Welcome to the

San Luis Obispo County Virtual Open House

July 15, 2025

Meeting Logistics

1. Presentation format
2. Translation services
3. Presentation will be recorded and posted at https://www.pasobasin.org/
4. Q&A instructions:
   - Submit any questions in the Q&A during the presentation.
   - Staff will answer as many questions as we can at the end of the presentation.
   - If you have additional questions, please contact us at gw_groundwater@co.slo.ca.us.

Opening Remarks

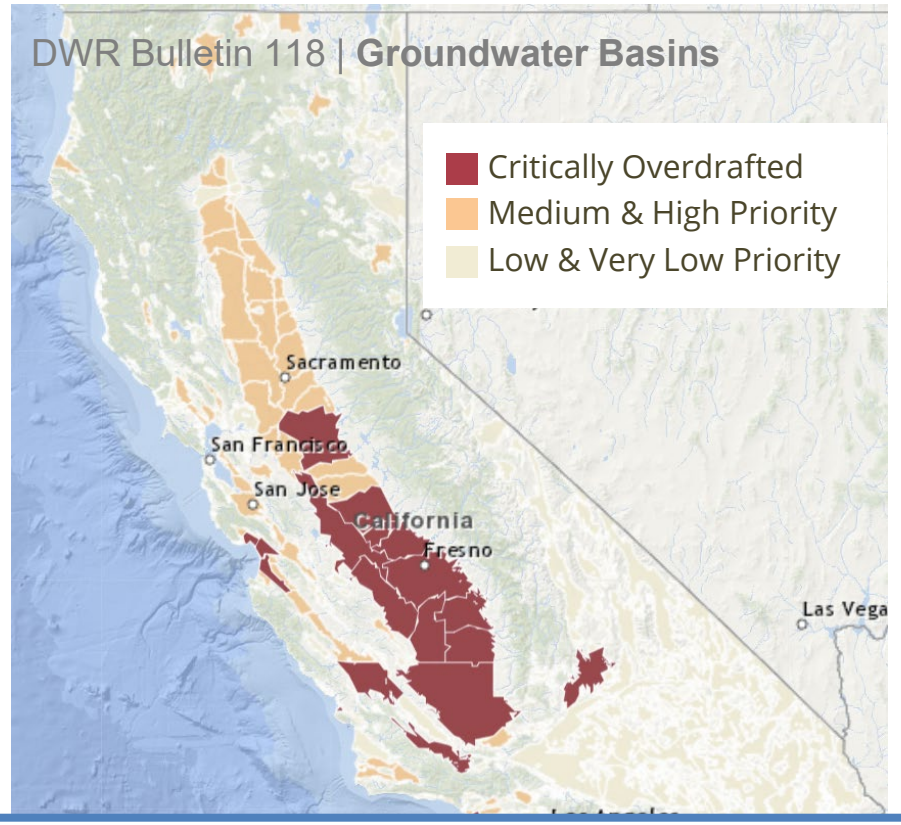
Bruce Gibson, Supervisor

Agenda

1. Background on Sustainable Groundwater Management Act (SGMA)
2. Background on Paso Basin Groundwater Sustainability Plan (GSP) and Groundwater Sustainability Agencies (GSAs)
3. Overview of the Draft Cost of Service Study
4. Overview of Agriculture Consumptive Groundwater Use (ET)
5. Questions & Answers
6. Adjourn

SGMA

- Passed by the Legislature in 2014 and requires groundwater basins to be sustainable by 2040
  - Each basin's definition of "sustainability" will be personalized to local conditions and hydrology.
  - Emphasizes local control as one of the guiding principles of groundwater management
- Requires formation of GSAs to develop and implement GSPs
  - GSPs must balance avoiding undesirable results with beneficial uses and users (i.e. domestic pumpers, agriculture users, groundwater-dependent ecosystem, etc.)
- The State reviews basin progress annually and at other periodic intervals



Two Pathways to Sustainability…

1 GSP Implementation Under ***DWR***

GSP Submitted to DWR → GSP Review by DWR → Local Implementation of the GSP (GSA funded) → *Reporting Requirements by DWR*: Submit Annual Report to DWR (Report on progress and GSP implementation) → Submit 5-year Evaluation to DWR (Evaluation of GSP implementation and SGMA compliance) → Sustainable by 2040

State Intervention Timeline

If Board determines state intervention is warranted

DWR Determination

Inadequate?

Not likely to achieve sustainability

Board Consideration

Board receipt and evaluation of DWR determination

Noticing

Public notice of hearing and contact cities and counties

At least 90 days in advance of hearing*

Board Probationary Hearing

Board decides whether probation is warranted

If Basin Designated Probationary

Board collects data and fees; local agencies work to fix plan

If Deficiencies are Not Cured

Board consideration of developing and adopting an interim plan

After at least 1 year*

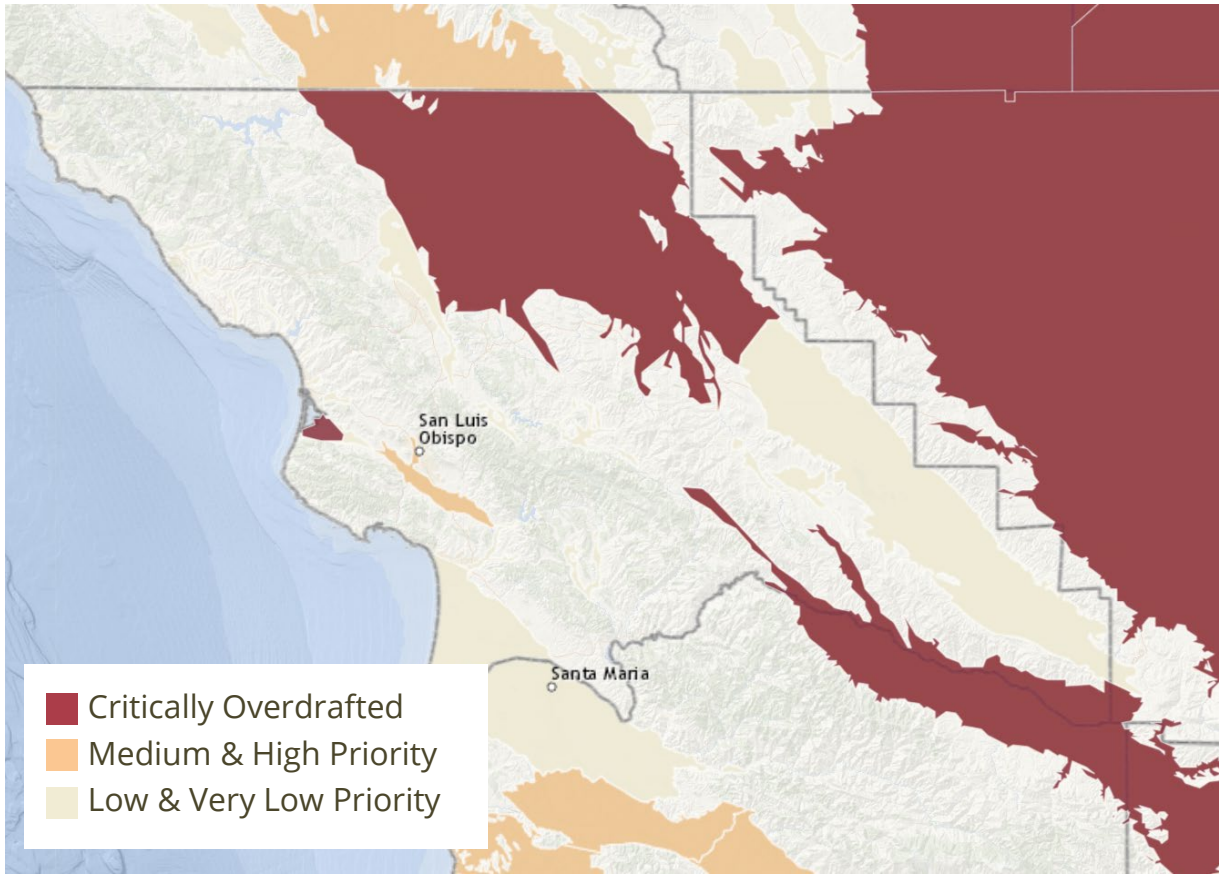
Board - DWR coordination

*Statutory minimum. Board has discretion.

