

# GROUNDWATER AND SGMA 101

Stakeholder Workshop for the SLO Basin  
Groundwater Sustainability Plan

AUGUST 14, 2019 • 6PM-8PM

PREPARED BY WATER SYSTEMS CONSULTING



SECURING  
SUSTAINABLE  
**GROUNDWATER**  
*in the SLO Basin*



# PRESENTERS



**MICHAEL CRUIKSHANK, PG, CHG**

Hydrogeologist, Water Systems Consulting



**DAVID O'ROURKE, PG, CHG**

Hydrogeologist, GSI Water Solutions



**TIFFANY MEYER**

Strategic Communications,  
Water Systems Consulting

# PANELISTS



**DICK TZOU, PE**

Water Resources Engineer,  
County of San Luis Obispo



**MYCHAL BOERMAN**

Deputy Director of Water,  
City of San Luis Obispo

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# **WORKSHOP AGENDA**

**6:00pm-8:00pm**

1. **SGMA 101**
2. **Groundwater 101**
3. **The SLO Basin**
4. **The GSP Process**
5. **Stakeholder Participation**

# **KEY TERMS:**

**Use Your Cheat Sheet**



# **SGMA 101**

Michael Cruikshank

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# 5 REASONS GROUNDWATER IS IMPORTANT TO CALIFORNIANS

1. Groundwater provides 30-60% of California's water — 83% in the Central Coast area of SLO County.
2. Some California communities rely entirely on groundwater for drinking water.
3. Groundwater is a critical resource for many farmers throughout the state
4. Groundwater is a finite resource.
5. It takes a long time to replenish over pumped aquifers.

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## WHY SGMA?

To ensure the sustainable use of California's groundwater and a water secure future for the State, the **Sustainable Groundwater Management Act (SGMA)** was signed into law in 2014.

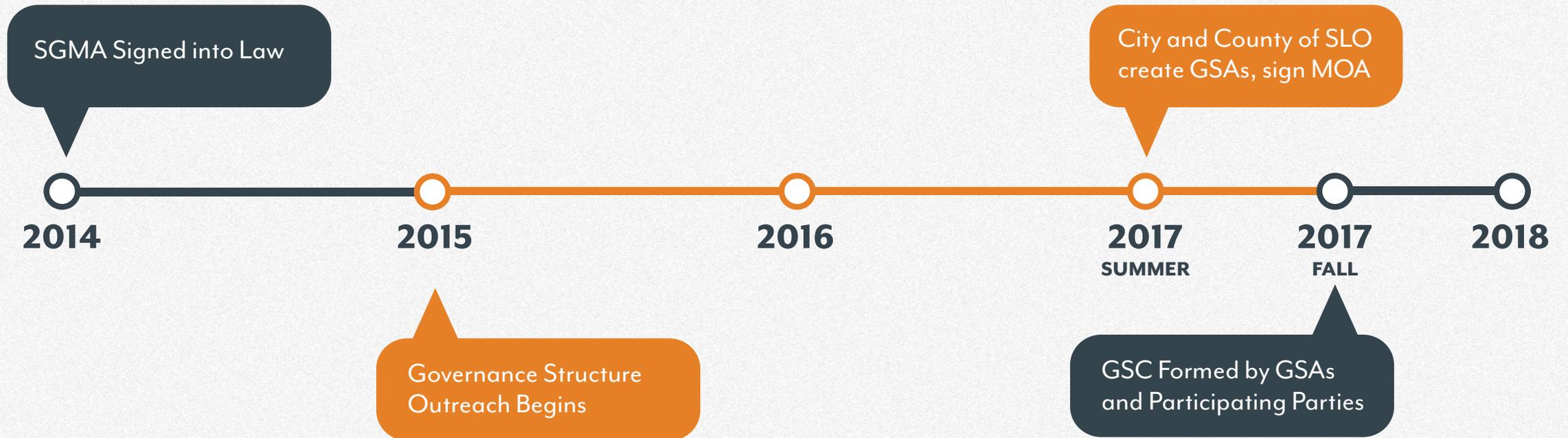
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# HIGH AND MEDIUM PRIORITY BASINS

OPEN INTERACTIVE MAP

<https://gis.water.ca.gov/app/bp-dashboard/p2/>

# GOVERNANCE TIMELINE



# GSP GOVERNANCE

Groundwater Sustainability Agencies

Groundwater Sustainability Commission

## GROUNDWATER SUSTAINABILITY COMMISSION (GSC)



**Adam Hill**

*Member*

**Bruce Gibson**

*Alternate*



**Andy Pease**

*Member*

**Aaron Floyd**

*Alternate*

**EDNA VALLEY  
GROWERS  
MWC**

**Bob Schiebelhut**

*Chair*

**George Donati**

*Alternate*

**EDNA RANCH  
AND VARIAN  
RANCH MWC**

**Dennis Fernandez**

*Member*

**James Lokey**

*Alternate*



**Mark Zimmer**

*Vice Chair*

**Toby Moore**

*Alternate*

**GROUNDWATER SUSTAINABILITY  
AGENCIES (GSAS)**

# SGMA DEADLINES





# **SGMA 101**

Q&A





# GROUNDWATER 101

David O'Rourke

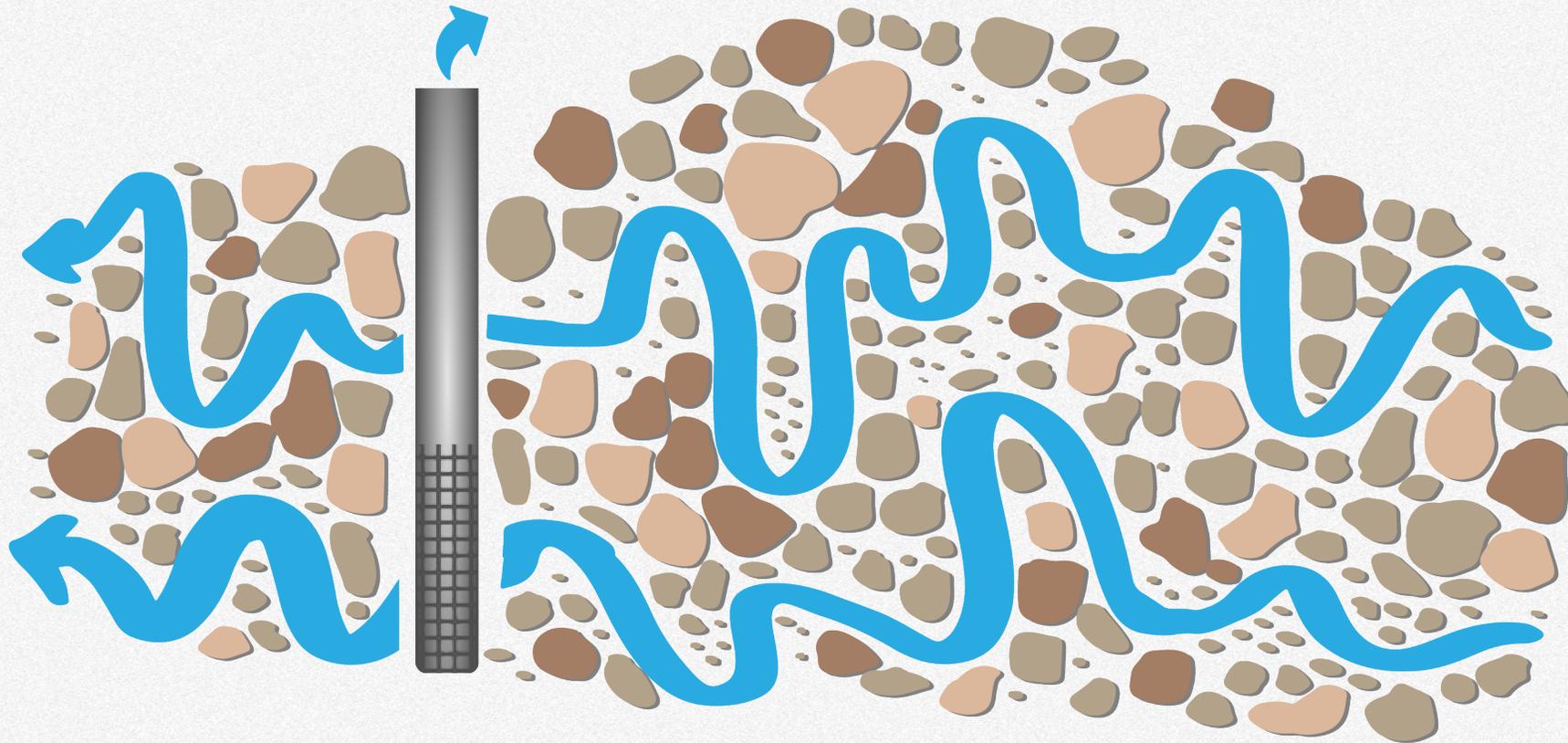
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# WHAT IS GROUNDWATER?

