A SGMA Primer – Considerations for Mexico

The California Department of Water Resources

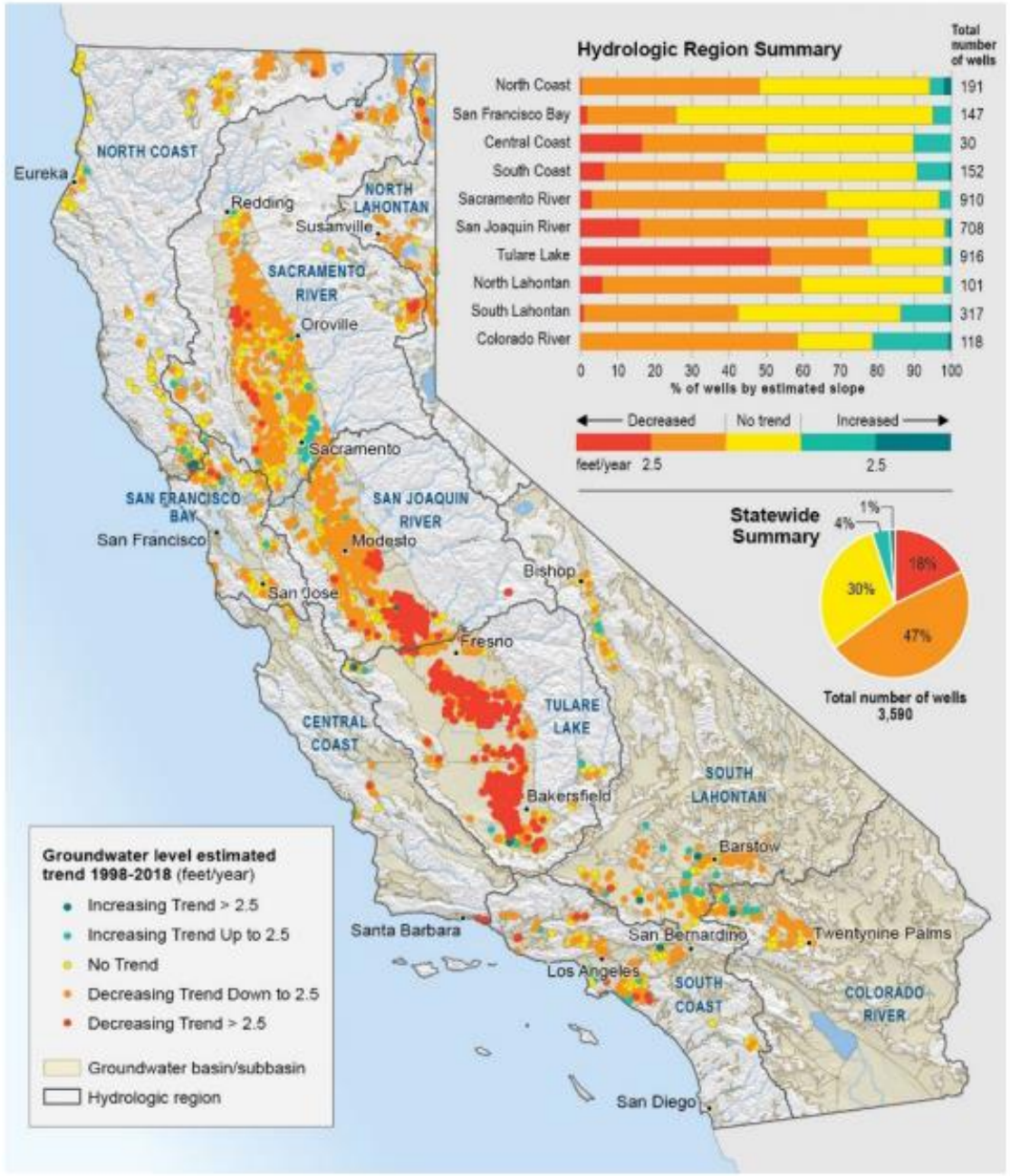
July 10, 2024

Groundwater Conditions

In dry years,

up to 60% of California's water supply comes from GROUNDWATER

Figure H-14: Statewide Groundwater Level Trends (1998–2018)



