

# 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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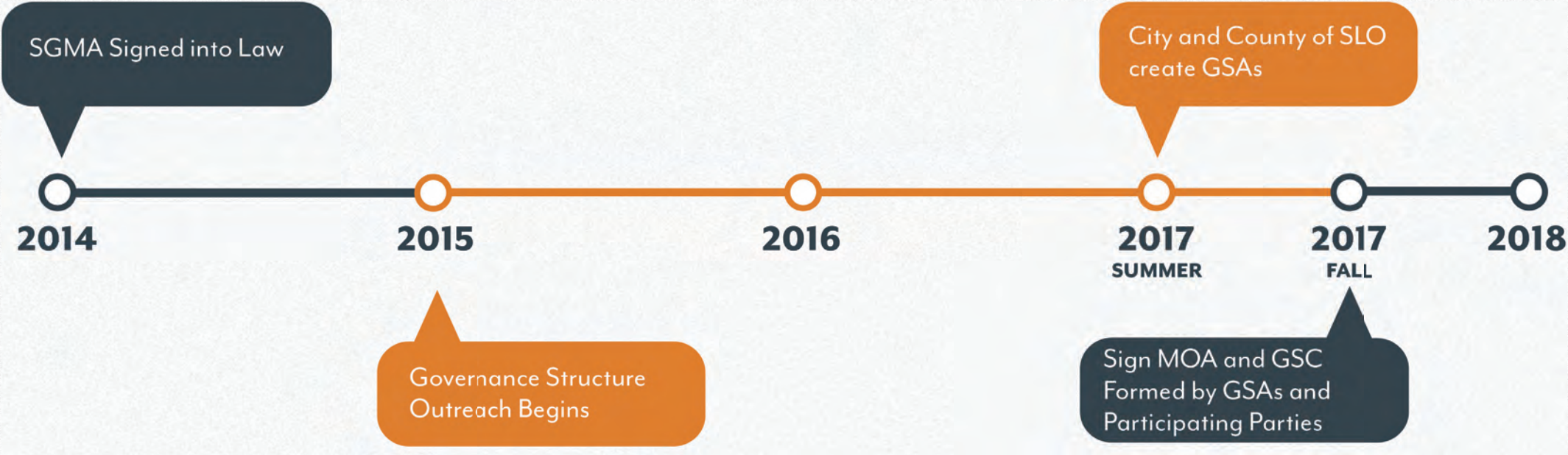
# HIGH AND MEDIUM PRIORITY BASINS

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



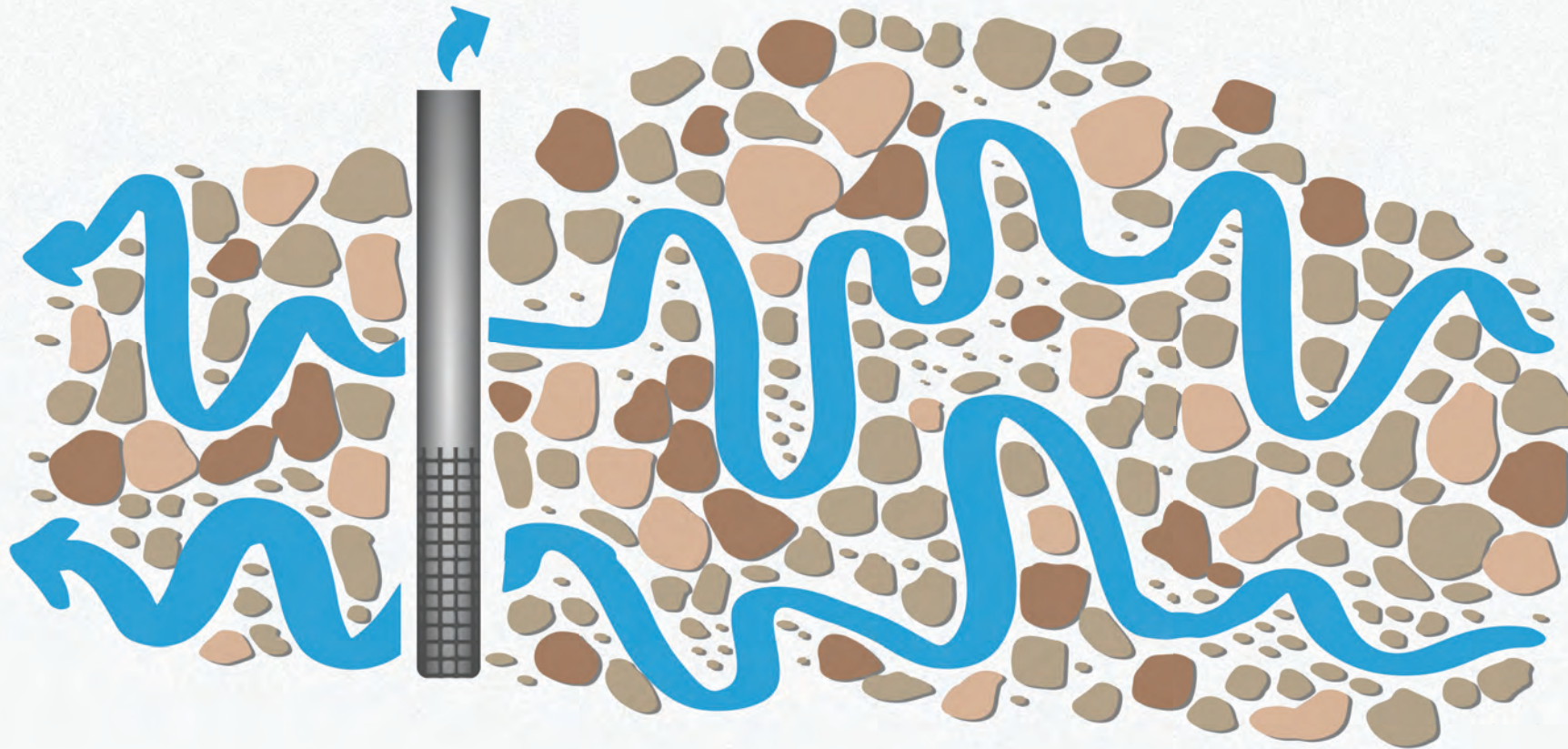
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# WHAT IS GROUNDWATER?