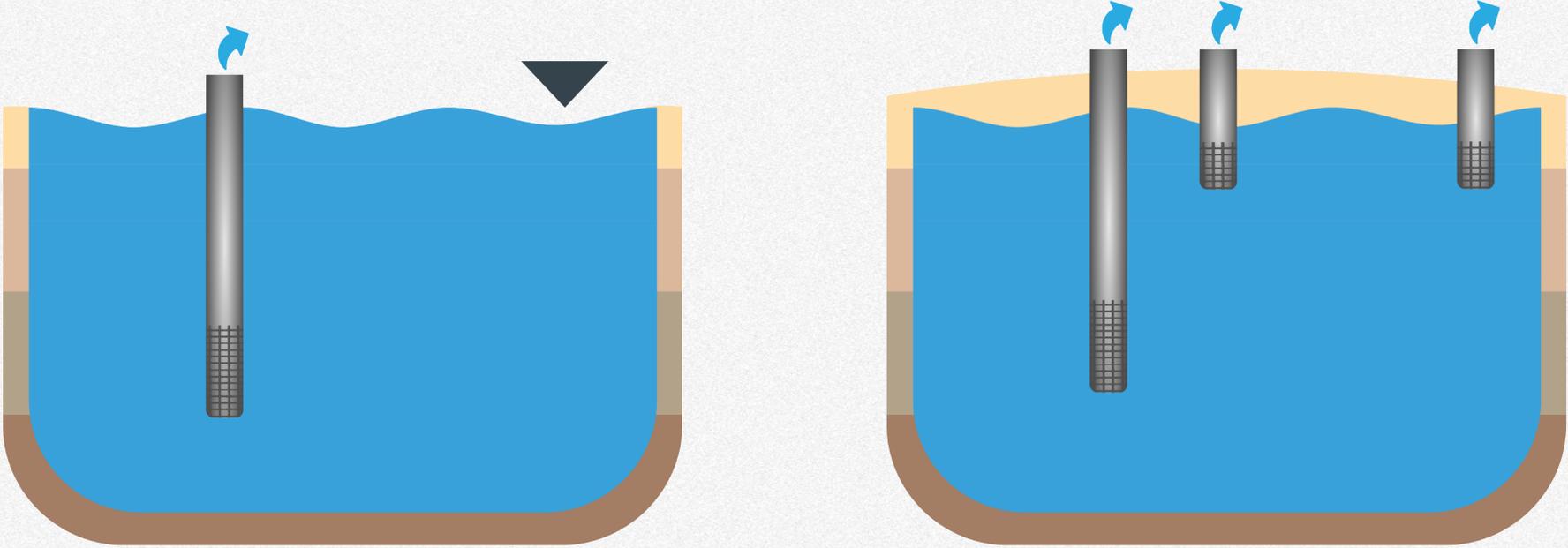
**Groundwater** is the water found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves slowly through geologic formations of soil, sand and rocks called **aquifers**.

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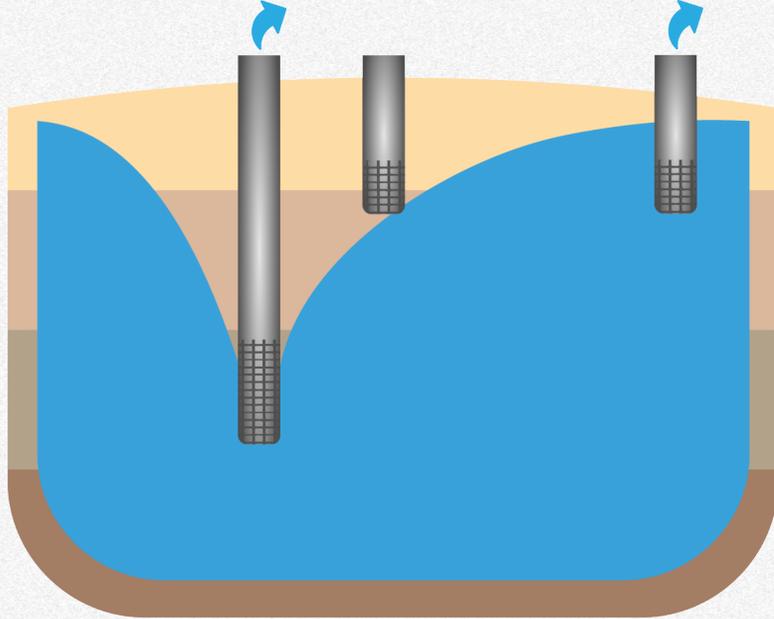
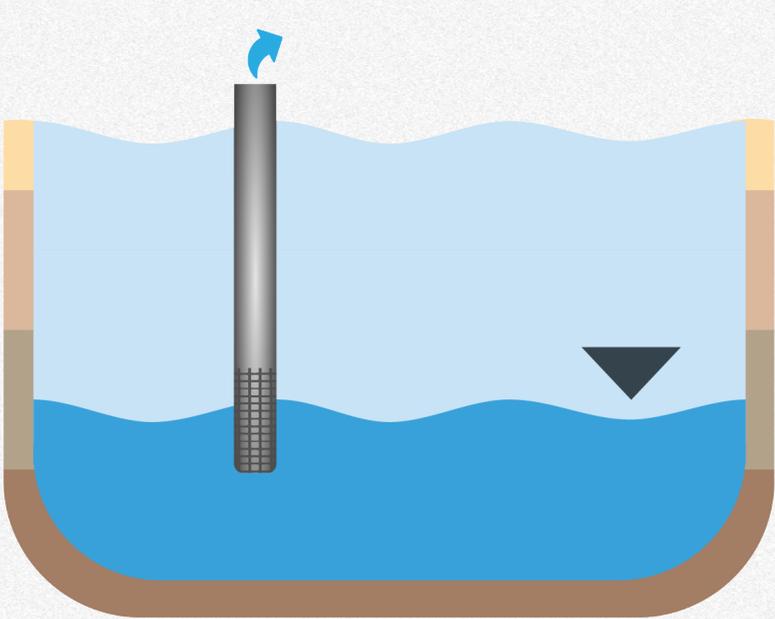
# WHAT IS GROUNDWATER?