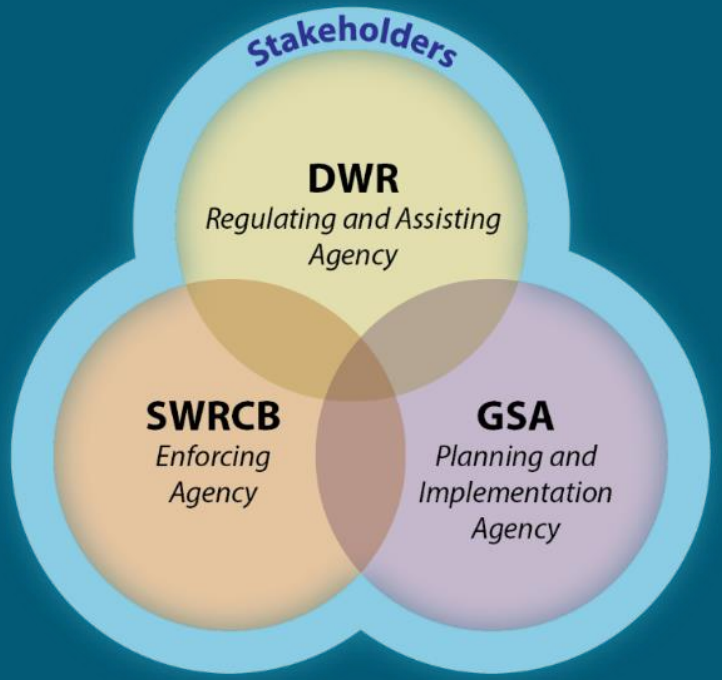
SGMA Timeline

2012 2012-2016 Drought

2014 **SGMA signed into law**

SGMA Overview

Local Control



Sustainability

Avoid Six Undesirable Results

Lowering of GW Levels

Reduction of GW Storage

Seawater Intrusion

Degraded Water Quality

Land Subsidence

Depletion of Interconnected Streams

DWR's Roles

Assistance Role

Regulatory Role

DWR Evaluation of GSPs

Sustainable Groundwater Management

SGMA Timeline

2012 2012-2016 Drought

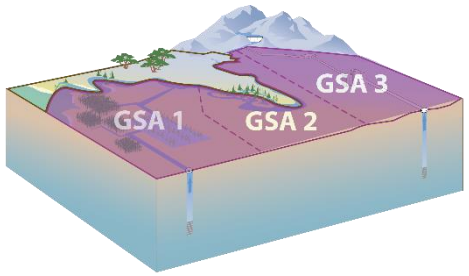
2014 SGMA signed into law

2016 **SGMA Rulemaking**

Groundwater Sustainability Plans

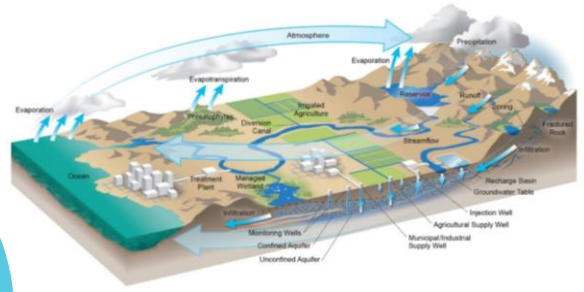
Who

- Administrative Information -



What

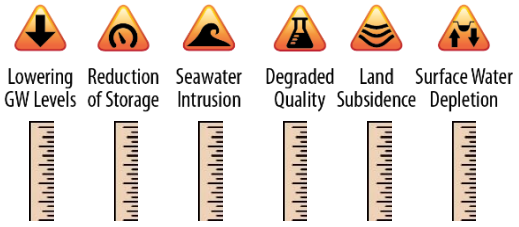
- Basin Setting -

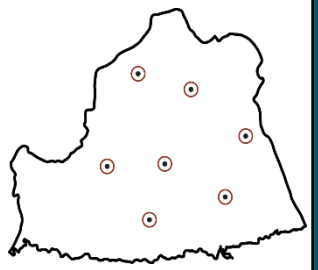


GSP

Where

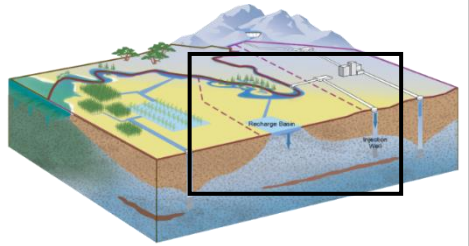
- Sustainable Management Criteria -
- Monitoring Network -