Paso Basin

- **Basin Priority (DWR Bulletin 118)**: Critically Over-drafted
- **Annual Overdraft:** 13,500 acre-feet
- **Total Area:** 681 square miles
- **Land Area:** 436,240 acres

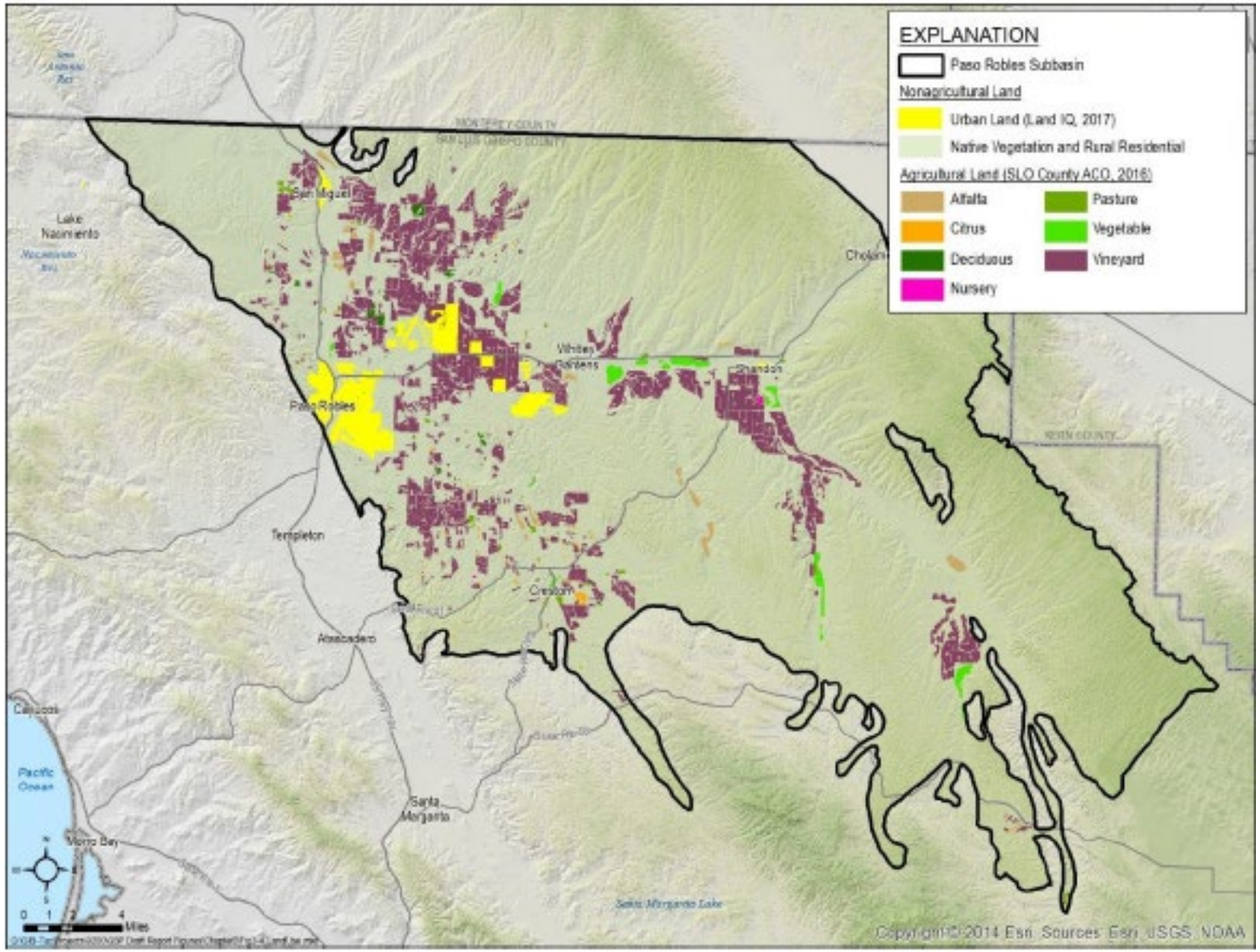
DWR Bulletin 118 | **Groundwater Basins**



Land Use

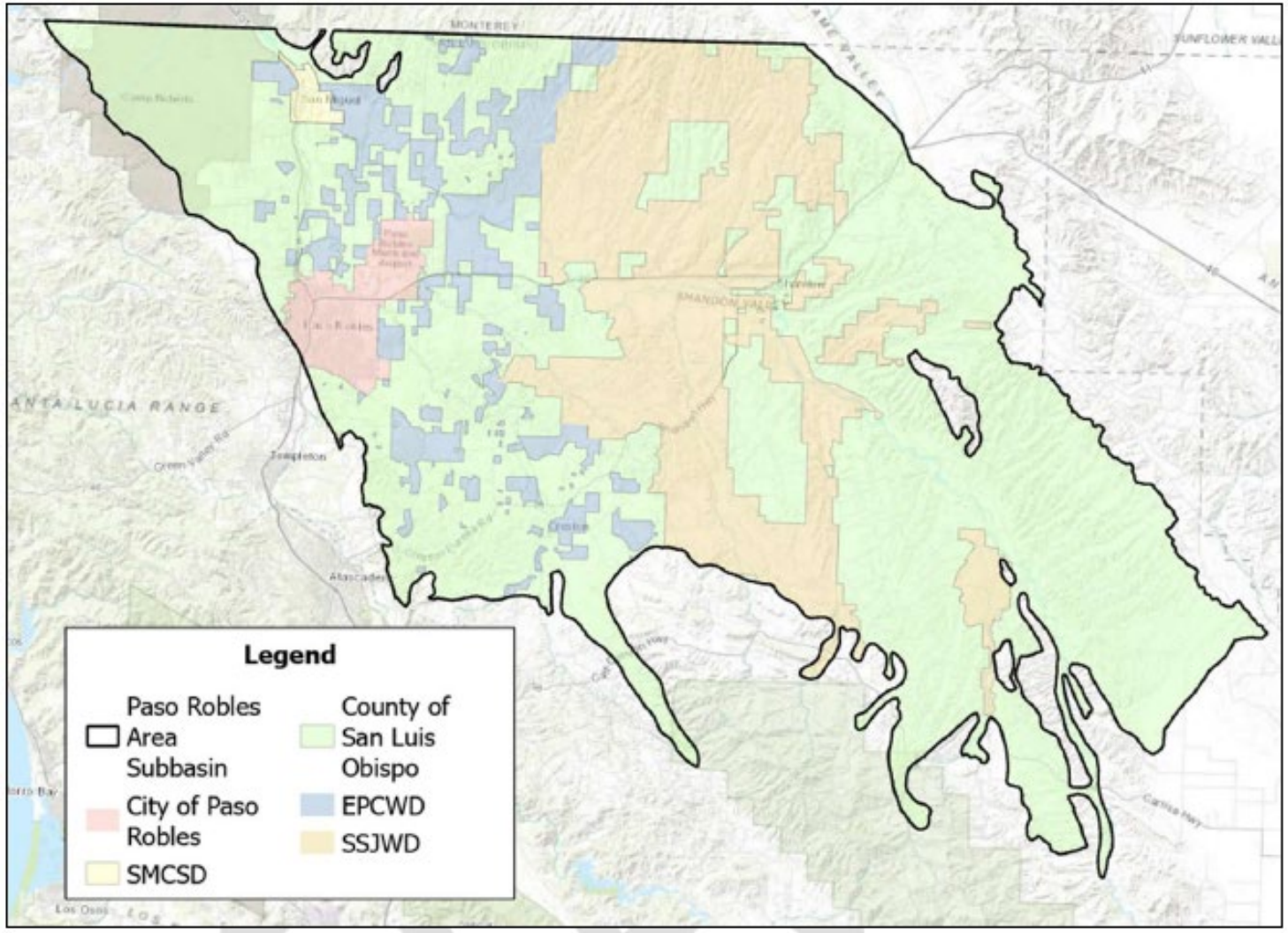
Land Use Category	Acres
Citrus	397
Deciduous	471
Alfalfa	1,590
Nursery	63
Pasture	667
Vegetable	1,691
Vineyard	35,349
Native vegetation	387,435
Urban	8,577
Total	436,240