# SURFACE WATER vs. GROUNDWATER



# SURFACE WATER vs. GROUNDWATER



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# GROUNDWATER SUSTAINABILITY INDICATORS



Chronic Lowering of  
Groundwater Levels



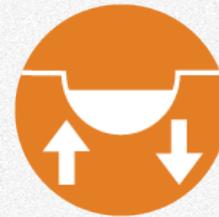
Reduction of  
Groundwater Storage



Land Subsidence



Water Quality  
Degradation



Interconnected Surface  
Water Depletions



Seawater Intrusion

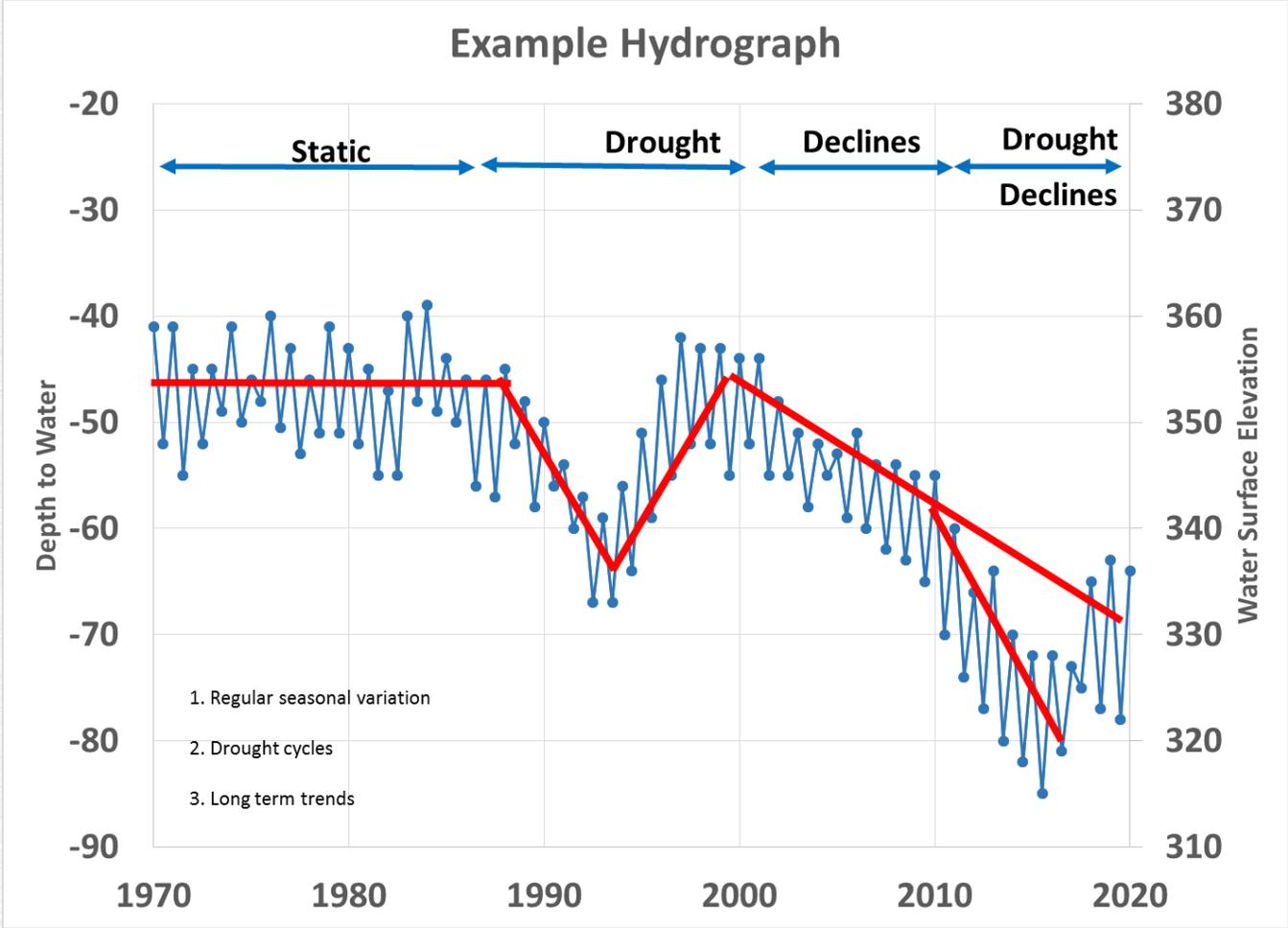
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# **GROUNDWATER DATA**