How

- Projects & Management Actions -



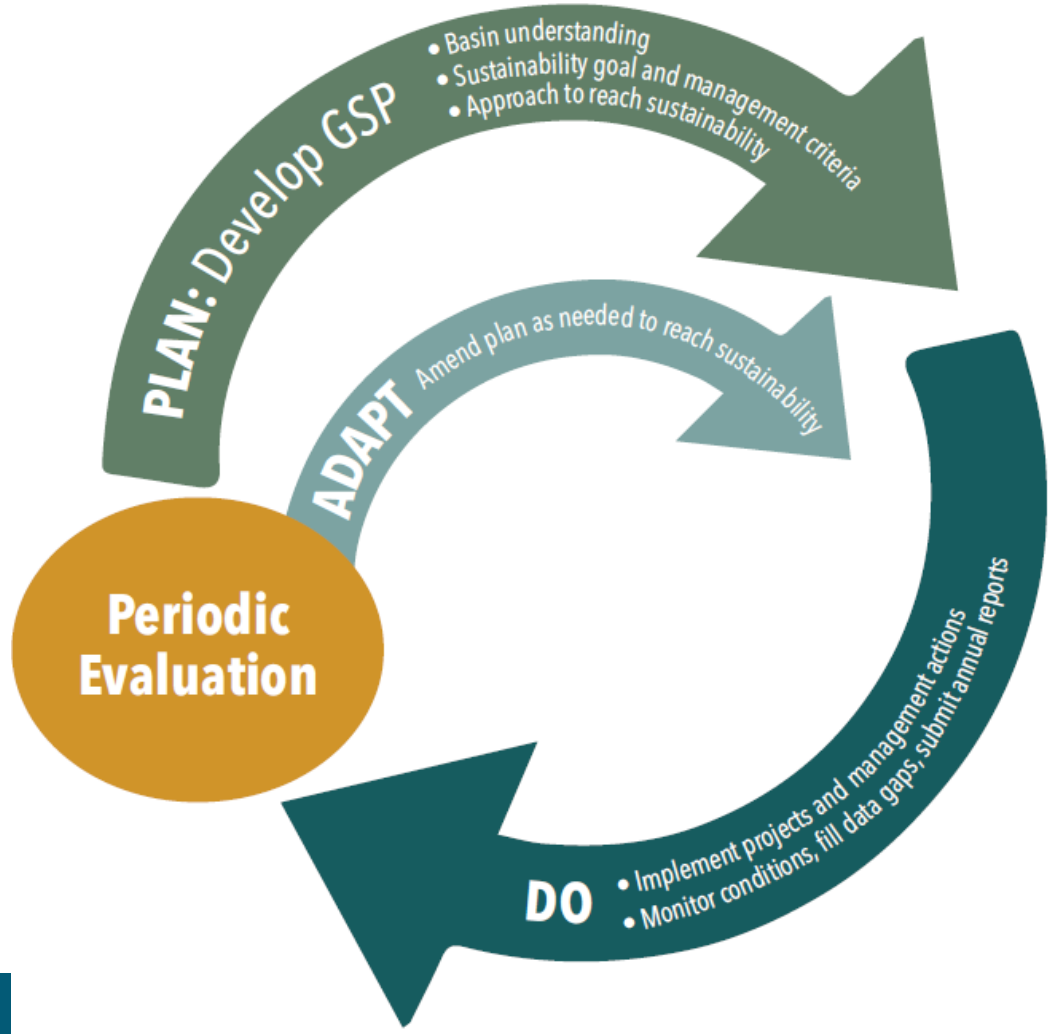
What is Sustainable Groundwater in SGMA?

- GSP must achieve their **Sustainability Goal** within 20 years.
  - Sustainability Goal means a basin is being operated within its' **Sustainable Yield**.
    - Sustainable Yield is the maximum quantity of water, considering long term conditions, that can be withdrawn annually without causing **Undesirable Results**.
      - Undersirable Results are measurable physical conditions we are trying to avoid based on **groundwater levels, water quality, and resulting conditions**.

