-
	Abandon	2	-	-	273
	Not Classified	90	0	148	4
San Luis Obispo	Producing	4,351	31	6	17
	Top/Stump	13	19	1	-
	New/Young	63	3	46	-
	Abandon	1	-	-	4
	Not Classified	44	2	93	7



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