## **WHAT WE EXAMINE/ANALYZE:**

- Hydrographs
- Water level map
- Changes in water levels
- Water budget

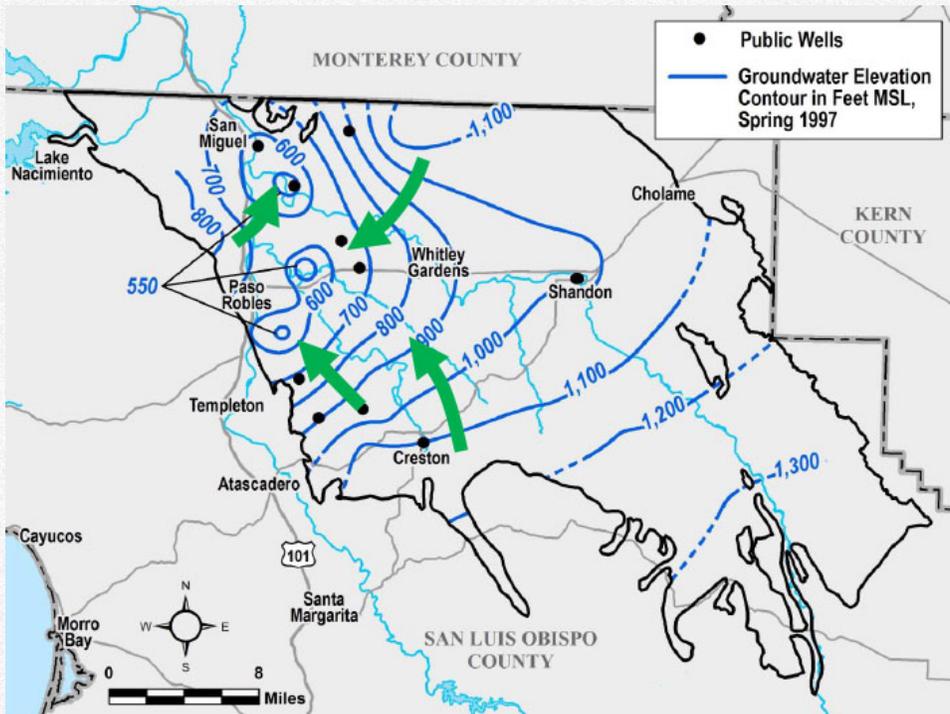
# GROUNDWATER ELEVATION HYDROGRAPH



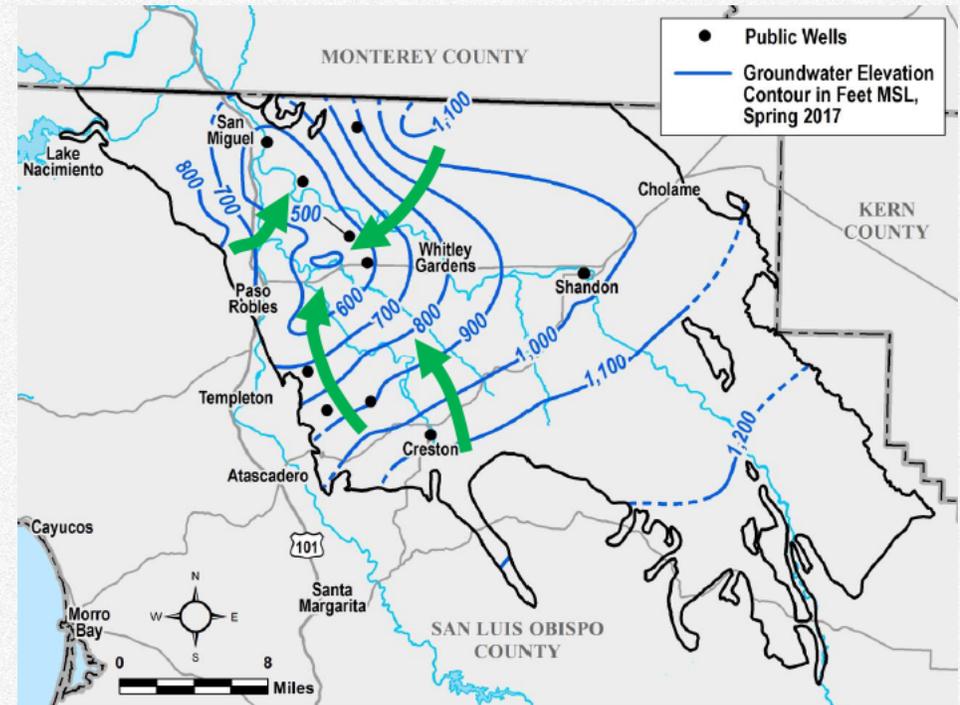
# GROUNDWATER ELEVATION CONTOUR MAPS

## Paso Robles Formation Aquifer

1997



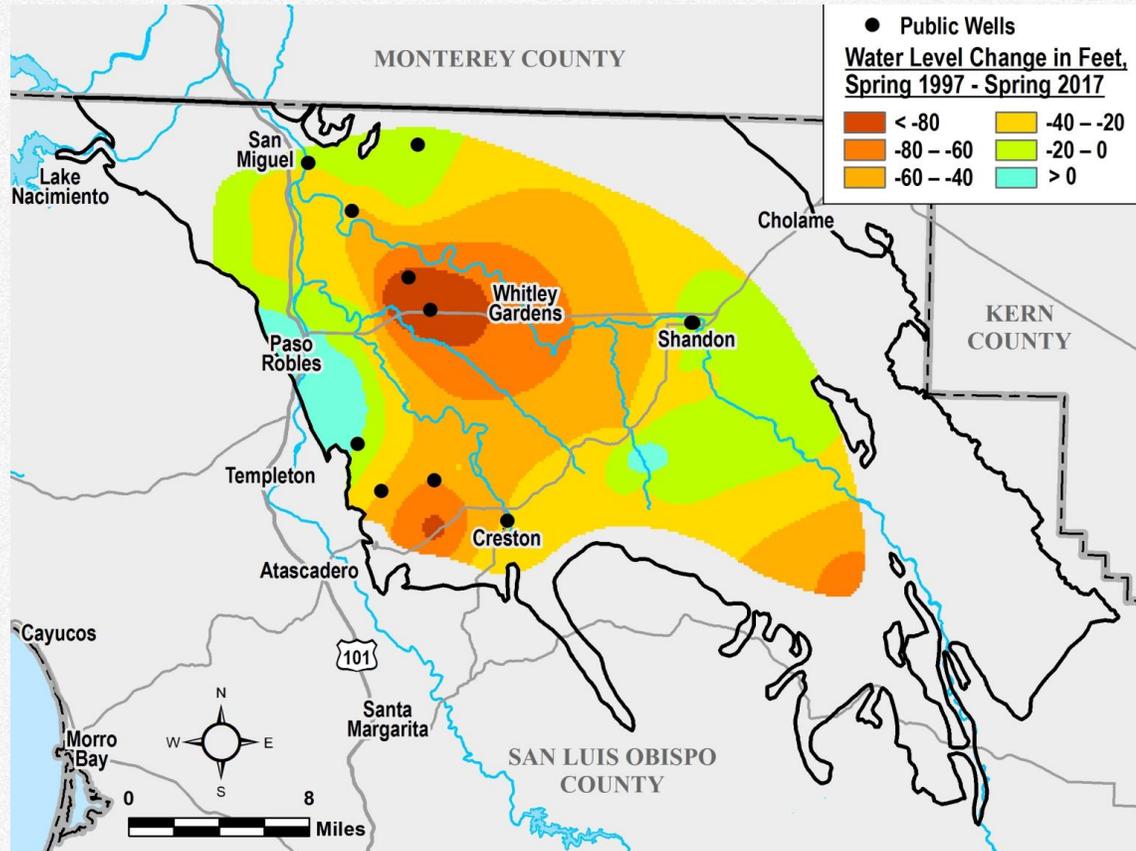
2017



Inferred Groundwater Flow Direction

# CHANGE IN SPRING GROUNDWATER ELEVATIONS

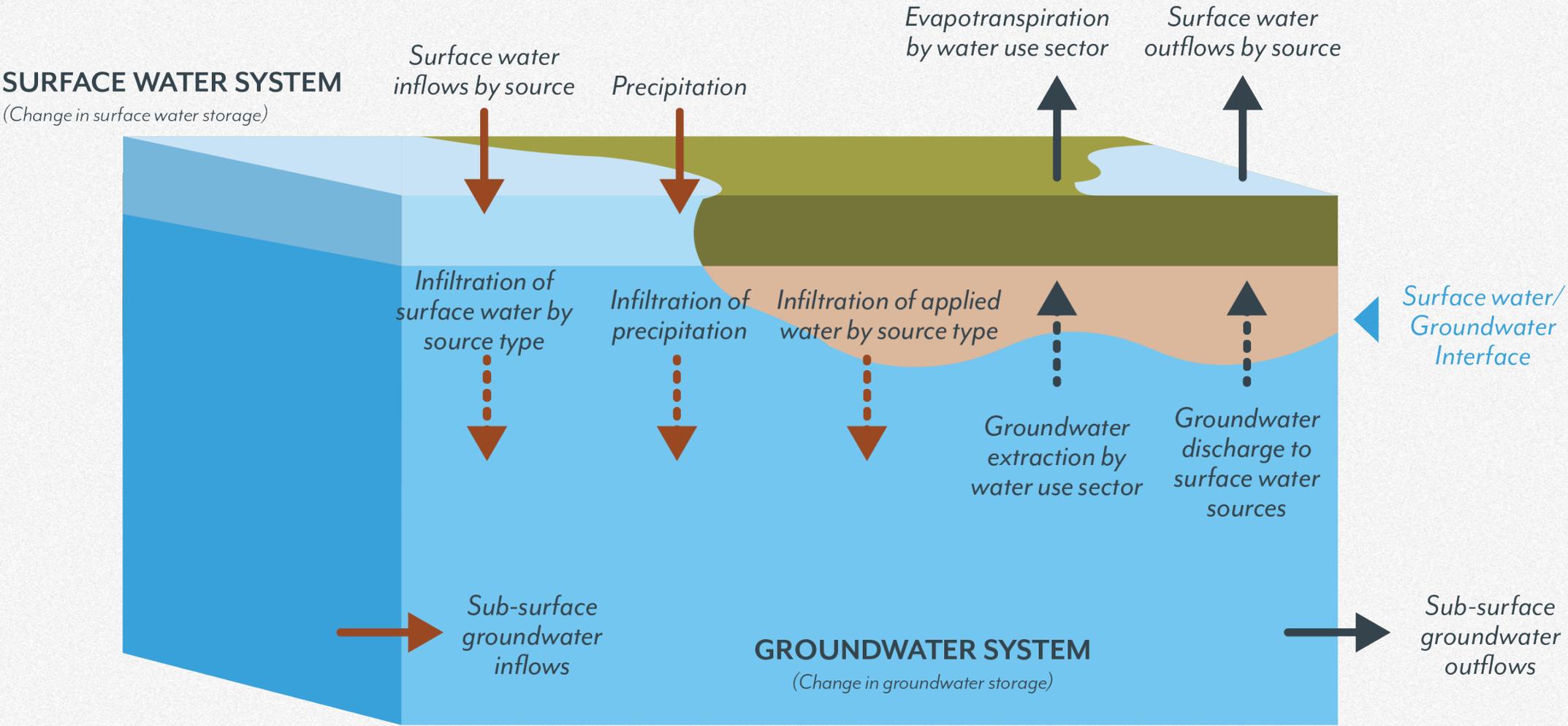
1997 to 2018 – Paso Robles Formation Aquifer



## OBSERVATIONS:

- Decline in GW elevation over most of subbasins
- Areas of largest decline in Estrella and Creston areas
- Declines in GW elevations result in depletion of GW in storage