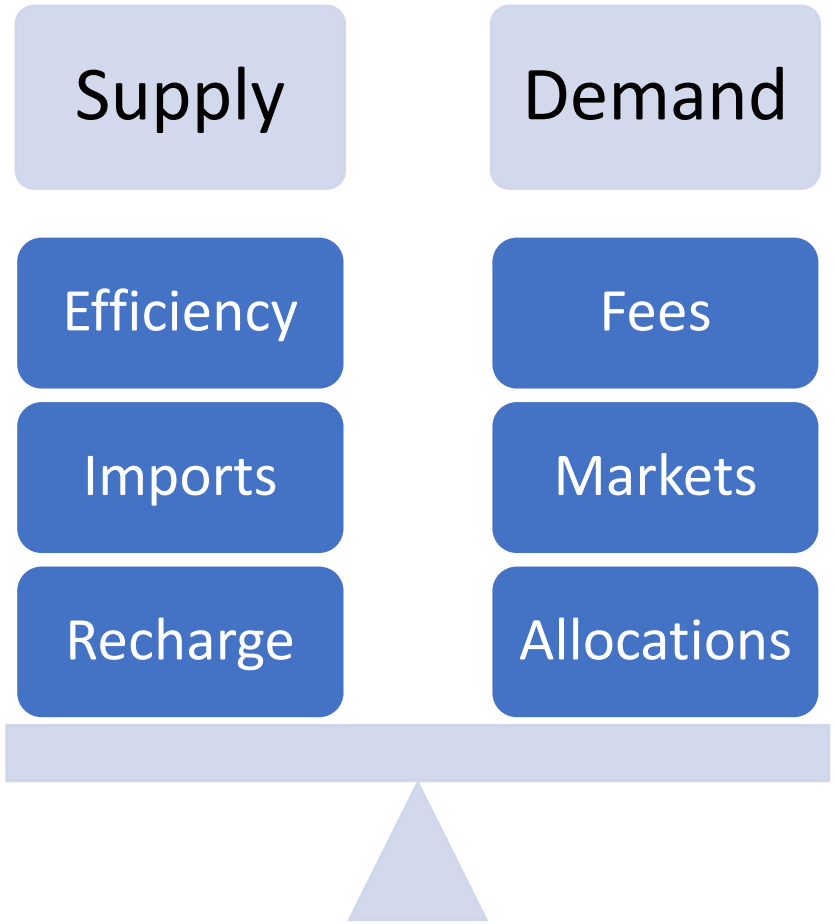
SGMA Implementation: 20 Year Horizon

Implementation Guidance

- Annual Reports
- Periodic Evaluations
- Plan Amendments



Adaptation - Flexibility in the balancing act



- Sustainable Yield is an estimate
- Allocations likely to change
- Projects and Management Actions likely to change
- GSPs will have to adapt

Water Year 2023 Groundwater Summary

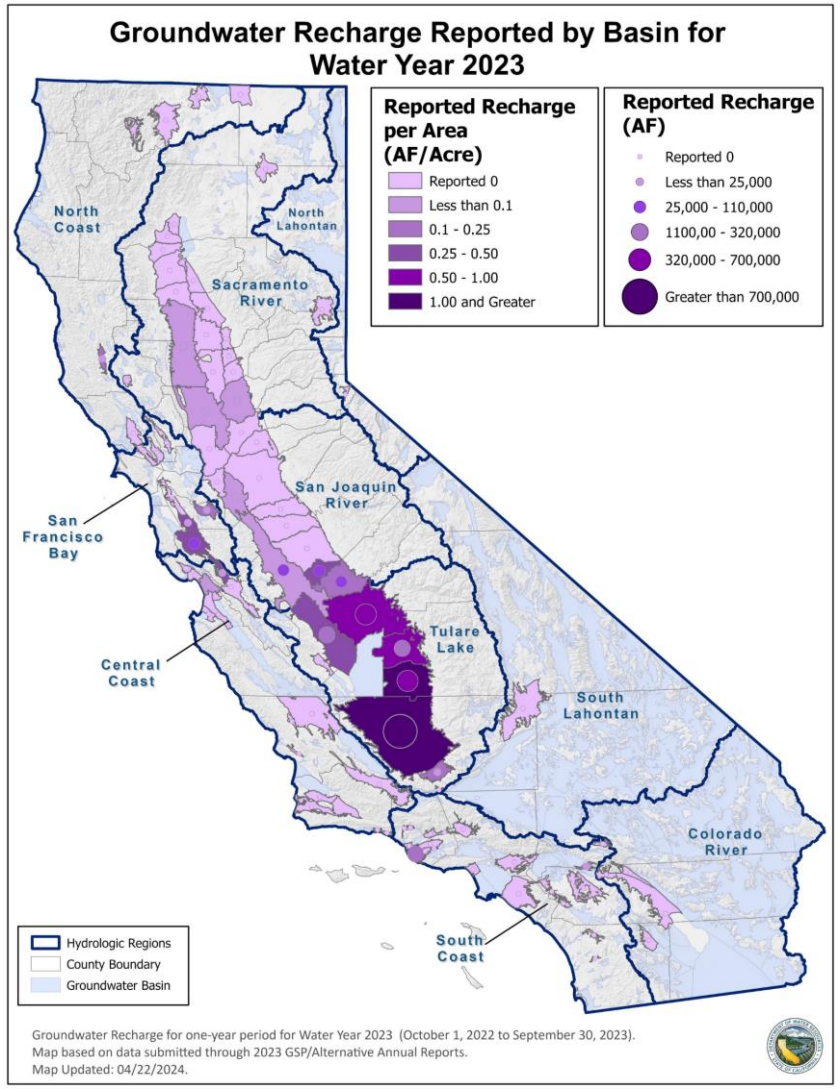
- Latest Reported Data from (99) Groundwater Sustainability Plan & Alternative Plan Annual Reports
  - These 99 basins account for 90% of all groundwater pumping in 515 groundwater basins