Total Agriculture = 40,228 AC (9.2%)
Native Vegetation = 387,435 AC (88.8%)



Local Governance

- Five GSAs worked together under a Memorandum of Agreement (MOA) to develop a single GSP.
- The GSAs are:
  1. City of Paso Robles
  2. County of San Luis Obispo
  3. Estrella-El Pomar-Creston Water District
  4. San Miguel CSD
  5. Shandon-San Juan Water District



GSA / GSP Timeline

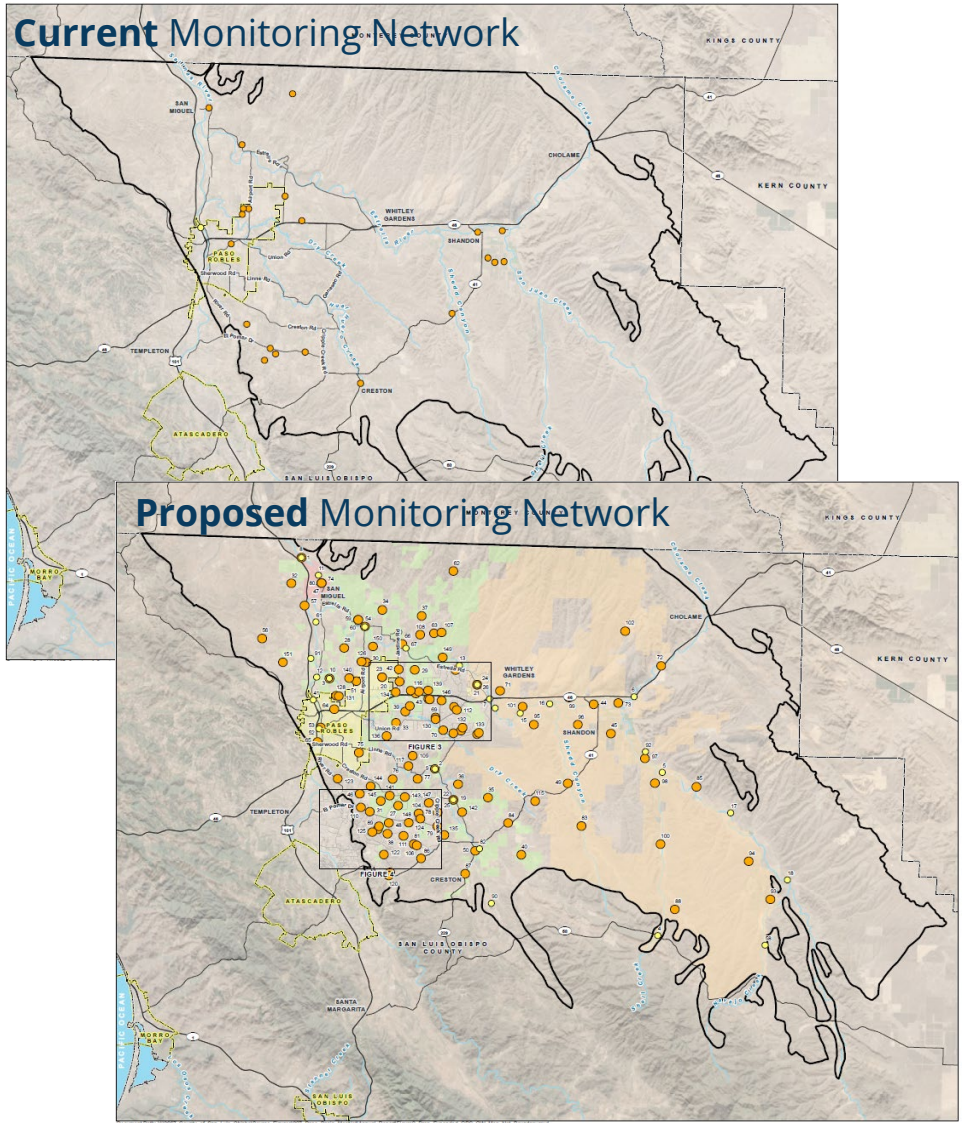
- **2014:** SGMA adopted by Legislature
- **2016-2017:** Local agencies became GSAs and entered into MOA
- **Jan 2020:** GSP submitted to DWR
- **Jan 2022:** DWR initial review of GSP “Incomplete”
- **Jul 2022:** Amended GSP submitted to DWR
- **Jun 2023:** GSP “approved” with suggested corrective changes
- **Jan 2025:** GSP 5-year Periodic Evaluation Submitted
- **Mar 2025:** Paso Robles Area Groundwater Authority (PRAGA) formed by joint exercise of powers agreement (replaced MOA)
- **Annually:** Reports on basin conditions and GSP implementation submitted to DWR

What Is “Sustainability” for Paso Robles?

- “The **sustainability goal** of this GSP is to sustainably manage the groundwater resources of the Paso Robles Subbasin for long-term community, financial, and environmental benefit of Subbasin users. This GSP outlines the approach to achieve a sustainable groundwater resource free of undesirable results within 20 years, while maintaining the unique cultural, community, and business aspects of the Subbasin.” (Amended GSP Executive Summary)
- Reduce the overdraft (i.e., over pumping) by 2040 through voluntary pumping reductions.
- If voluntary pumping reductions/land fallowing do not reduce the overdraft, mandatory pumping reductions may be required.