**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**.

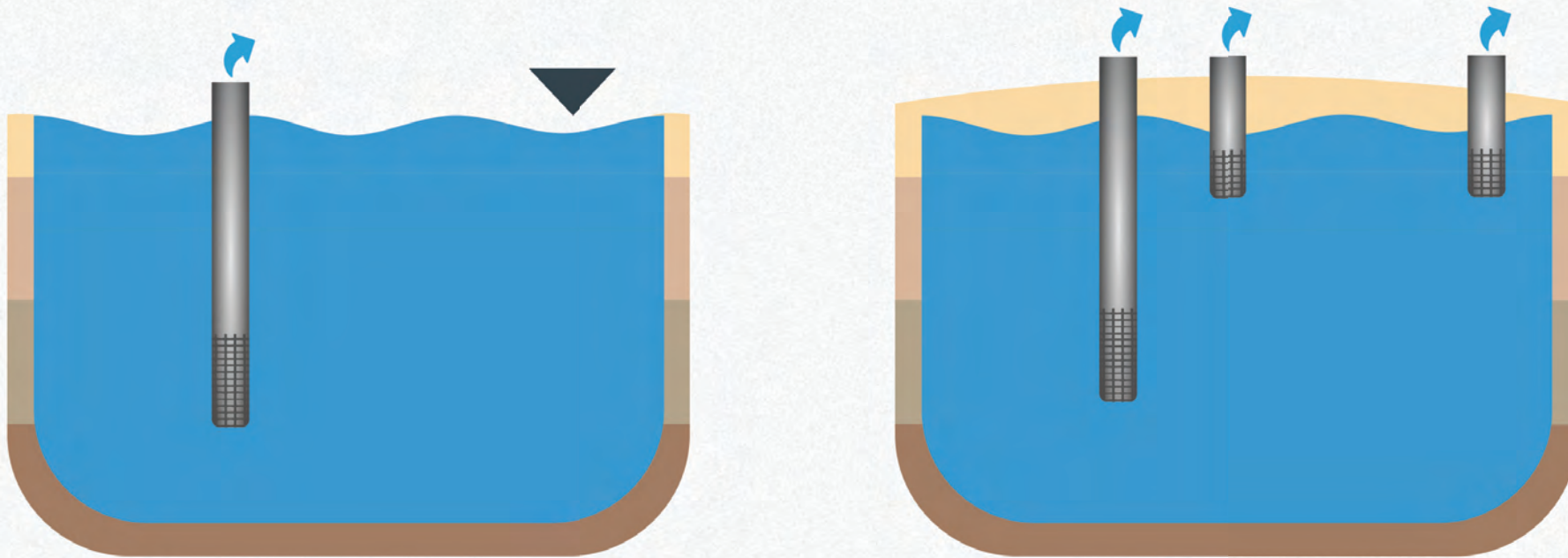


# WHAT IS GROUNDWATER?



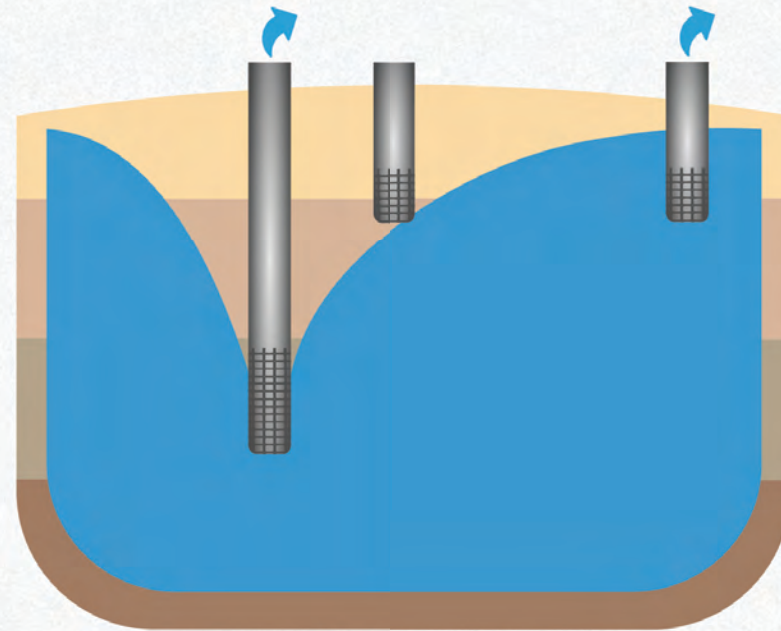
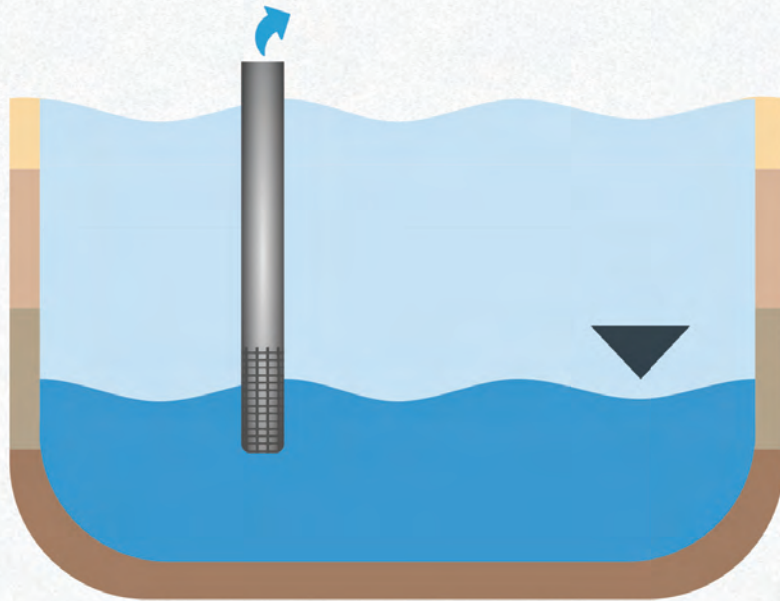


# SURFACE WATER vs. GROUNDWATER





# 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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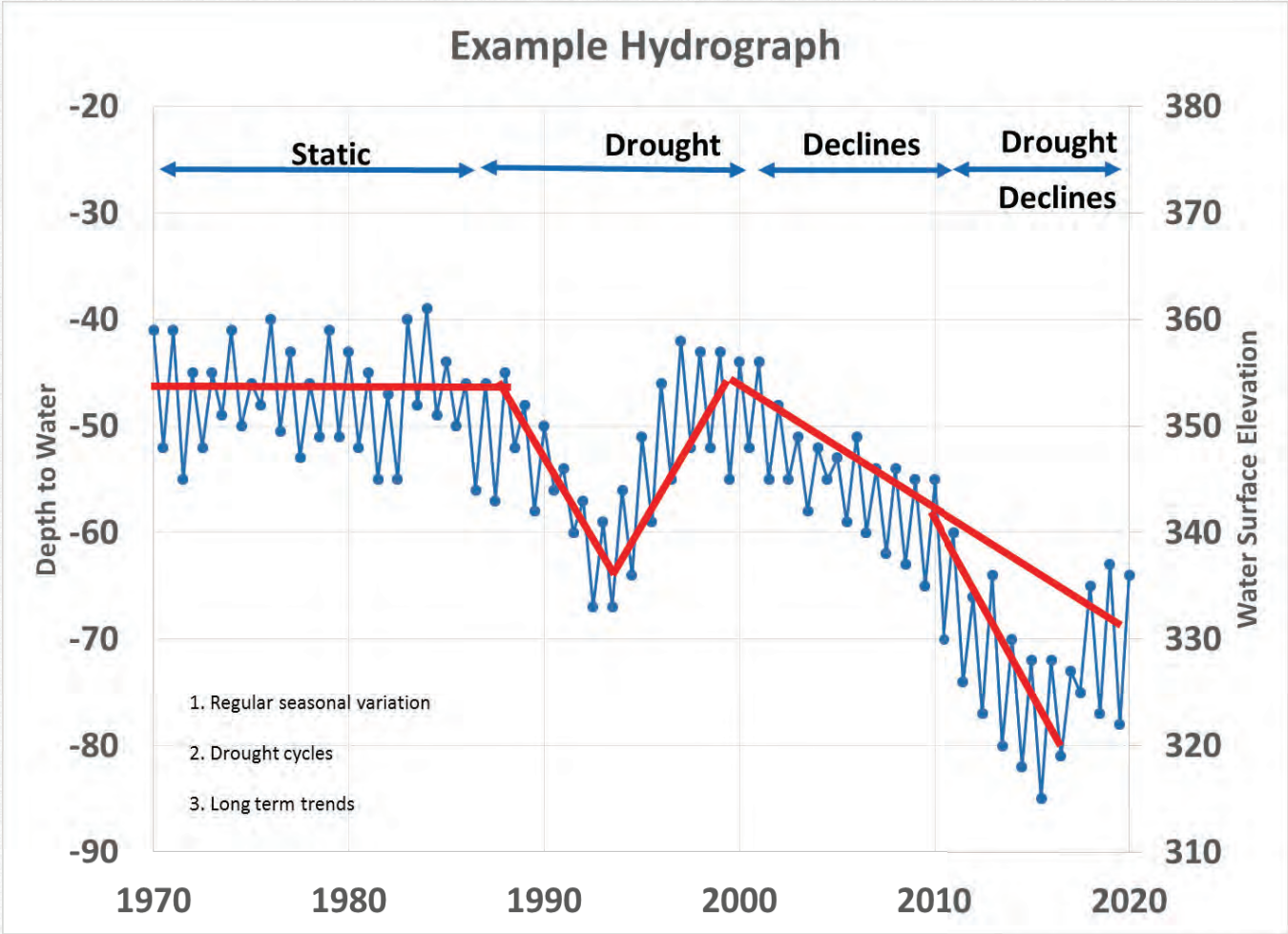
# GROUNDWATER DATA