GW Pumping ↓	+	**Managed Recharge** ↑	=	**Change in Storage** ↑	**GW Conditions** ↑
WY23: 9.7 MAF		**WY23: 4.1 MAF**		**WY23: +8.7 MAF**	Increased GW Levels
WY22: 17 MAF		WY22: 315 TAF		WY22: -6.4 MAF	Less Subsidence
WY21: 18 MAF		WY21: 205 TAF		WY21: -7.9 MAF	Fewer Dry Wells
		WY20: 525 TAF			
		WY19: 2.1 MAF			

- DWR's Spring Semi-Annual Groundwater Conditions Report, released **May 6**
  - https://data.cnra.ca.gov/dataset/california-s-groundwater-semi-annual-conditions-updates/resource/ba12c11f-b8b8-4d37-a9e4-13c2d7831285

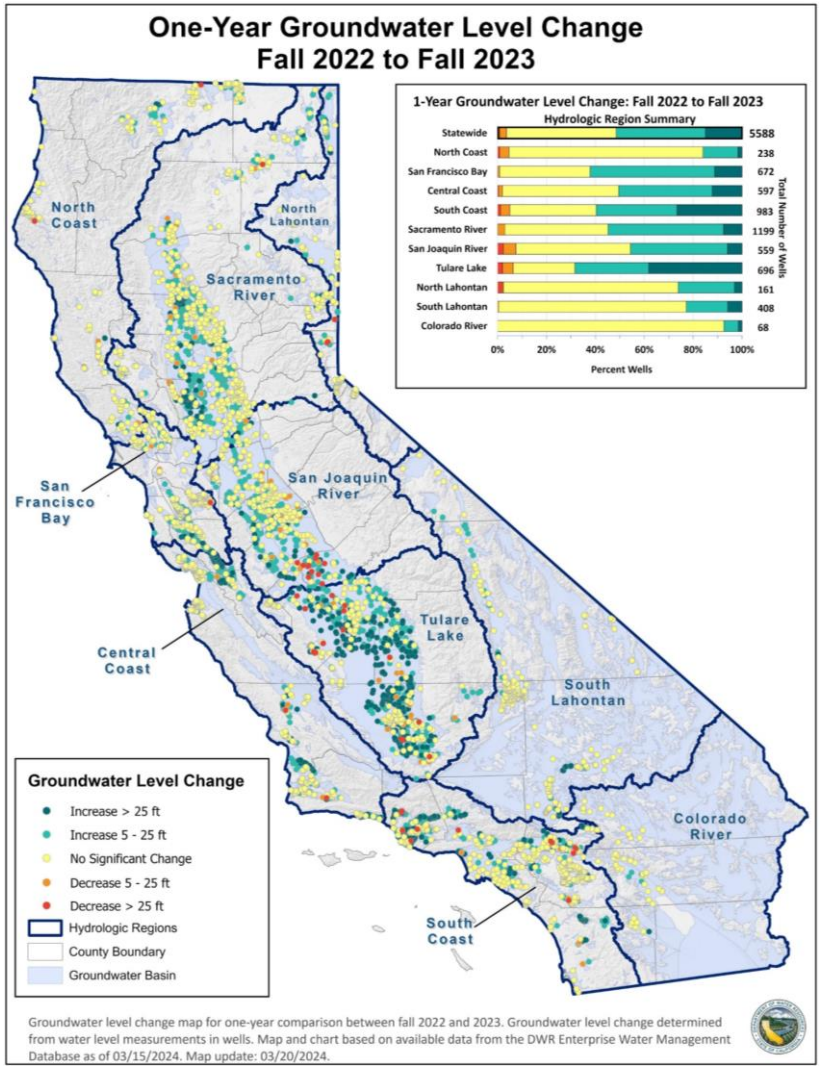
WY2023 Groundwater Summary – Managed Recharge