# THE GROUNDWATER BUDGET





# **GROUNDWATER 101**

Q&A





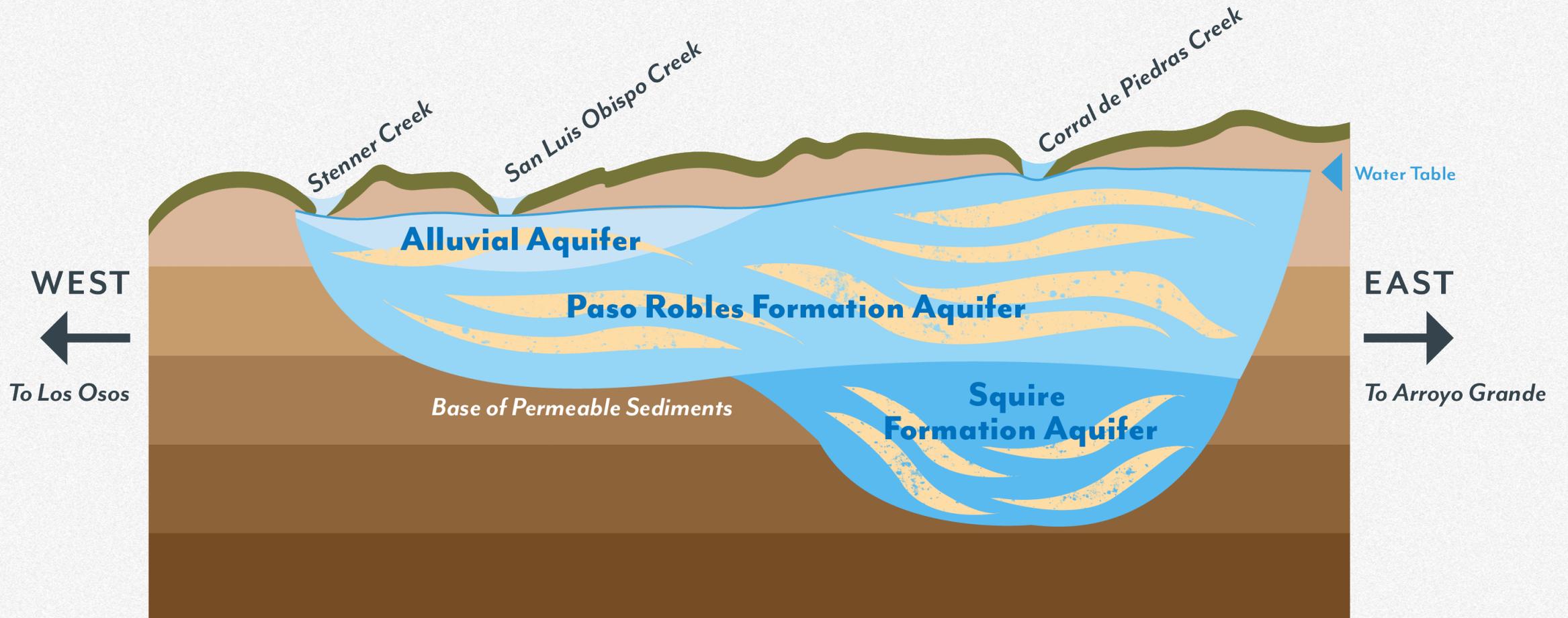
# THE SLO BASIN

David O'Rourke

# MAP OF THE SLO BASIN



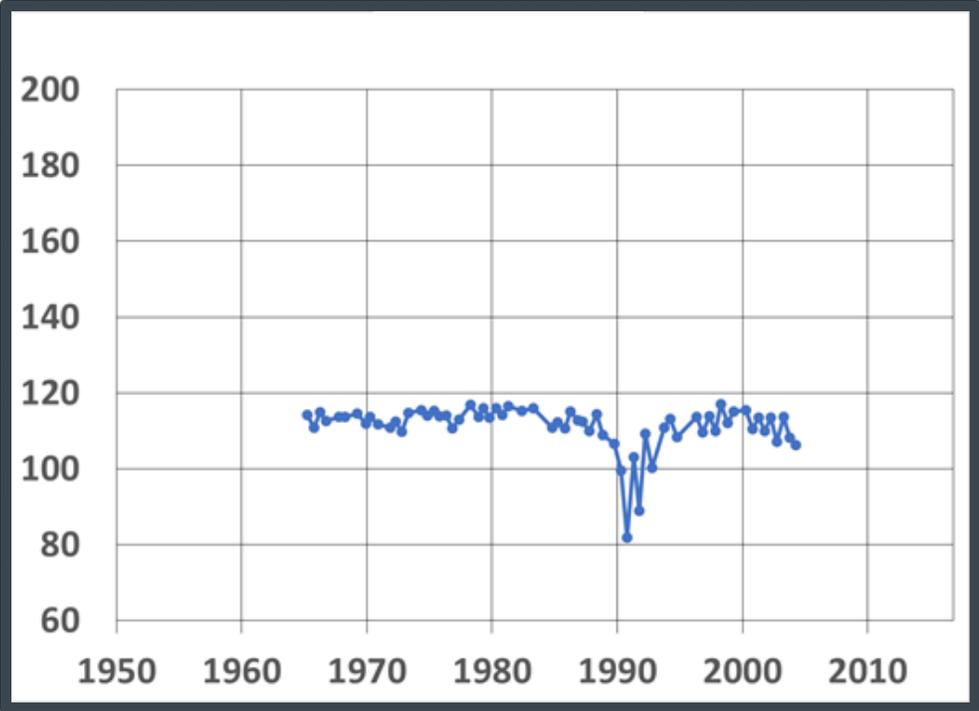
# CONCEPTUAL CROSS-SECTION OF ACQUIFERS



*Not to Scale*

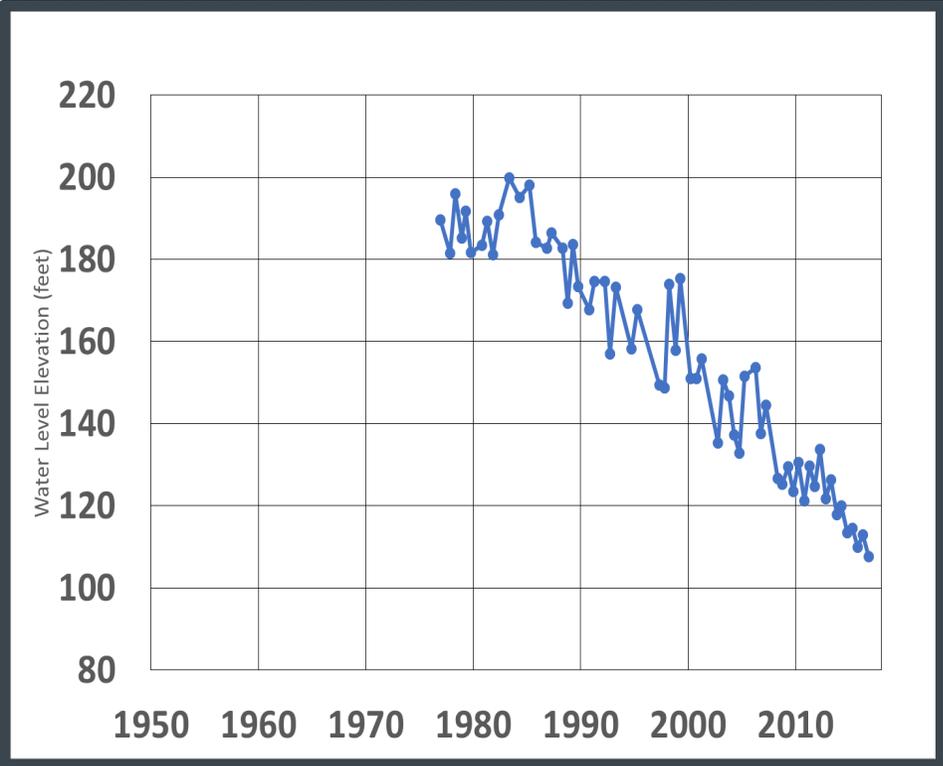
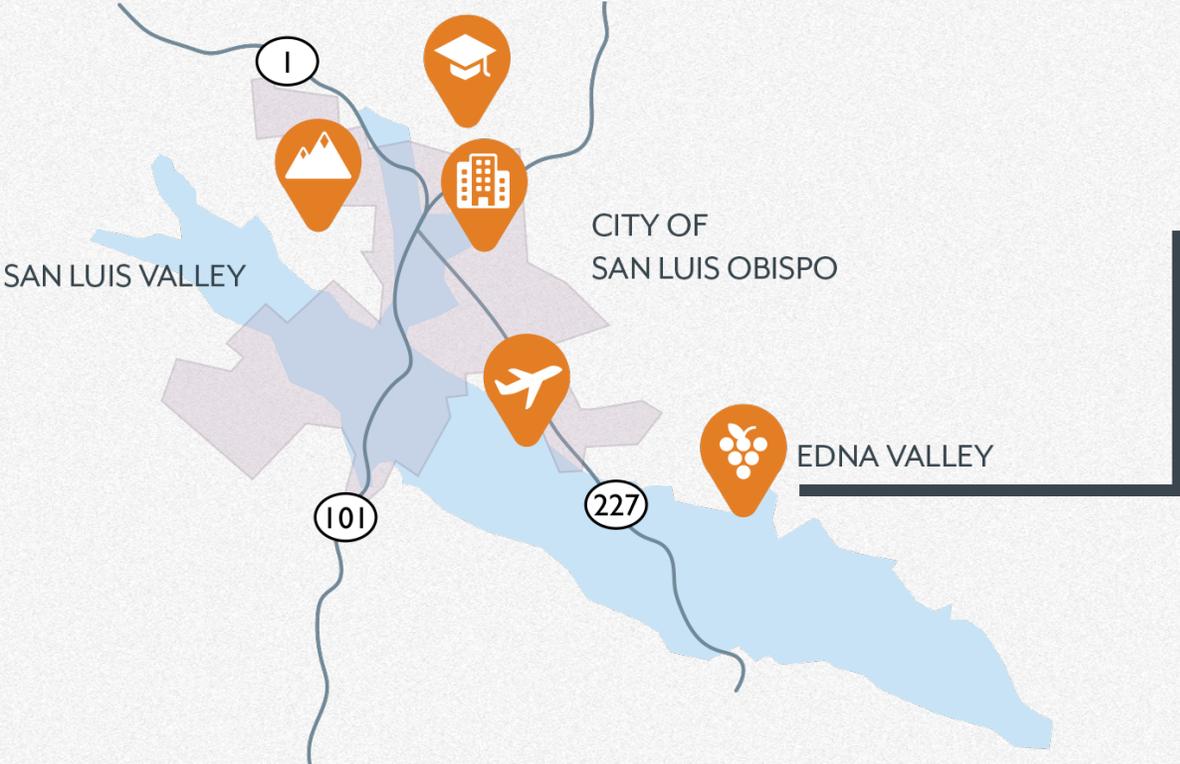
# GROUNDWATER ELEVATION HYDROGRAPH