## WHAT WE EXAMINE/ANALYZE:

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



# GROUNDWATER ELEVATION HYDROGRAPH

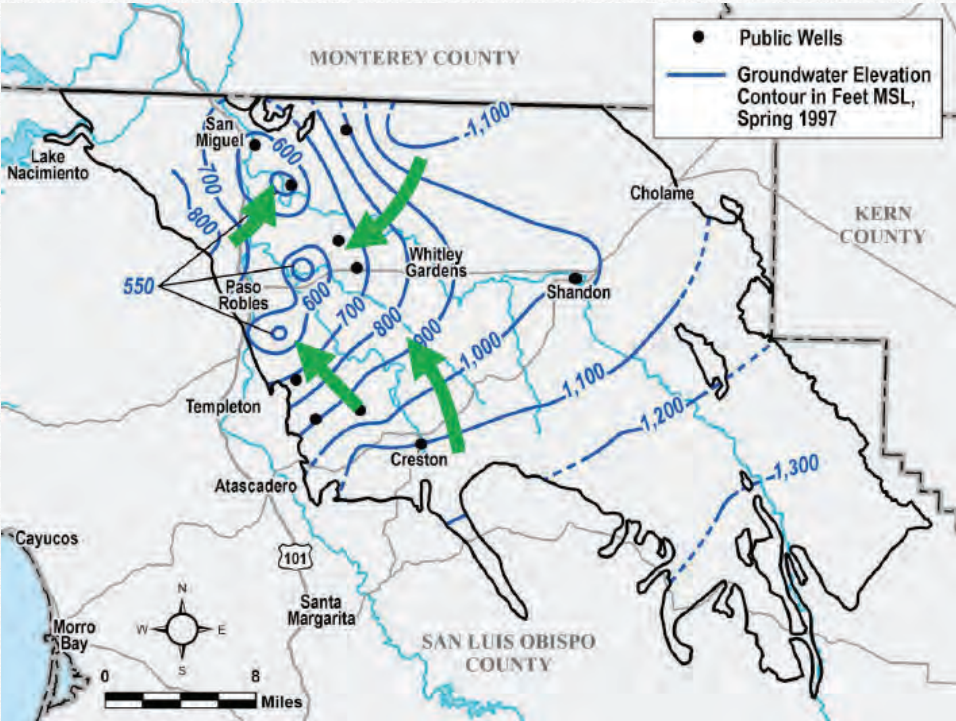




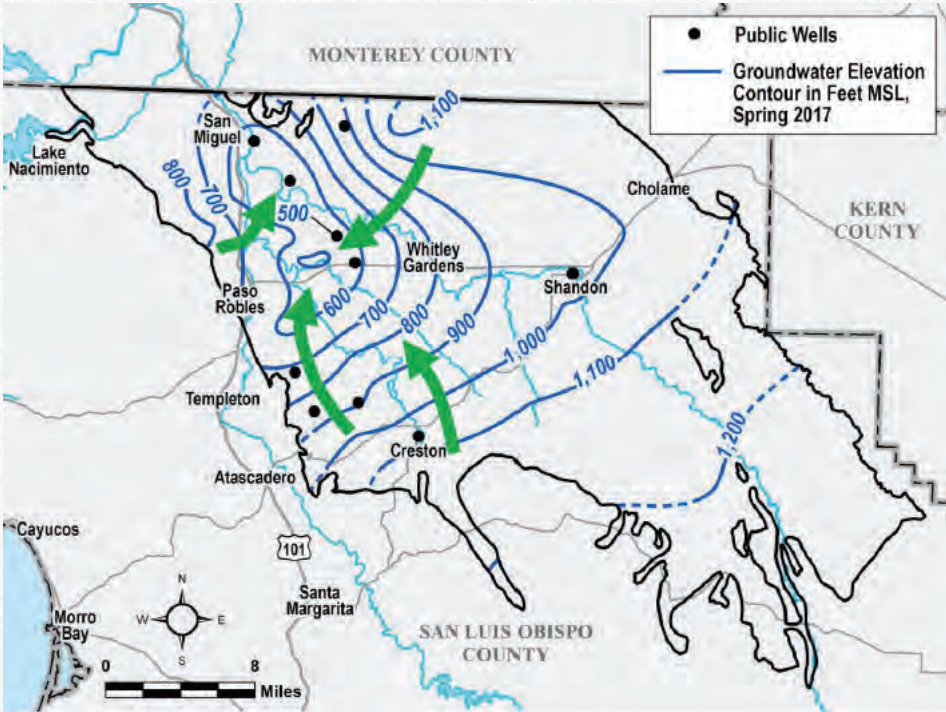
# GROUNDWATER ELEVATION CONTOUR MAPS

Paso Robles Formation Aquifer