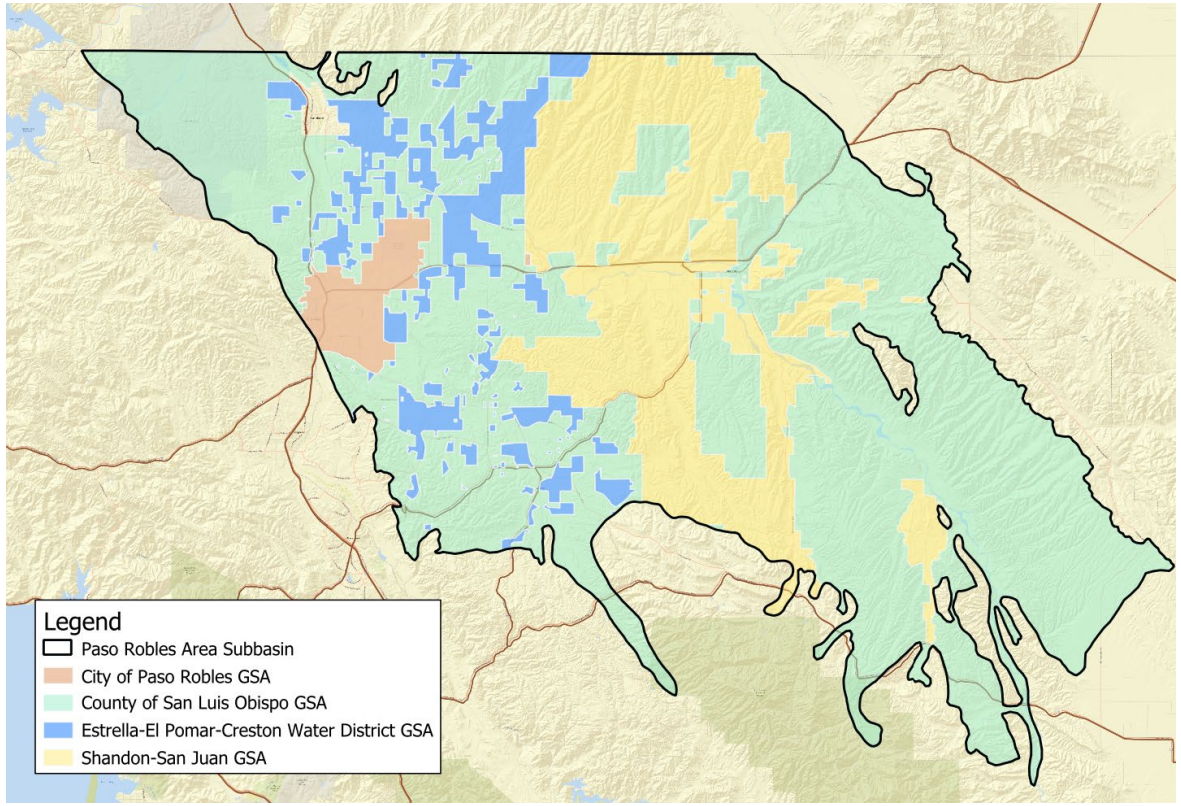
Current GSP Implementation

- Expanded the groundwater level monitoring network from 23 wells to ~130.
- Grant funding:
  - Expand the City's recycled water distribution project
  - Completed two supplemental water supply engineering/feasibility studies
  - Develop the draft cost of service study
  - Develop a domestic well mitigation plan
  - Develop a voluntary pumping reduction program
  - Interconnected surface water wells
  - Estimate monthly agriculture groundwater consumptive use
- Develop and submit annual reports to DWR.
- Develop and submit the GSP 2025 periodic evaluation to DWR.



PRAGA

- Formed in March 2025.
- Single entity to perform GSP and SGMA administrative and regulatory compliance actions, develop and implement certain management actions and establish a funding mechanism to support these activities
- Members:
  1. City of Paso Robles
  2. County of San Luis Obispo
  3. Estrella-El Pomar-Creston Water District
  4. Shandon San Juan Water District



Overview of the Draft Cost of Service Study

Ryan Aston, SCI Consulting

SCIConsultingGroup

CONFLUENCE ENGINEERING SOLUTIONS

GSI Water Solutions, Inc.

Purpose of the Draft Cost of Service Study

Provide a basis for a funding framework for local implementation of the GSP to achieve sustainability and avoid potential State Water Resources Control Board (SWRCB) intervention.

Who Will be Charged?

- **Being charged:**
    1. Irrigated agriculture
    2. Public water supply systems
    3. Commercial pumpers

- **Not being charged:** Rural/residential, de minimis extractors such as rural single-family households will ***not*** be charged directly (minimal costs charged to GSAs).

How Will Groundwater Pumpers be Charged?

- The proposed Groundwater Management Charge is based on the amount of groundwater *consumed* (“consumptive use”).
- Groundwater extracted that returns to the aquifer is not “consumed”.
- If a parcel consumes no groundwater, it will not be charged.

Draft Cost of Service Study Budget

Key
Primary Costs (all extractor categories)
Supplemental Non-De Minimis Costs (water system, agricultural, commercial extractors)
Supplemental Agricultural Costs (agricultural extractors)

PRAGA Funded Budget Components	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Average Costs
	Year 1	Year 2	Year 3	Year 4	Year 5	5 - Year Average
Program Administration						
SGMA-Required						
Annual Report	$110,000	$112,750	$115,569	$118,458	$121,419	$ 115,639
GSP Fifth Year Evaluation	$0	$0	$0	$0	$350,000	$ 70,000
GSP Amendment	$0	$0	$0	$100,000	$100,000	$ 40,000
Groundwater Model Use/Update	$0	$50,000	$50,000	$150,000	$100,000	$ 70,000
Basin Monitoring Operations & Maintenance	$150,000	$300,000	$307,500	$315,188	$323,067	$ 279,151
Data Management System (DMS)	$200,000	$15,000	$15,000	$15,000	$15,000	$ 52,000
ET Ag Water Usage Program (LandIQ)	$100,000	$100,000	$100,000	$100,000	$100,000	$ 100,000
SGMA-Required Subtotal	$560,000	$577,750	$588,069	$798,645	$1,109,487	$ 726,790
Administrative						
Executive Director & Support Staff	$234,000	$257,400	$263,835	$270,431	$277,192	$ 260,572
Legal Counsel	$82,500	$84,563	$86,677	$88,843	$91,065	$ 86,729
IT Support	$50,000	$51,250	$52,531	$53,845	$55,191	$ 52,563
Agency Administrative Costs	$50,000	$51,250	$52,531	$53,845	$55,191	$ 52,563
Grant Development	$60,000	$61,500	$63,038	$64,613	$66,229	$ 63,076
Technical Consultant(s) (Administrative Support)	$110,000	$112,750	$115,569	$118,458	$121,419	$ 115,639
Outreach Program	$75,000	$75,000	$25,000	$25,000	$25,000	$ 45,000
Website Creation and Management	$6,000	$6,000	$6,000	$6,000	$6,000	$ 6,000
GW Fee Billing & Collection	$50,000	$51,250	$52,531	$53,845	$55,191	$ 52,563
Adminstrative Subtotal	$717,500	$750,963	$717,712	$734,879	$752,476	$ 734,706
Program Administration Subtotal	$1,277,500	$1,328,713	$1,305,780	$1,533,525	$1,861,963	$ 1,461,496
Projects and Management Actions						
Regulatory Programs						
Domestic Well Impact Mitigation Program	$50,000	$51,250	$52,531	$53,845	$55,191	$ 52,563
Address Additional GSP Data Gaps	$75,000	$76,875	$78,797	$80,767	$82,786	$ 78,845
Well Verification & Registration Program	$25,000	$25,625	$26,266	$26,922	$27,595	$ 26,282
Demand Management Programs						
Demand Reduction / Water Supply Programs	$1,300,000	$1,365,000	$1,433,250	$1,504,913	$1,580,158	$ 1,436,664
Reserve Funds						
Prudent Reserve	$200,000	$205,000	$210,125	$215,378	$220,763	$ 210,253
Projects and Management Actions Subtotal	$1,650,000	$1,723,750	$1,800,969	$1,881,824	$1,966,493	$ 1,804,607
Total	**$2,927,500**	**$3,052,463**	**$3,106,749**	**$3,415,349**	**$3,828,456**	**$ 3,266,103**
Primary Costs	**$1,327,500**	**$1,379,963**	**$1,358,312**	**$1,587,369**	**$1,917,154**	**$ 1,514,059**
Supplemental Non-De Minimis Costs	**$ 100,000**	**$ 102,500**	**$ 105,063**	**$ 107,689**	**$ 110,381**	**$ 105,127**
Supplemental Agricultural Costs	**$1,500,000**	**$1,570,000**	**$1,643,375**	**$1,720,291**	**$1,800,921**	**$ 1,646,917**