San Luis Valley

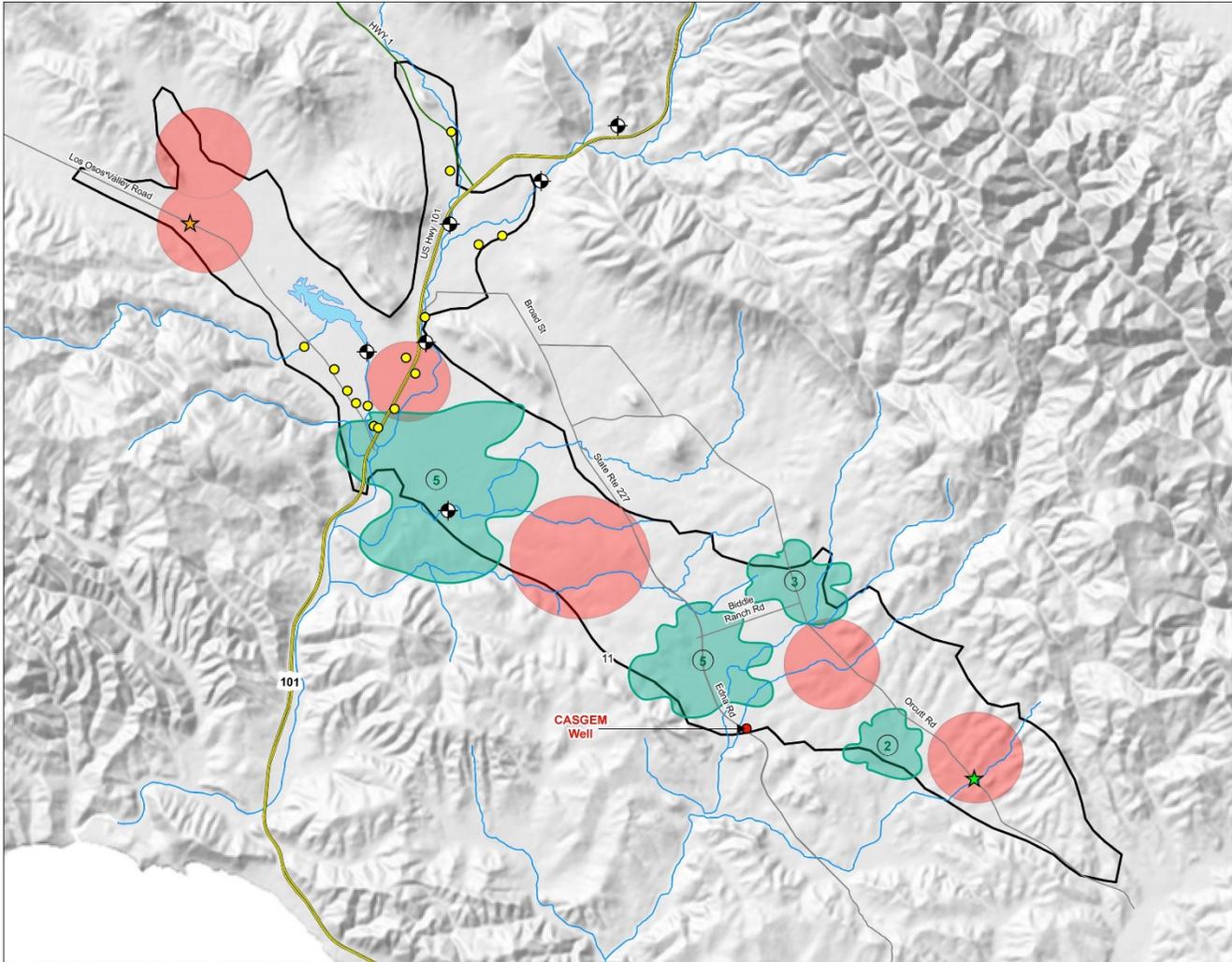


# GROUNDWATER ELEVATION HYDROGRAPH

Edna Valley

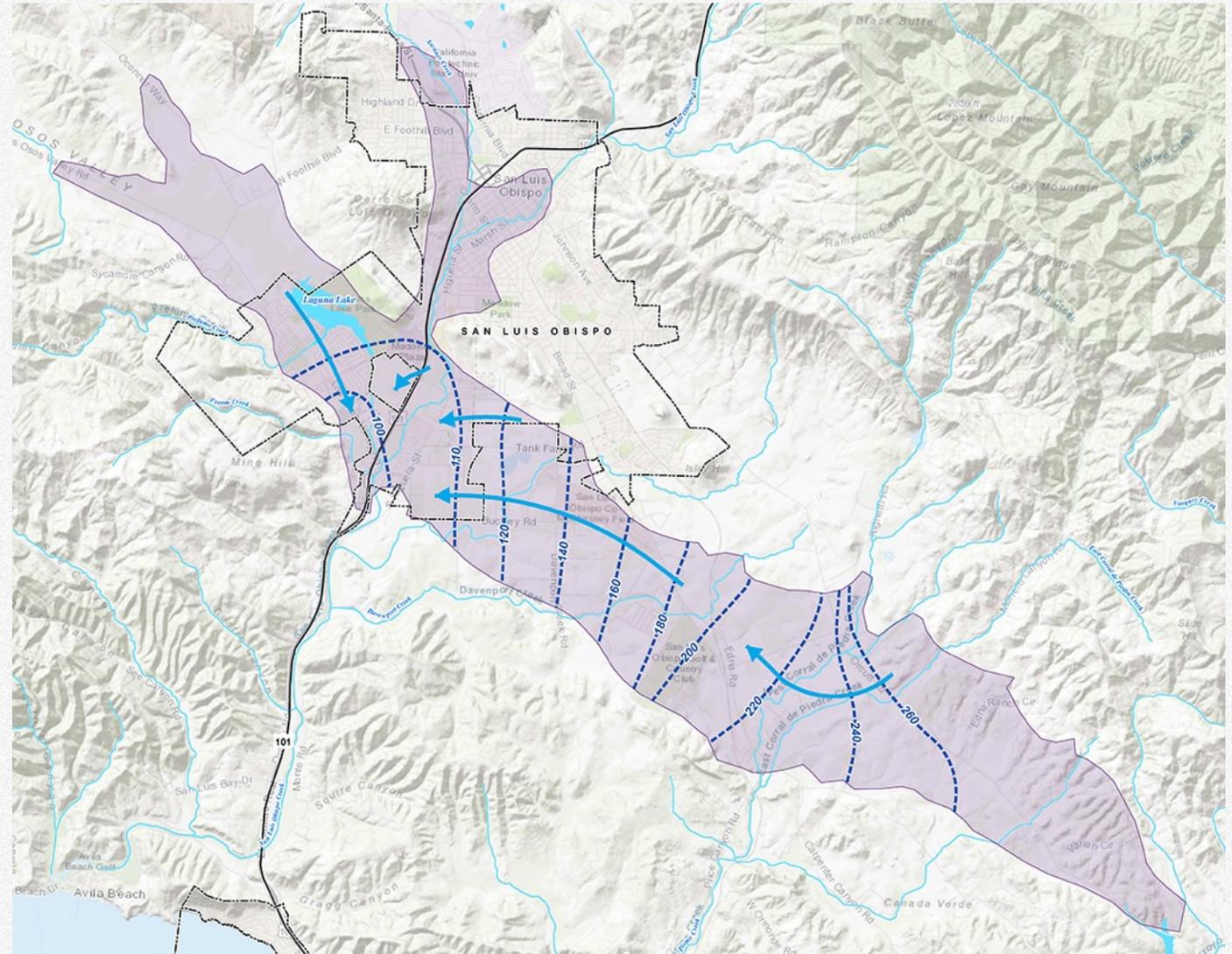


# GROUNDWATER DATA GAPS



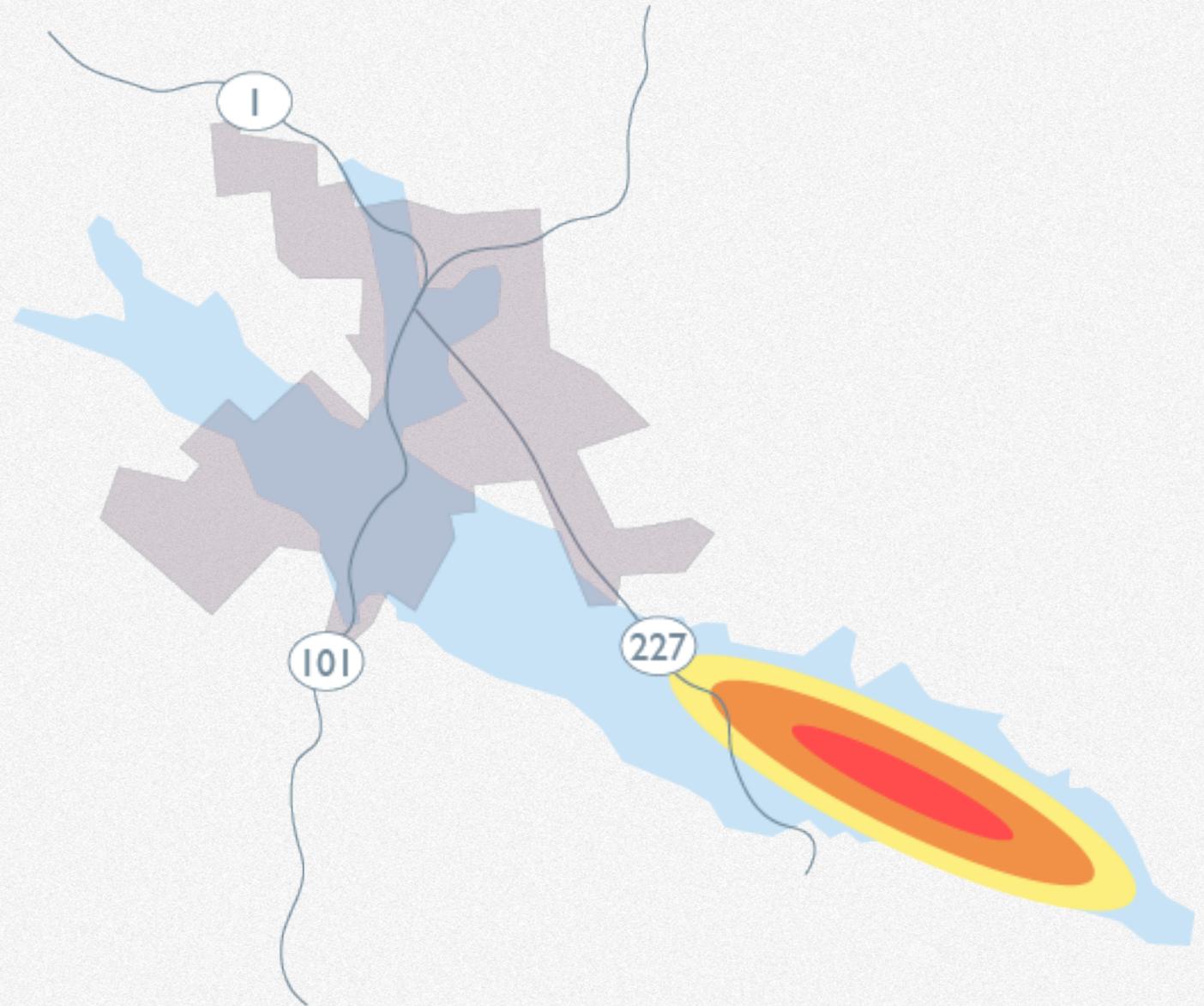
# GROUNDWATER ELEVATION CONTOUR MAPS

SLO Basin



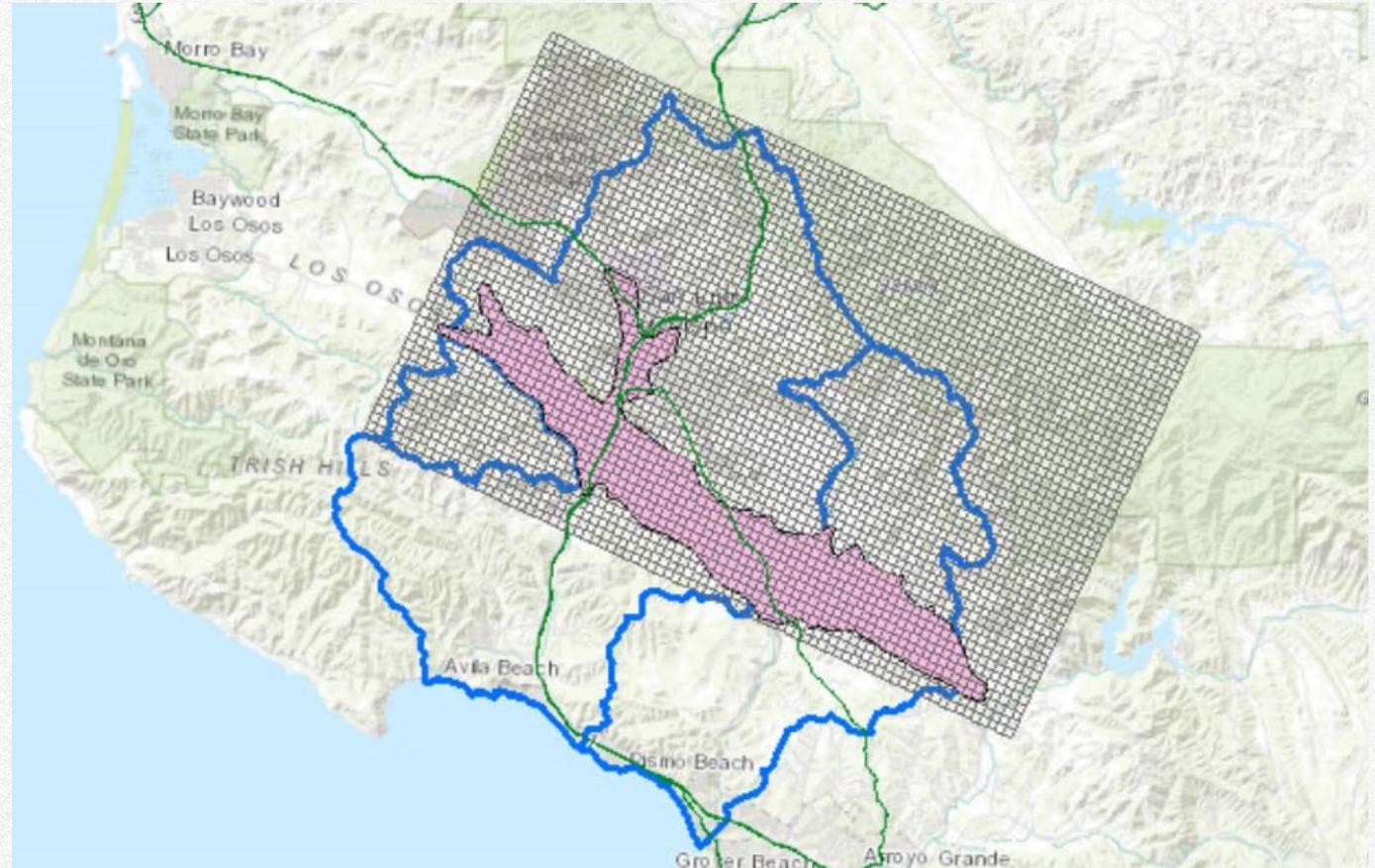
# WATER DECLINE LEVEL MAP

SLO Basin



# THE GROUNDWATER MODEL

- Tool for evaluation of future conditions
- Computer Analysis of Groundwater and Surface Water Flow
- Calibration attempts to duplicate past observed data
- Future scenario runs simulate impacts of projects and management actions



# SLO BASIN CHARACTERIZATION REPORT

## San Luis Obispo Valley Basin Characterization and Monitoring Well Installation

January 18, 2018

Prepared for  
San Luis Obispo County Flood Control  
and Water Conservation District

Prepared by



5855 Capistrano Avenue, Suite C  