1997



2017

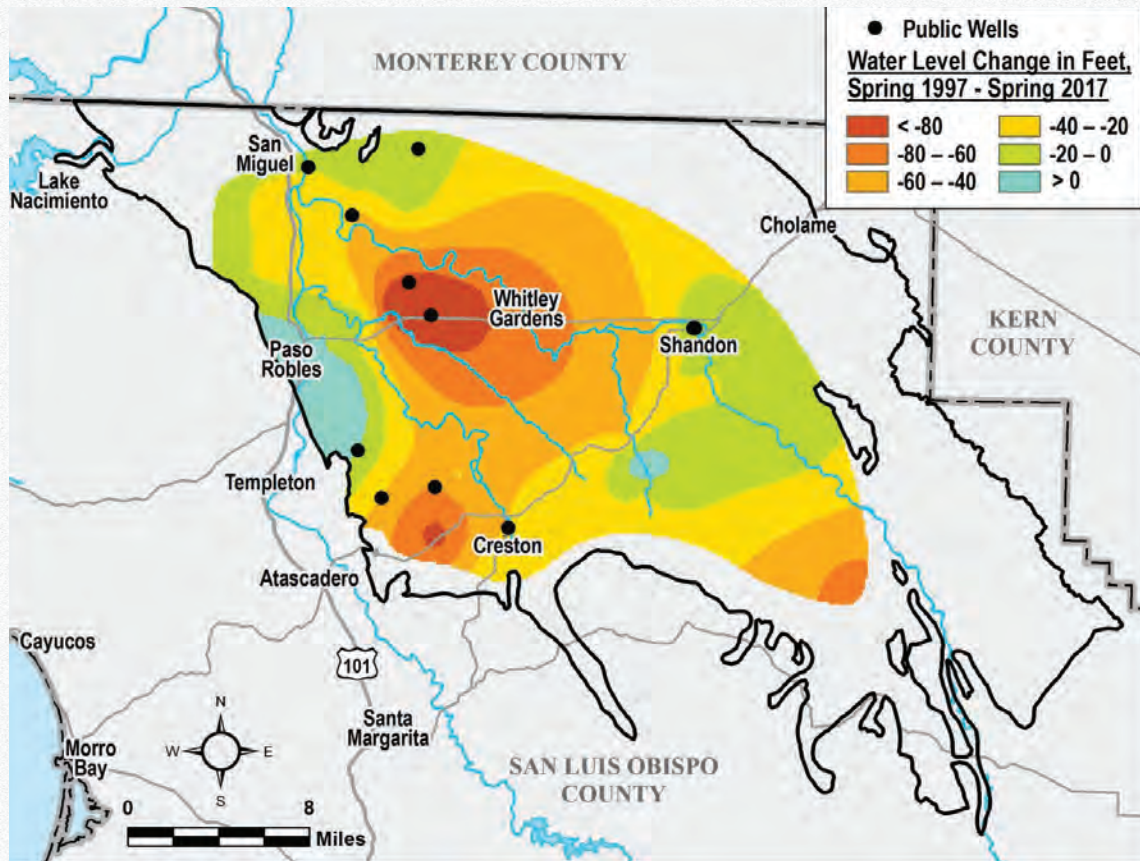


➡ Inferred Groundwater Flow Direction



# CHANGE IN SPRING GROUNDWATER ELEVATIONS

1997 to 2018 – Paso Robles Formation Aquifer

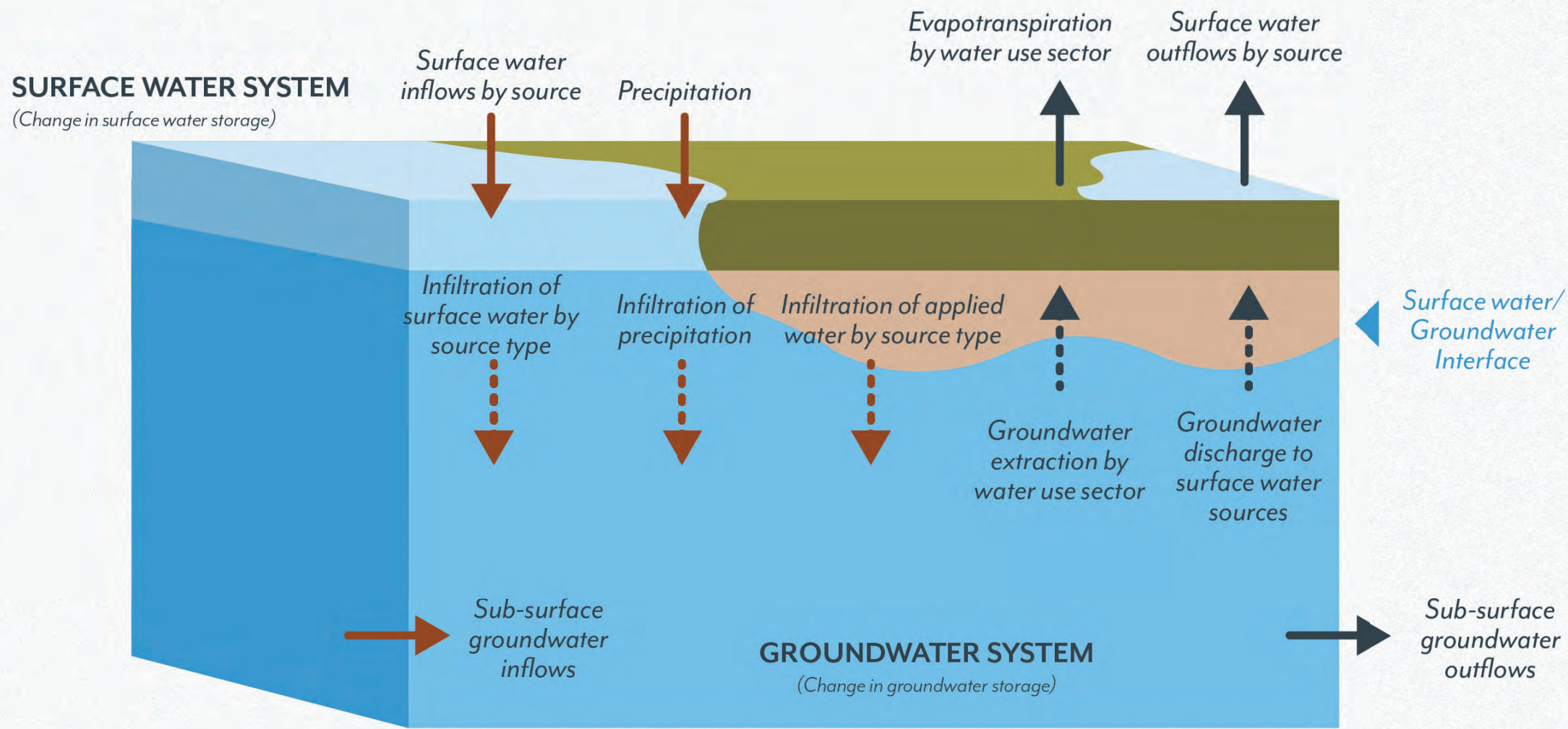