COUNTY of SAN LUIS OBISPO

Draft Cost of Service Study Rates

- **Primary rates apply to all extractors**. This includes rural domestic extractors – but they will be charged to Member Agency GSAs through contributions or in-kind services – *not* to rural domestic extractors themselves.
- **Non-De Minimis Rates** apply to all non-de minimis extractors other than irrigated agricultural (**commercial** and **water system extractors**). These are calculated by adding the Supplemental Non-De Minimis Rates to the Primary Rates.
- **Agricultural Rates** apply to **irrigated agricultural extractors**. These are calculated by adding the Supplemental Agricultural Rates to the Non-De Minimis Rates.

COUNTY of SAN LUIS OBISPO

Primary Rates					
Fiscal Year	**FY 25-26**	**FY 26-27**	**FY 27-28**	**FY 28-29**	**FY 29-30**
Average Annual Primary Costs	$1,514,059	$1,514,059	$1,514,059	$1,514,059	$1,514,059
Total Consumptive Groundwater Use	56,574	53,834	51,094	48,355	45,615
Primary Rate (Per AF)[1]	**$26.76**	**$28.12**	**$29.63**	**$31.31**	**$33.19**
Supplemental Non-De Minimis Rates					
Fiscal Year	**FY 25-26**	**FY 26-27**	**FY 27-28**	**FY 28-29**	**FY 29-30**
Average Annual Supplemental Non-De Minimis Costs	$105,127	$105,127	$105,127	$105,127	$105,127
Non-De Minimis Groundwater Use (AF)	55,577	52,837	50,097	47,357	44,618
Supplemental Non-De Minimis Rates (Per AF)	**$1.89**	**$1.99**	**$2.10**	**$2.22**	**$2.36**
Total Non-De Minimis Rate (Per AF)[2]	**$28.65**	**$30.11**	**$31.73**	**$33.53**	**$35.55**
Supplemental Agricultural Rates					
Fiscal Year	**FY 25-26**	**FY 26-27**	**FY 27-28**	**FY 28-29**	**FY 29-30**
Average Annual Supplemental Agricultural Costs	$1,646,917	$1,646,917	$1,646,917	$1,646,917	$1,646,917
Agricultural Groundwater Use (AF)	54,796	52,056	49,316	46,576	43,836
Supplemental Agricultural Rate (Per AF)	$30.06	$31.64	$33.40	$35.36	$37.57
Total Agricultural Rate (Per AF)[3]	**$58.71**	**$61.75**	**$65.13**	**$68.89**	**$73.12**

Ag Consumptive Groundwater Use Estimates Methodology

Joel Kimmelshue, Land IQ

- Methodology
  - Amount consumed by extractor and not returned to the aquifer (Consumptive use not extracted use)
  - Measured on field-by-field basis using satellite data

Total Consumed Water (ET) = ET from **Applied Groundwater**
+ ET from **Applied Surface Water**
+ ET from **Precipitation (Effective Precipitation)**

Evapotranspiration

- Evapotranspiration (ET) is the process by which water is both transferred from land to the atmosphere by evaporation and from plants to the atmosphere by transpiration.
  - Measuring this process can produce the total amount of consumed water that takes place on a parcel of agricultural land.

Applied Versus Consumed Water

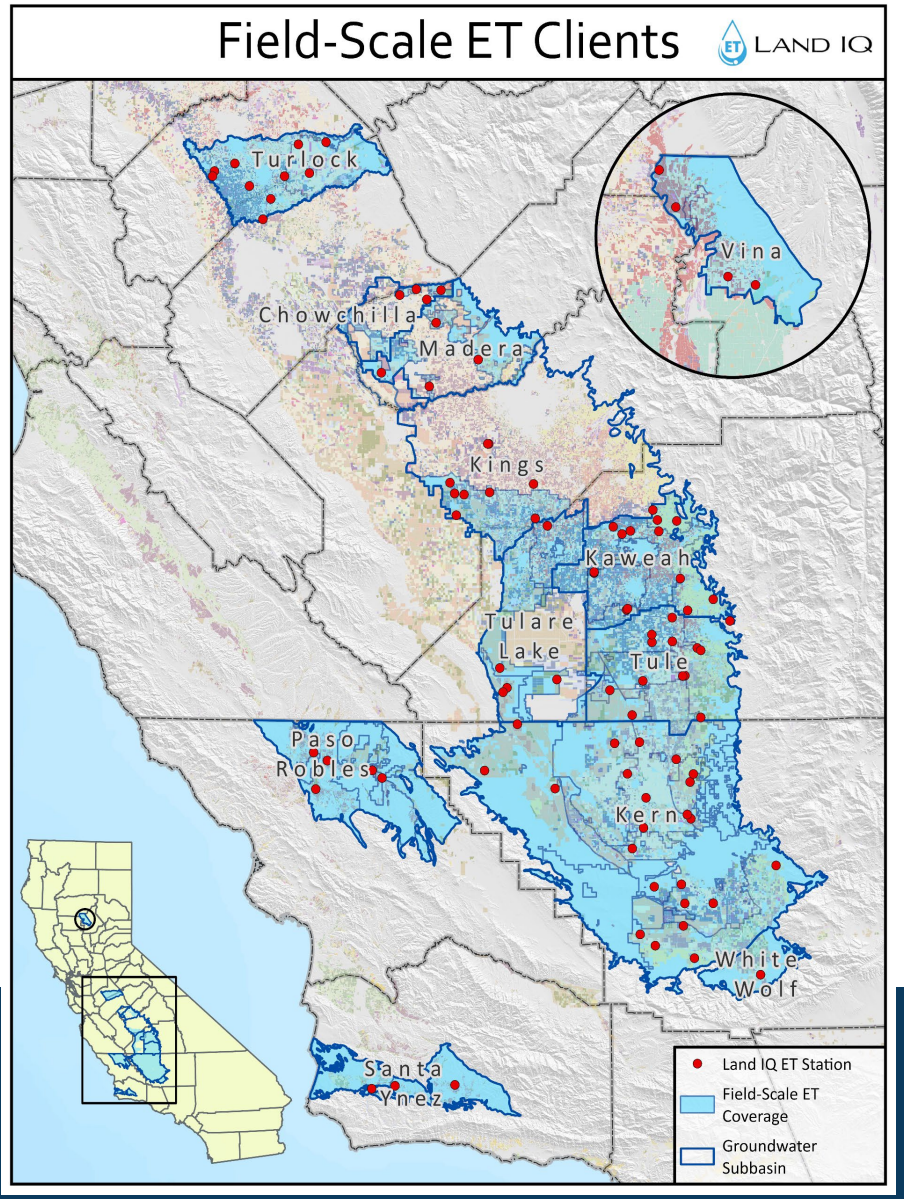
- Grower experience: “Just tell me how much water I use”
- Applied Water
  - Water that is pumped or diverted
  - Measured via meters or other flow device
- Consumed Water
  - Water that is evapotranspired
  - Measured via knowledge of the crop type and crop coefficients, or
  - Measured via remotely sensed methods
- Applied ≠ Consumed
- Applied + Precipitation > Consumed

Ground Truthing for Calibration – Why?