Atascadero, CA 93422  
P: 805.460.4621  
info@gsiws.com  
www.gsiws.com



# **SLO BASIN**

Q&A





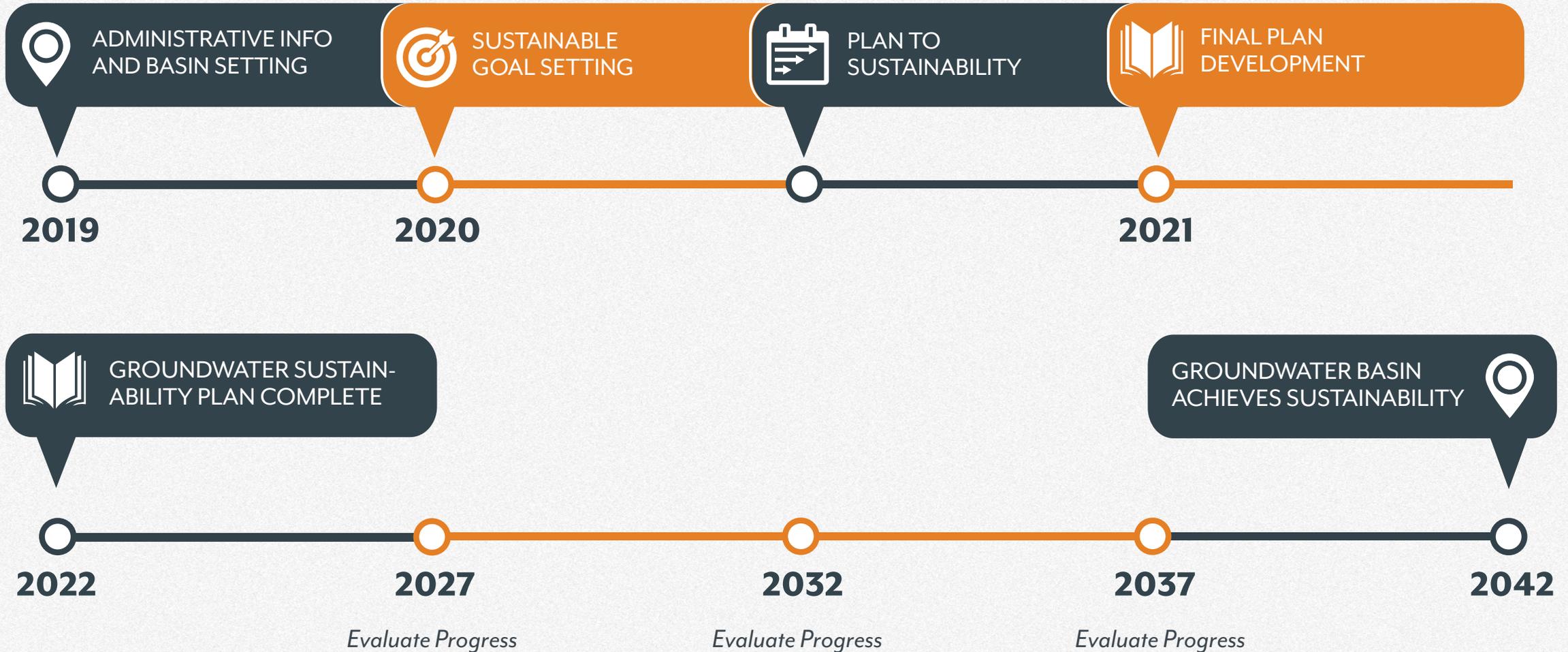
# **THE GSP PROCESS**

Michael Cruikshank

# GSP DEVELOPMENT TIMELINE



# GSP DEVELOPMENT TIMELINE





# **GSP PROCESS**

Q&A





# **STAKEHOLDER PARTICIPATION**

Tiffany Meyer

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# STAKEHOLDER PARTICIPATION

**“Groundwater is best managed  
at the local level.”**

The GSC will consider all **beneficial uses** and **users** of groundwater within the SLO Basin.

# SLO BASIN STAKEHOLDERS



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# HOW TO PARTICIPATE



## **REGISTER.**

Register as an interested party at **SLOWaterBasin.com** to receive email alerts.



## **MEETINGS.**

Join quarterly GSC meetings to receive project news and to share your input.



## **WORKSHOPS.**

Join interactive workshops to learn about and inform the development of the GSP.



## **REVIEW AND COMMENT.**

Review and comment on sections/chapters of the GSP.

**SLOWaterBasin.com**

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# IMMEDIATE OPPORTUNITIES TO PARTICIPATE



## MEETINGS.

### **Board of Supervisor Meeting**

Aug. 20 • 9am

SGMA Implementation

Update Report

### **GSC Public Meeting**

Sept. 11 • 3:30pm-5:30pm



## REVIEW AND COMMENT.

### **Communications and Engagement Plan**

Public comment closes Aug. 31

Learn more or take action at

**SLOWaterBasin.com**

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# **SLOW**WaterBasin.com DEMO

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# REQUEST ACCOMMODATIONS

**Contact Dick Tzou**  
**County of San Luis Obispo**  
[dtzou@co.slo.ca.us](mailto:dtzou@co.slo.ca.us)  
805-781-4473



**PANEL**

Q&A