## OBSERVATIONS:

- 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

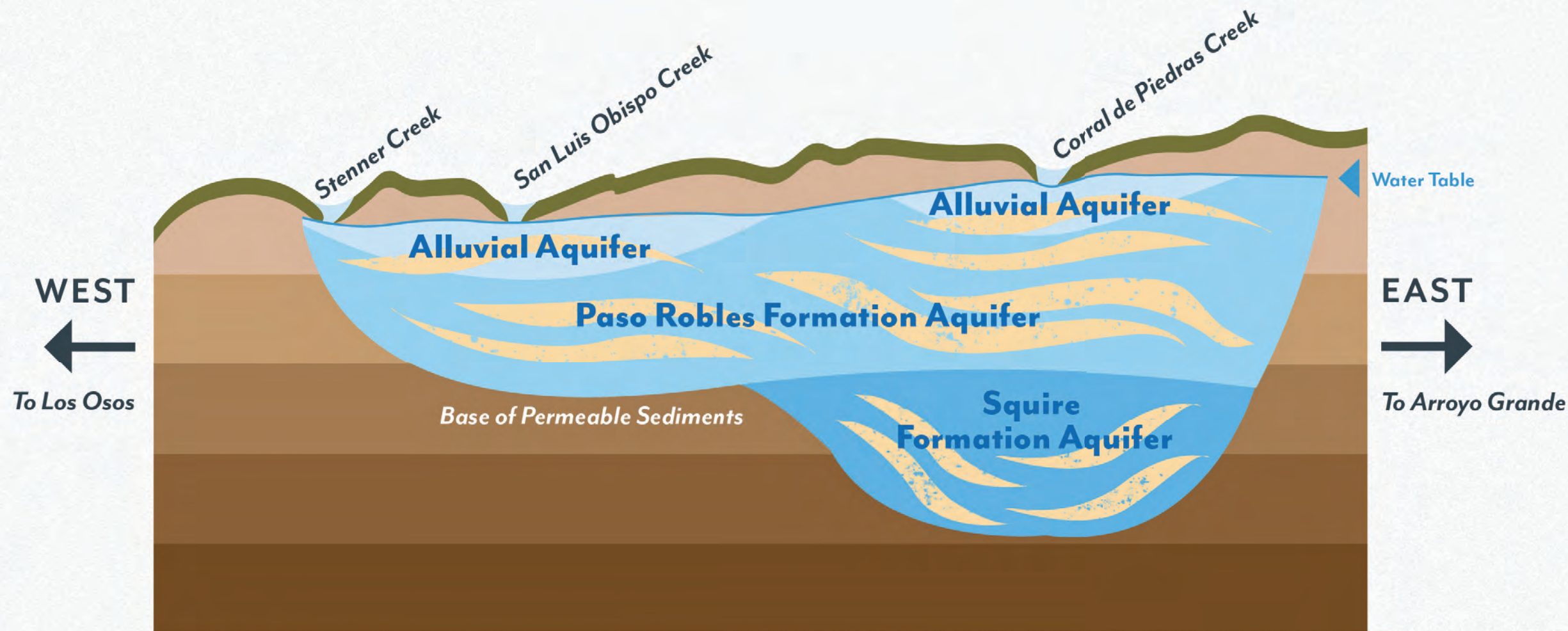


# MAP OF THE SLO BASIN





# CONCEPTUAL CROSS-SECTION OF ACQUIFERS

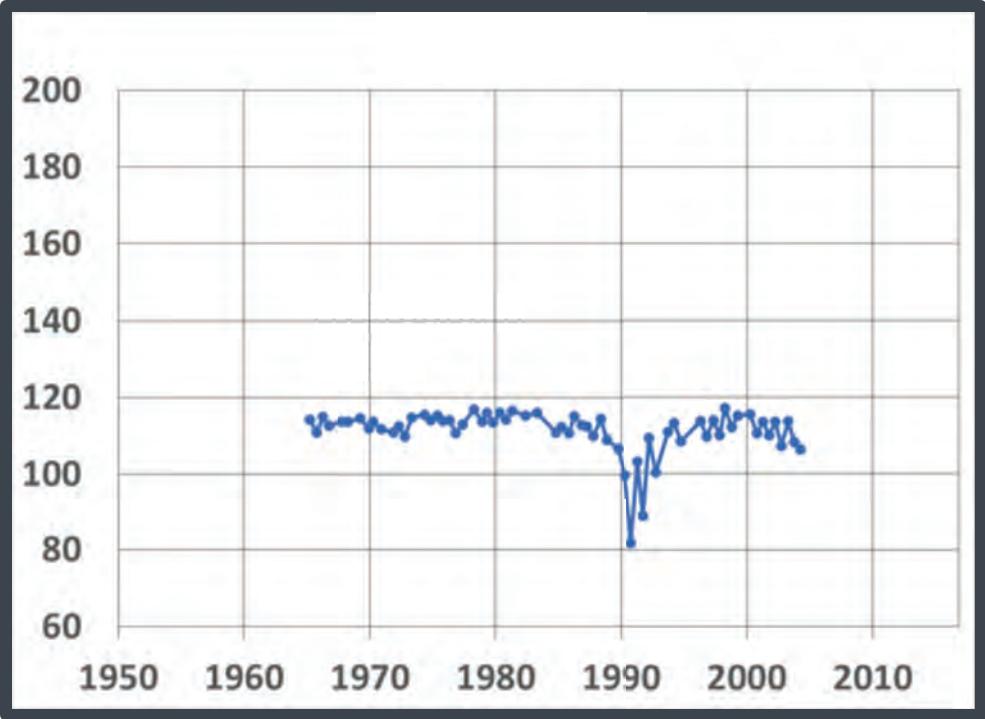


*Not to Scale*