- Defensible
- Independent validation
- Calibration to actual conditions
- Avoiding interpolation during lengthy cloud and smoke cover
- Understanding specific field conditions and management
- Allows for crop-specific modeling
- Stations used are a combination of eddy covariance and surface renewal approaches developed through collaboration with DWR (Delta) and UC Davis researchers
- A “ground up” approach

Ground Truthing for Calibration – Where?

- Installation of 95 stations (currently)
- Including multiple rain gauges for determination of field-by-field precipitation
- 3.8 million acres total footprint
- 2.4 million acres cropped footprint (25% of CA)
- Approximately 35 GSAs/Districts
- For the purpose of understanding crop and land specific and repeated measurements
- Collaboration with UC Davis, UC Cooperative Extension and USDA Agricultural Research Service
- Necessary for more accurate estimation of consumed water in any:
  - Grower use, collaboration, and outreach
  - Water allocation programs
  - fee-based establishment
  - Demand management programs

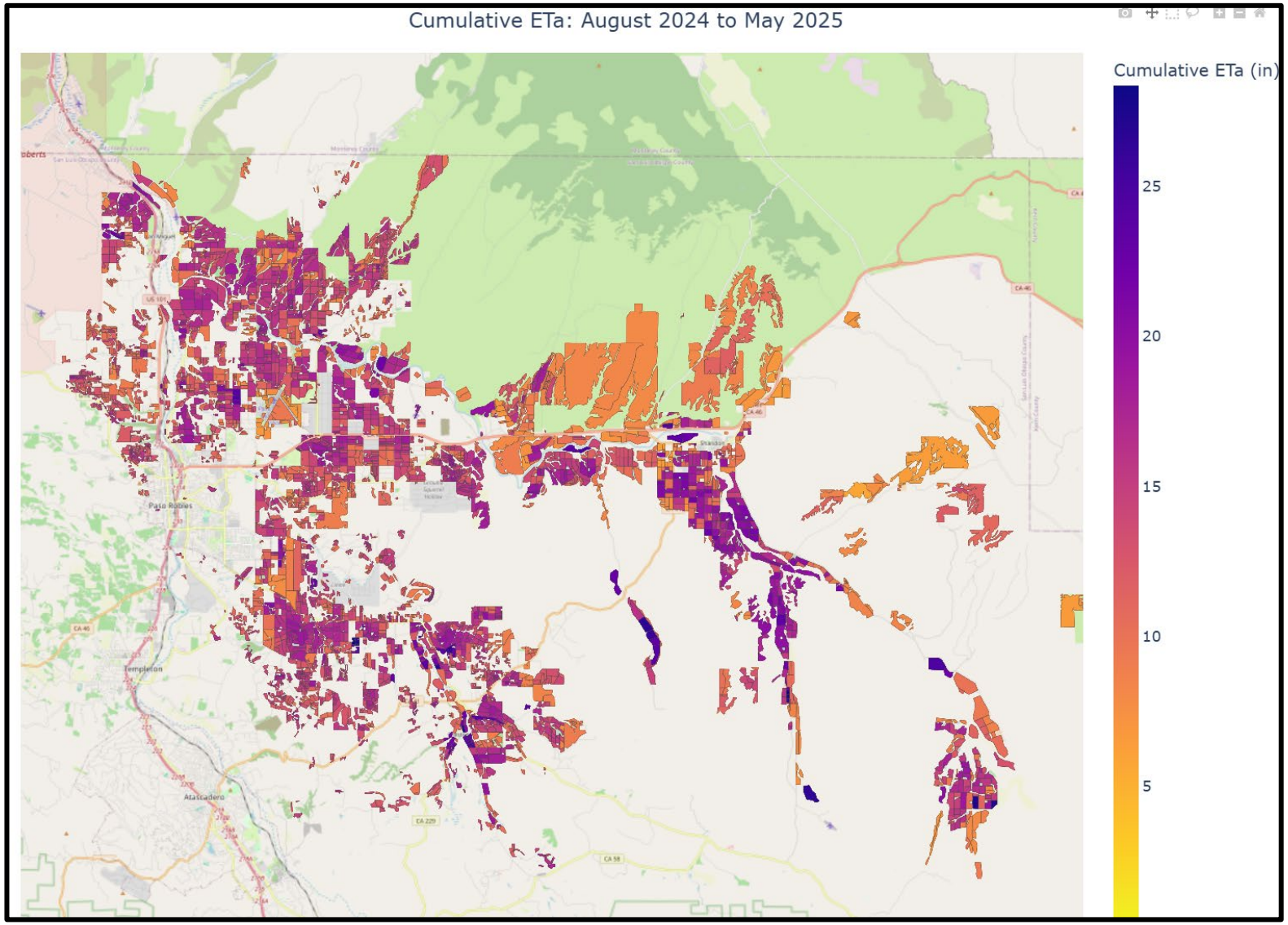


COUNTY OF SAN LUIS OBISPO

Virtual Open House
July 15, 2025

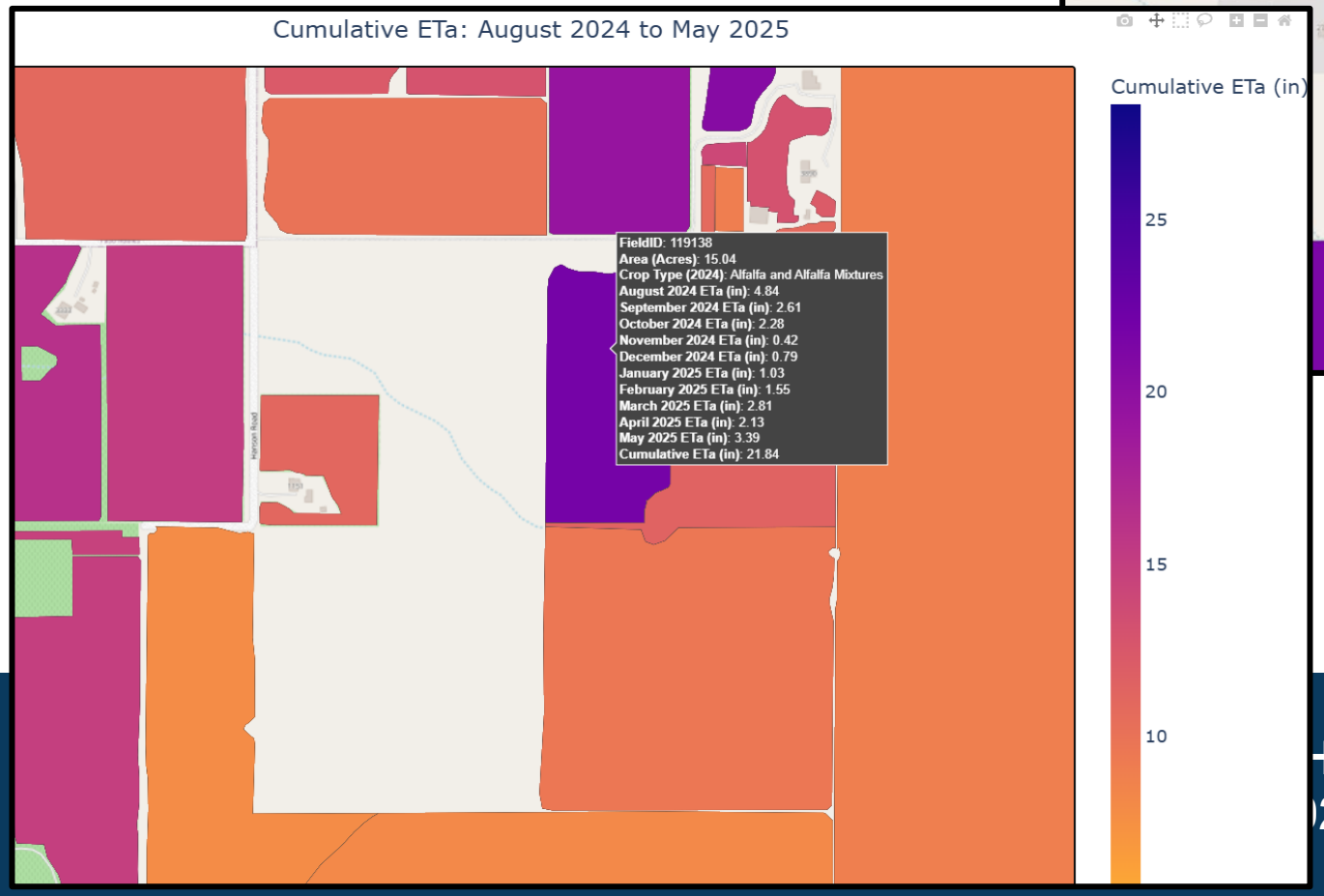
ET for 10 Months

- Field by field ET
- Hand digitized crop boundaries
- Not parcel boundaries
- Rolled up to the parcel
- Crop type included
- Monthly ET reported for all fields (irrigated and non-irrigated).
- Considers “managed” fields