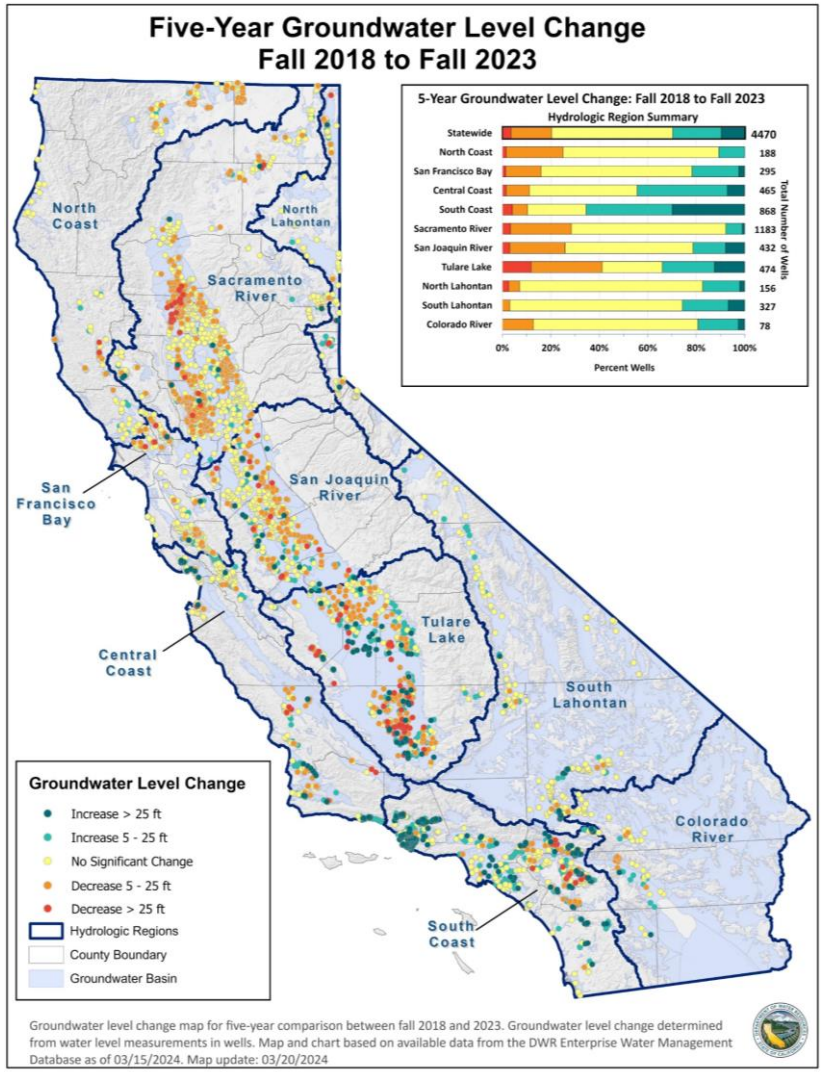
Total Managed Recharge: 4.1 MAF (Statewide), 3.9 MAF (94% Central Valley), 3.8 MAF (93% San Joaquin Valley)