# GROUNDWATER ELEVATION HYDROGRAPH

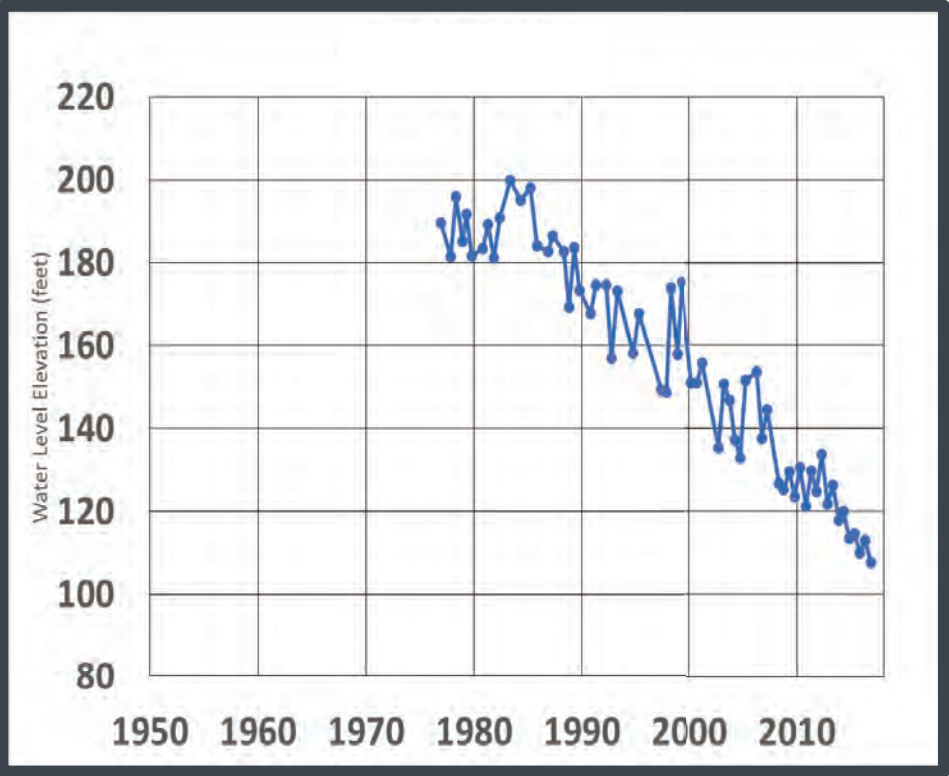
San Luis Valley





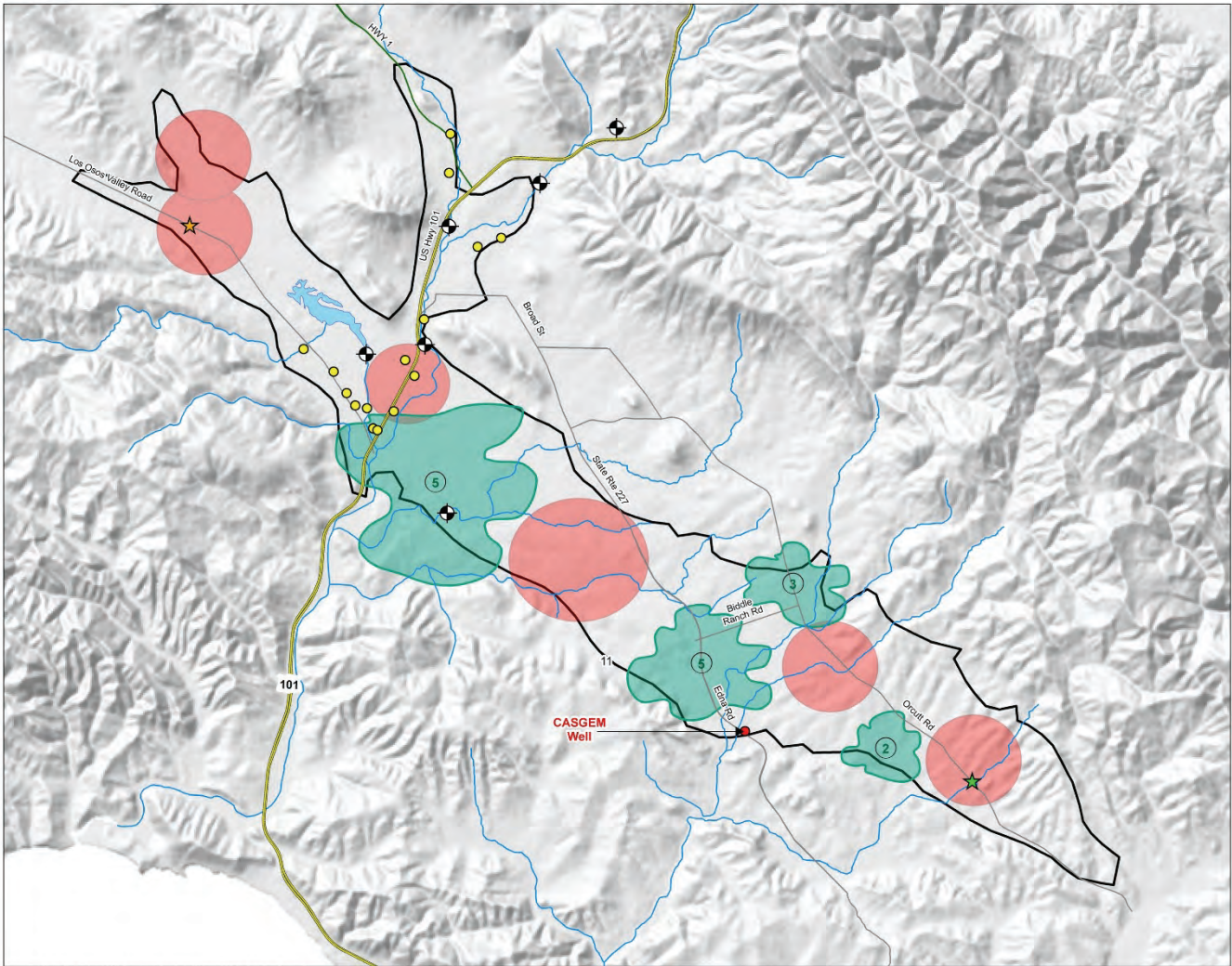
# GROUNDWATER ELEVATION HYDROGRAPH

Edna Valley





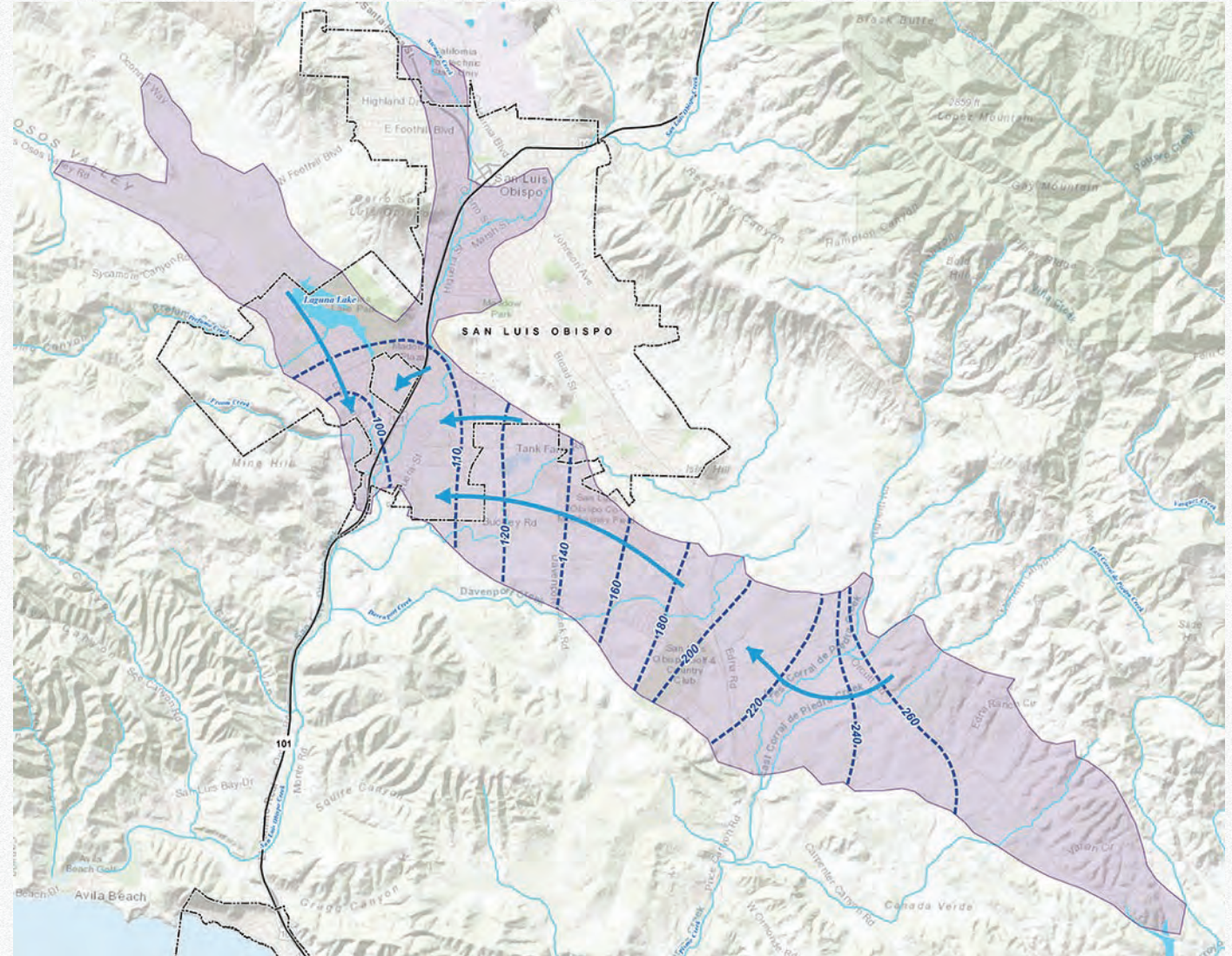