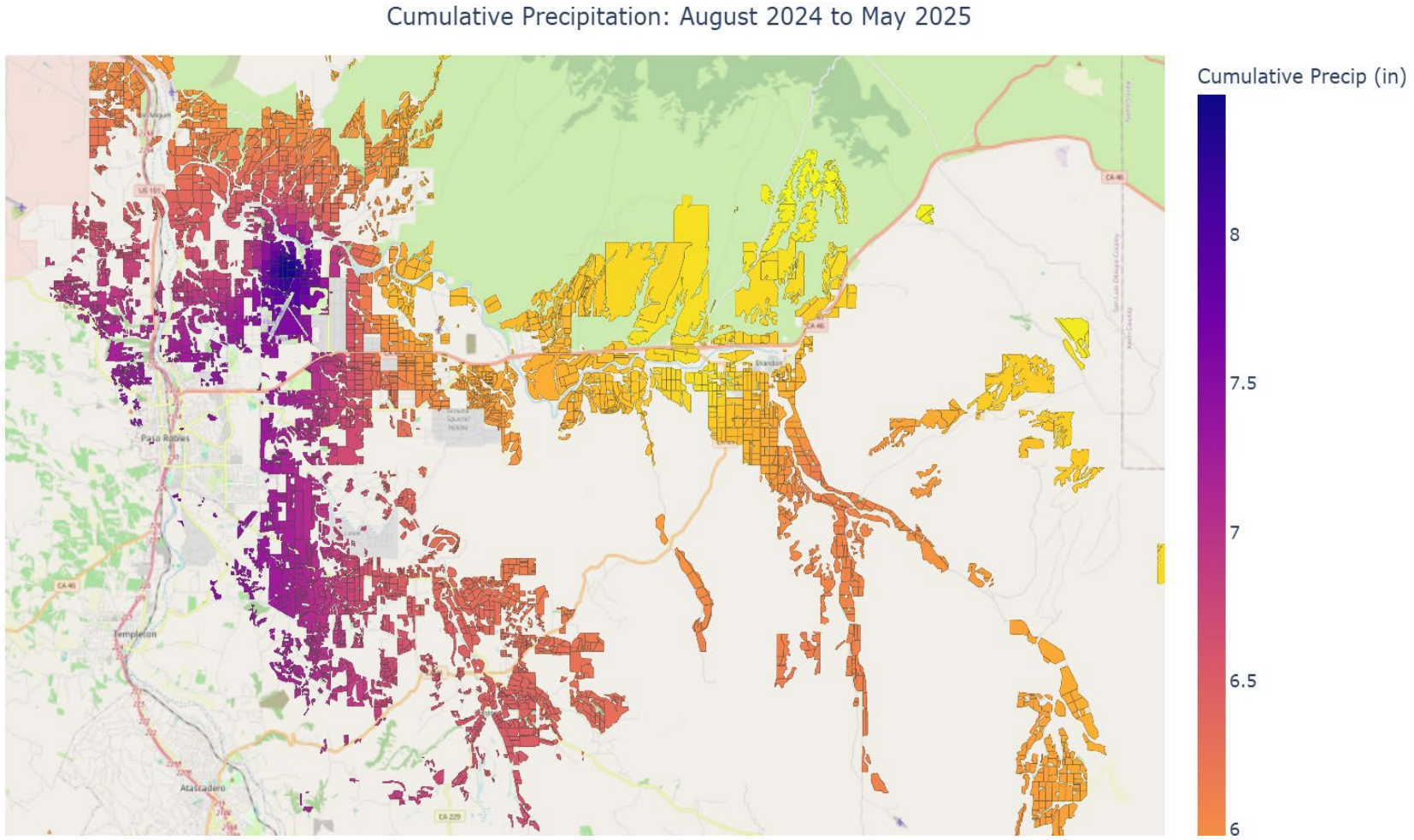
ET for 10 Months

- Examples



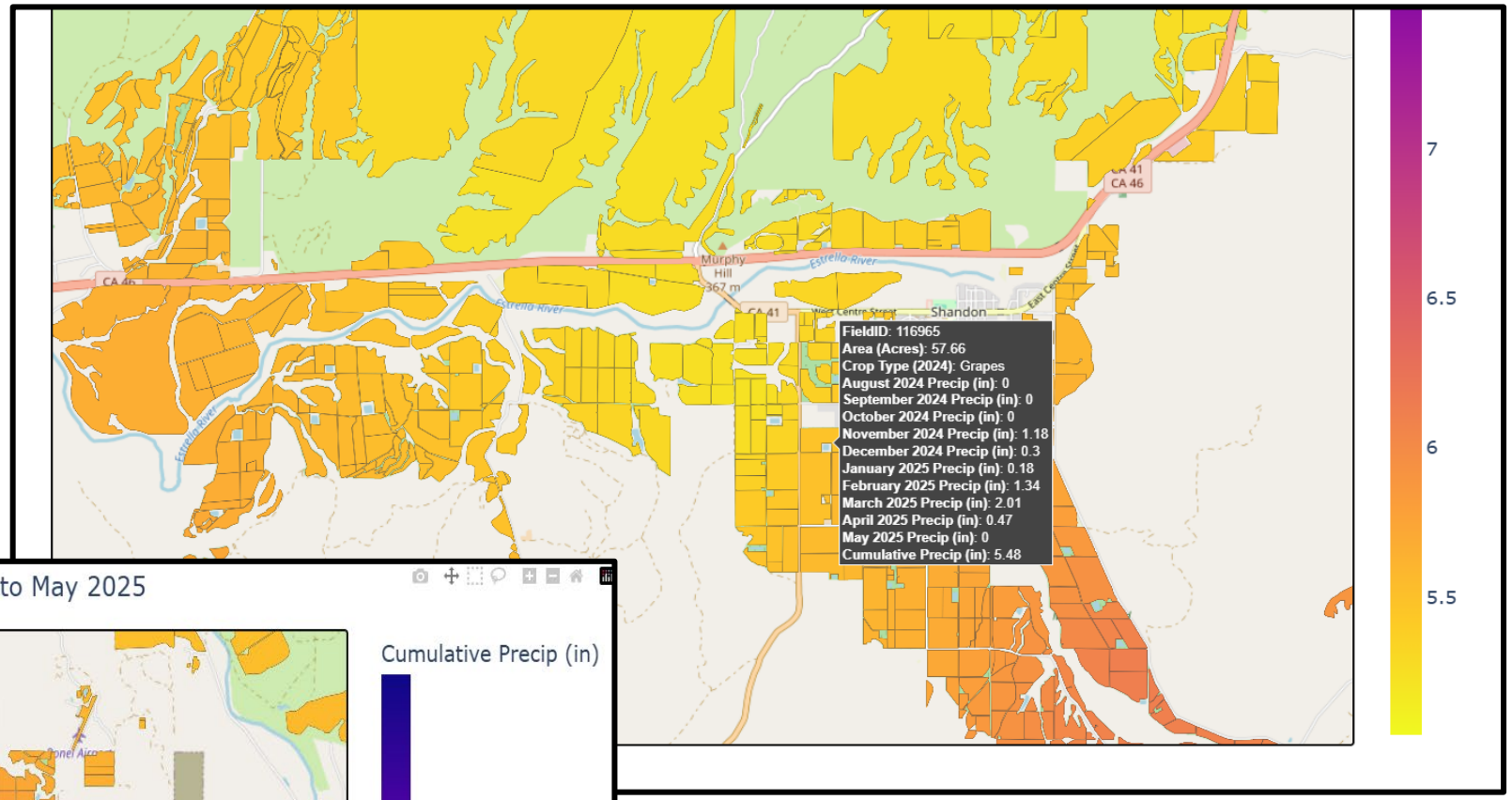
Precipitation for 10 Months

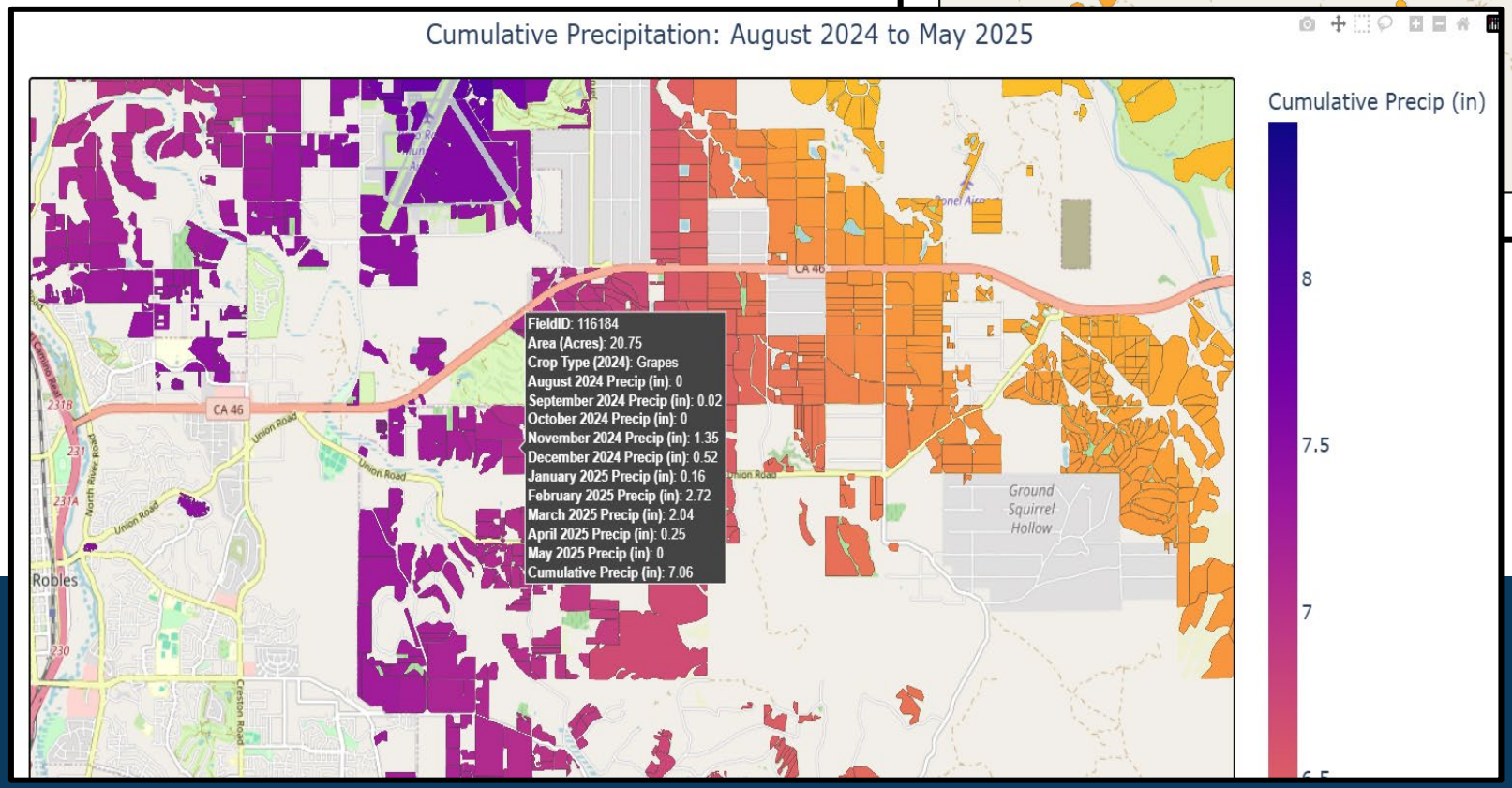
- Field by field Precipitation
- Developed from a network of 20 rain gauges across the subbasin
- Hand digitized crop boundaries
- Monthly precipitation reported for all fields (irrigated and non-irrigated).
- Considers all “managed” fields



Precipitation for 10 Months

- Examples





Take Aways From Open Houses

- Land IQ provides BOTH Total ET and Total Precipitation
- ET is provided for all “managed” fields – irrigated and non-irrigated
- Subbasin policy is to subtract Total Precipitation from Total ET
- Results in a very conservative estimate of applied water ET
- All results are directly measured and ground truthed
- Land IQ will work with any grower that has questions related to their ET

Questions & Answers

If you have any additional questions, please email us at:
gw_groundwater@co.slo.ca.us.

Thank You!

For more information,
visit https://www.pasobasin.org/