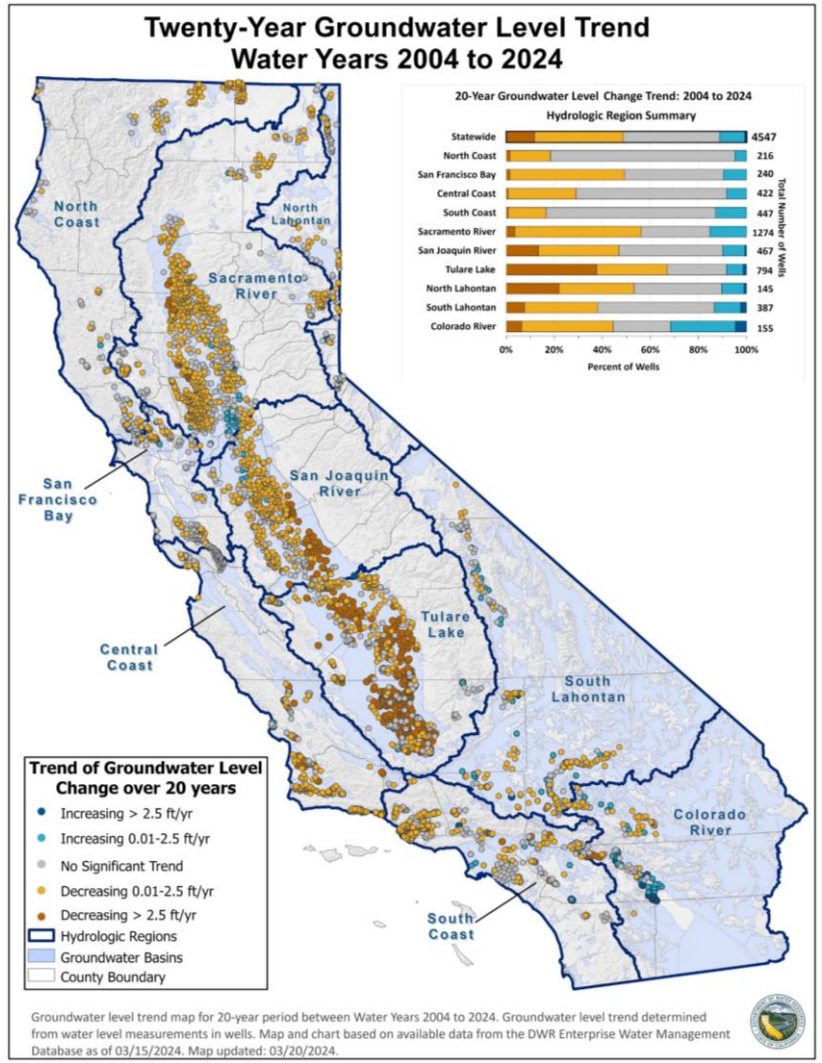


Water Year	Water Year Type	Number of Basins Submitting Annual Reports	Number of Basins Reporting Managed Recharge	Managed Aquifer Recharge Volume (AF)
WY 2019	Wet	23	9	2,144,610
WY 2020	Dry	26	8	525,059
WY 2021	Critical	94	12	205,428
WY 2022	Critical	98	15	315,089
WY 2023	Wet	99	21	4,136,259

WY2023 Groundwater Summary – GW Levels

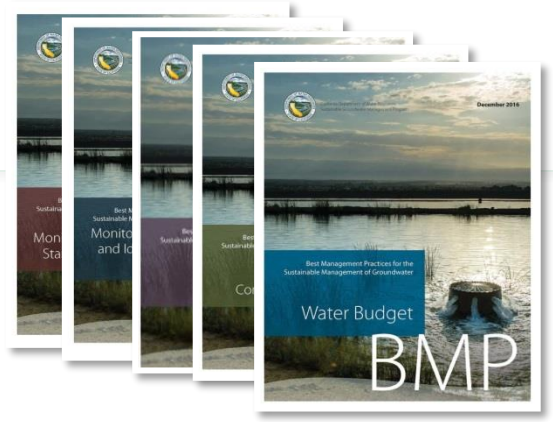






Guidance and Education

- Statewide & Regional References
  - DWR's SGMP Webpages
  - Bulletin 118 – 2020 *In Development*
  - Bulletin 160 – Groundwater Content
- SGMA References



Best Management Practices

- BMP 1: Monitoring Protocols, Standards, Sites
- BMP 2: Monitoring Networks & Identification of Data Gaps
- BMP 3: Hydrologic Conceptual Model
- BMP 4: Water Budget
- BMP 5: Modeling
- BMP 6: Sustainable Management Criteria (Draft)

Guidance Documents

- Preparation Checklist for GSP submittal
- GSP Annotated Outline
- Engagement with Tribal Governments
- Stakeholder Comm. & Engagement

Parting Thoughts

- California is based on Local Control
- Federal → State → County → Local agencies / GSAs
- We do not have a specific Groundwater Right System
- Groundwater conditions are the metric
- Demand management likely necessary
- Uncertainty in Sustainable Yield
- Adaptation required

Thank You

- Question and Discussion