# GROUNDWATER DATA GAPS





# GROUNDWATER ELEVATION CONTOUR MAPS

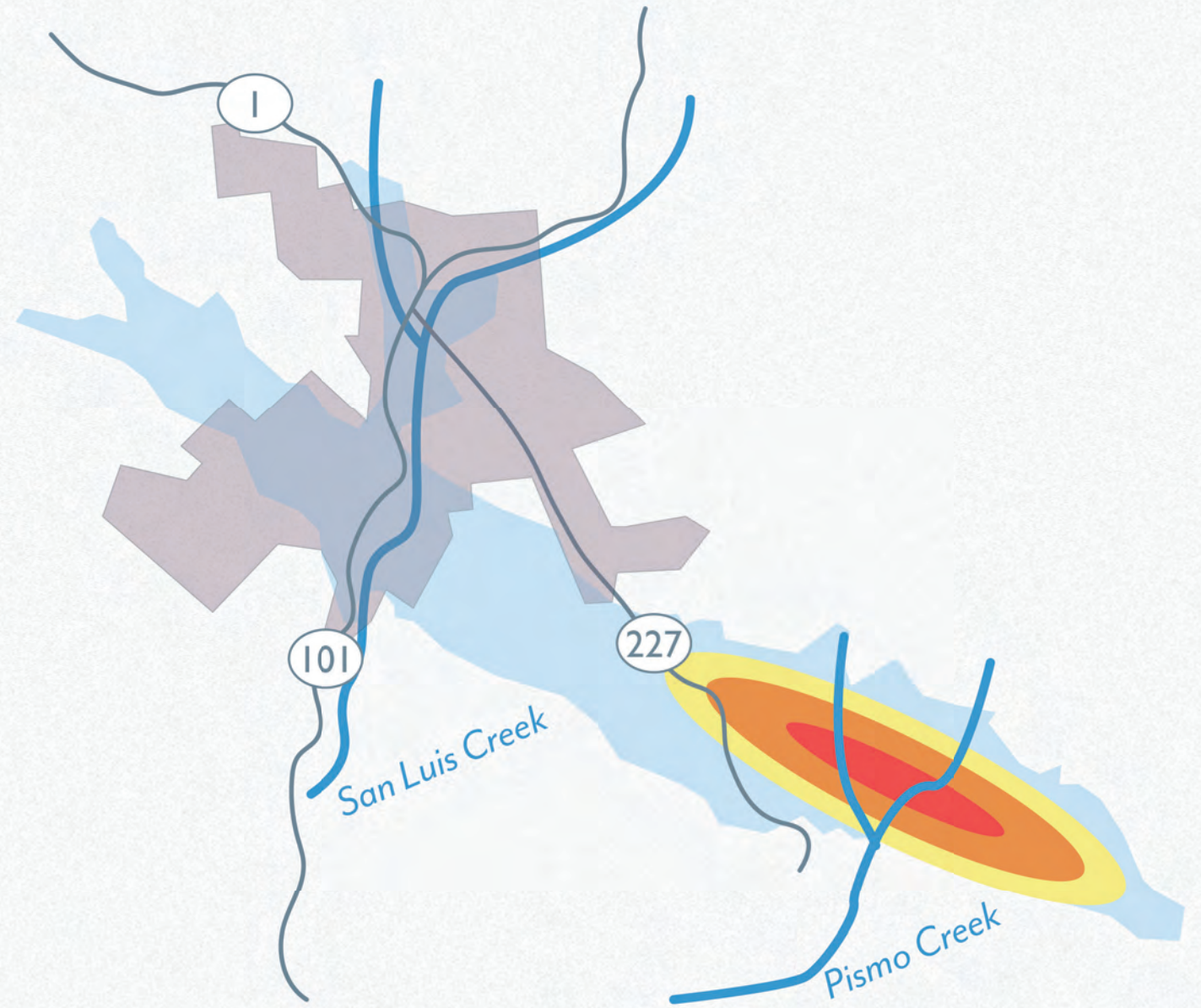
SLO Basin





# WATER DECLINE LEVEL MAP

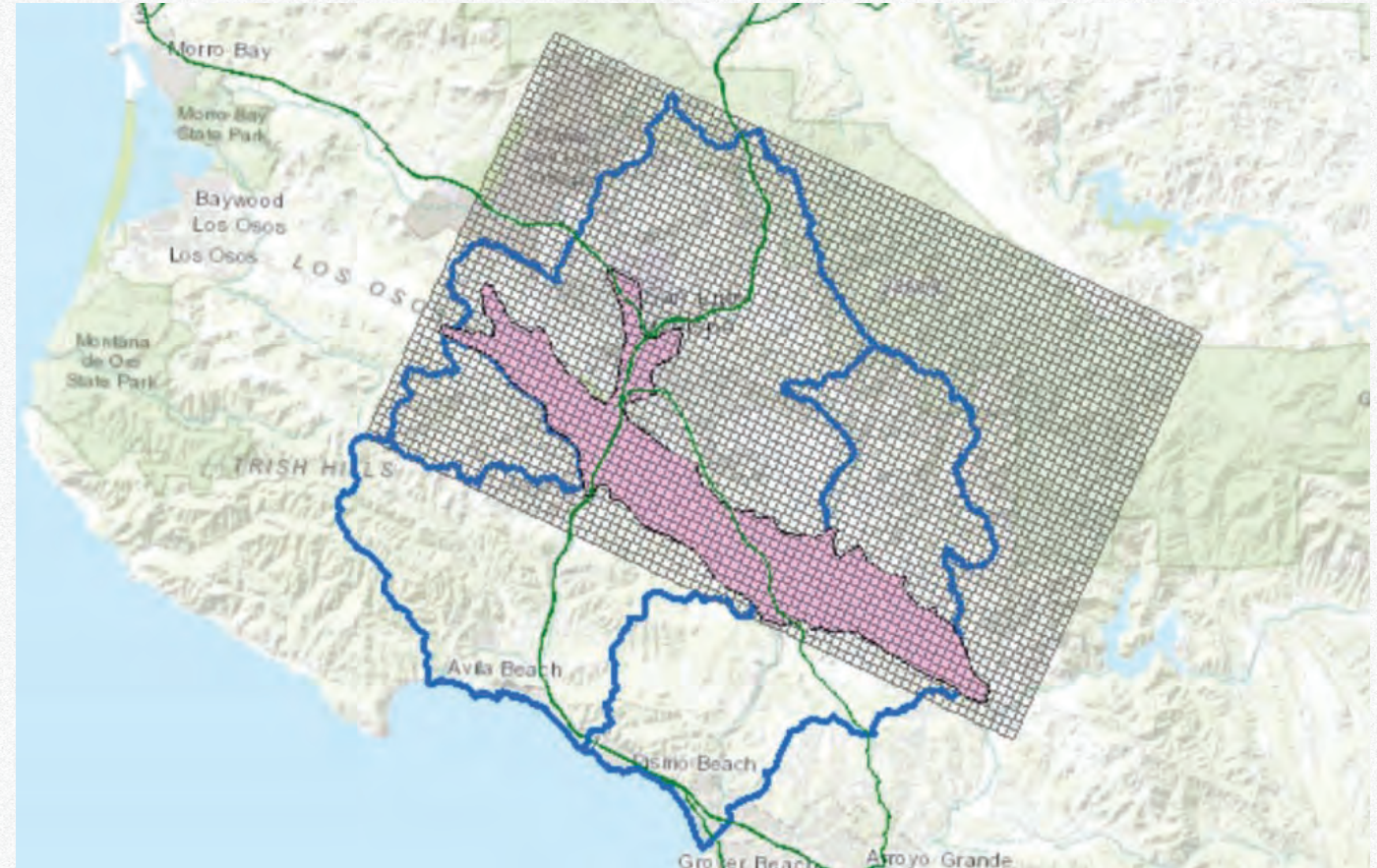
SLO Basin





# 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







# **SLO BASIN**

Q&A





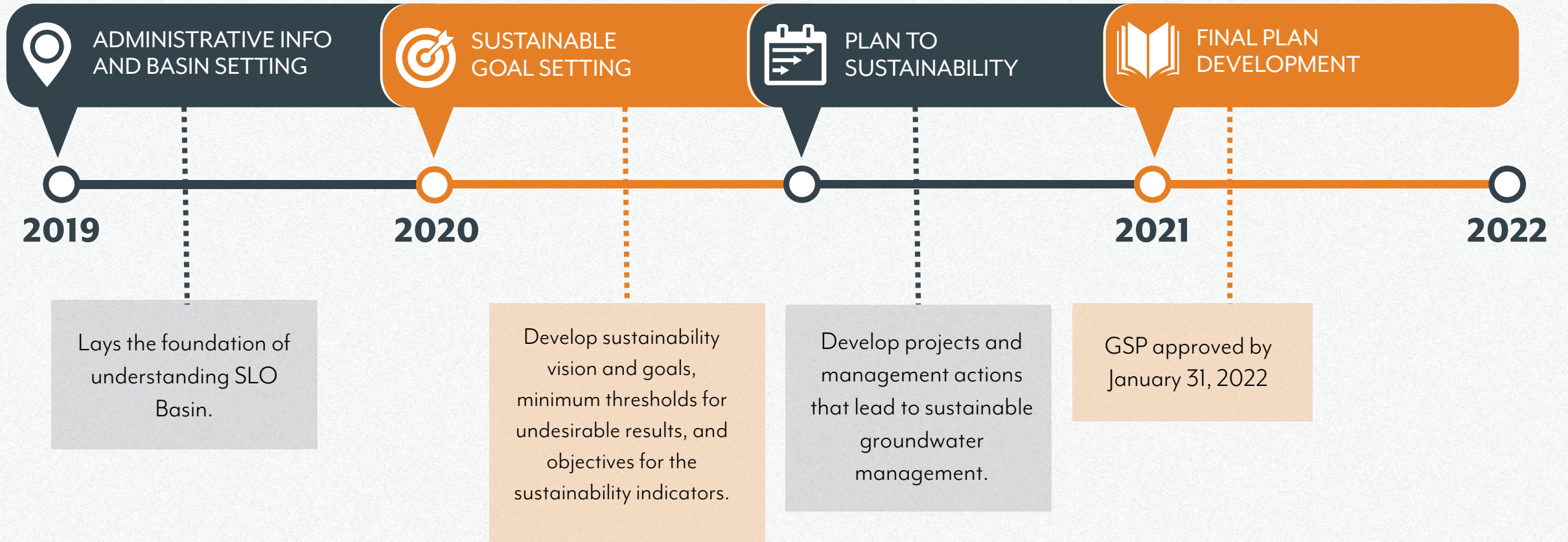


# **THE GSP PROCESS**

Michael Cruikshank

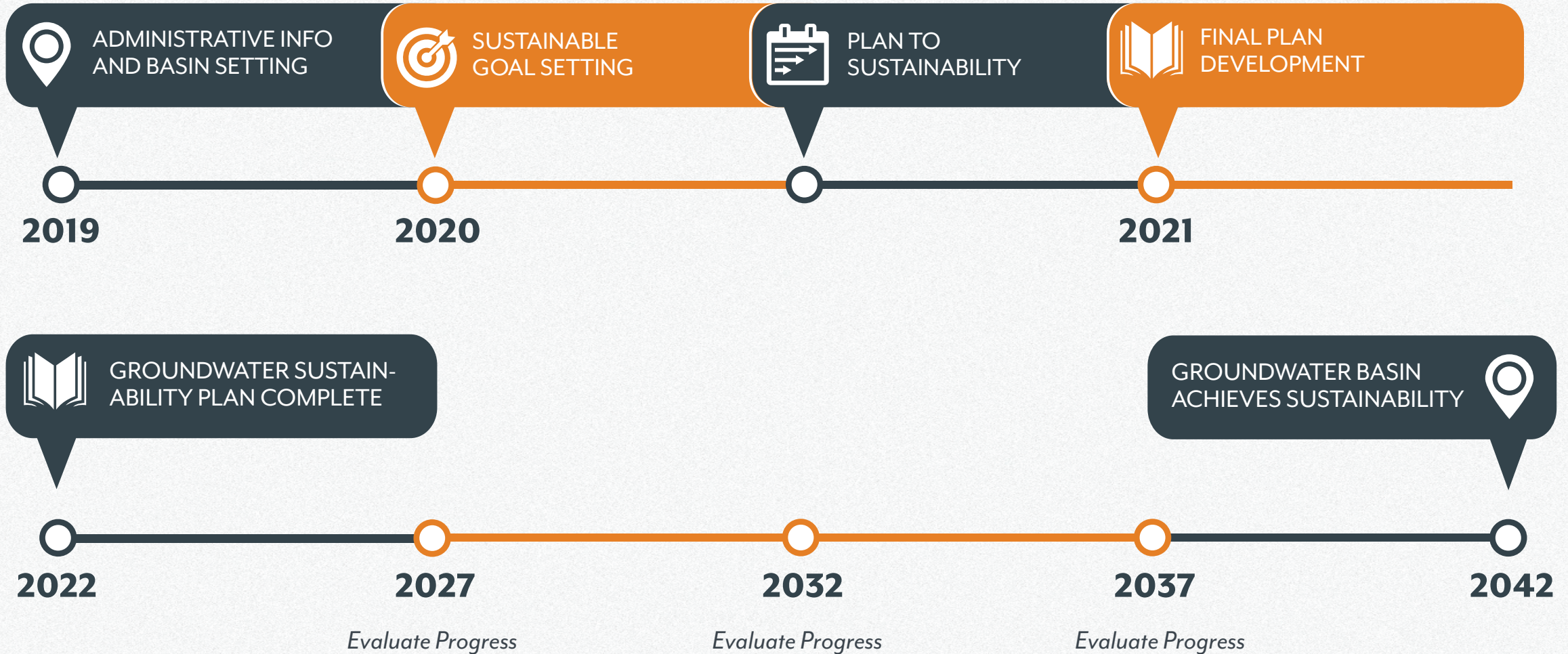


# GSP DEVELOPMENT TIMELINE





# 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

