

# Glenn County Drought Task Force

2023 Spring Groundwater Update

Bill Ehorn

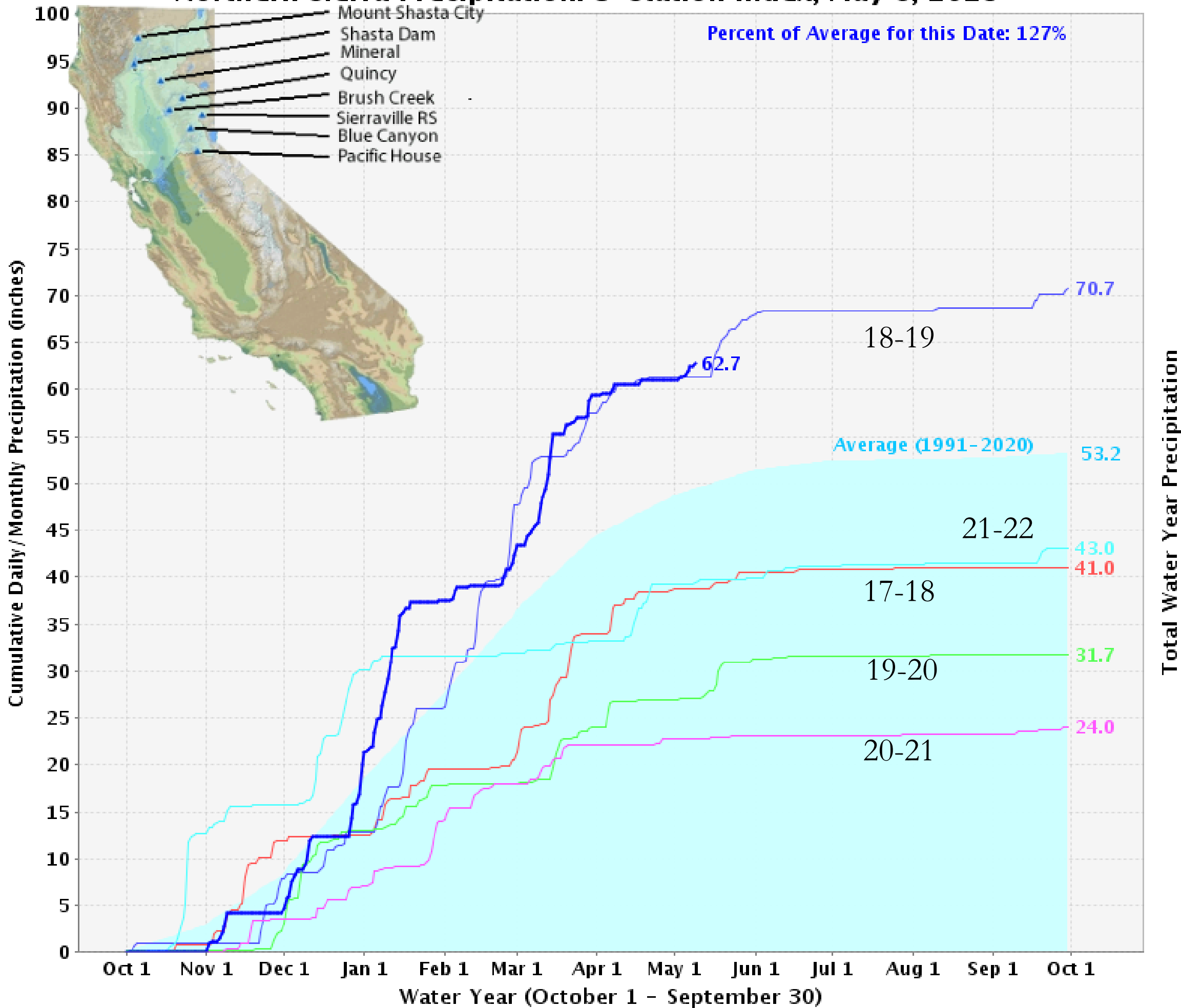
Engineering Geologist

DWR Northern Region

# Outline

- **Water Year and Precipitation Index**
- **NOAA Climate Prediction**
- **Land Use and Water Source Change Maps**
- **Groundwater Change Maps**
- **Land Subsidence Change Maps**

# Northern Sierra Precipitation: 8-Station Index, May 9, 2023



■ Average (1991-2020) 
 — 2017-2018 
 — 2018-2019 
 — 2019-2020 
 — 2020-2021 
 — 2021-2022 
 — 2022-2023 (current)

Select Lead ▾

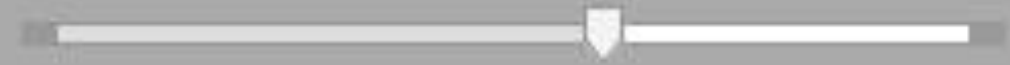
# Seasonal Outlook

May 2023-July 2023 (Lead 1)

Temperature

● Outlook

Opacity: 60%

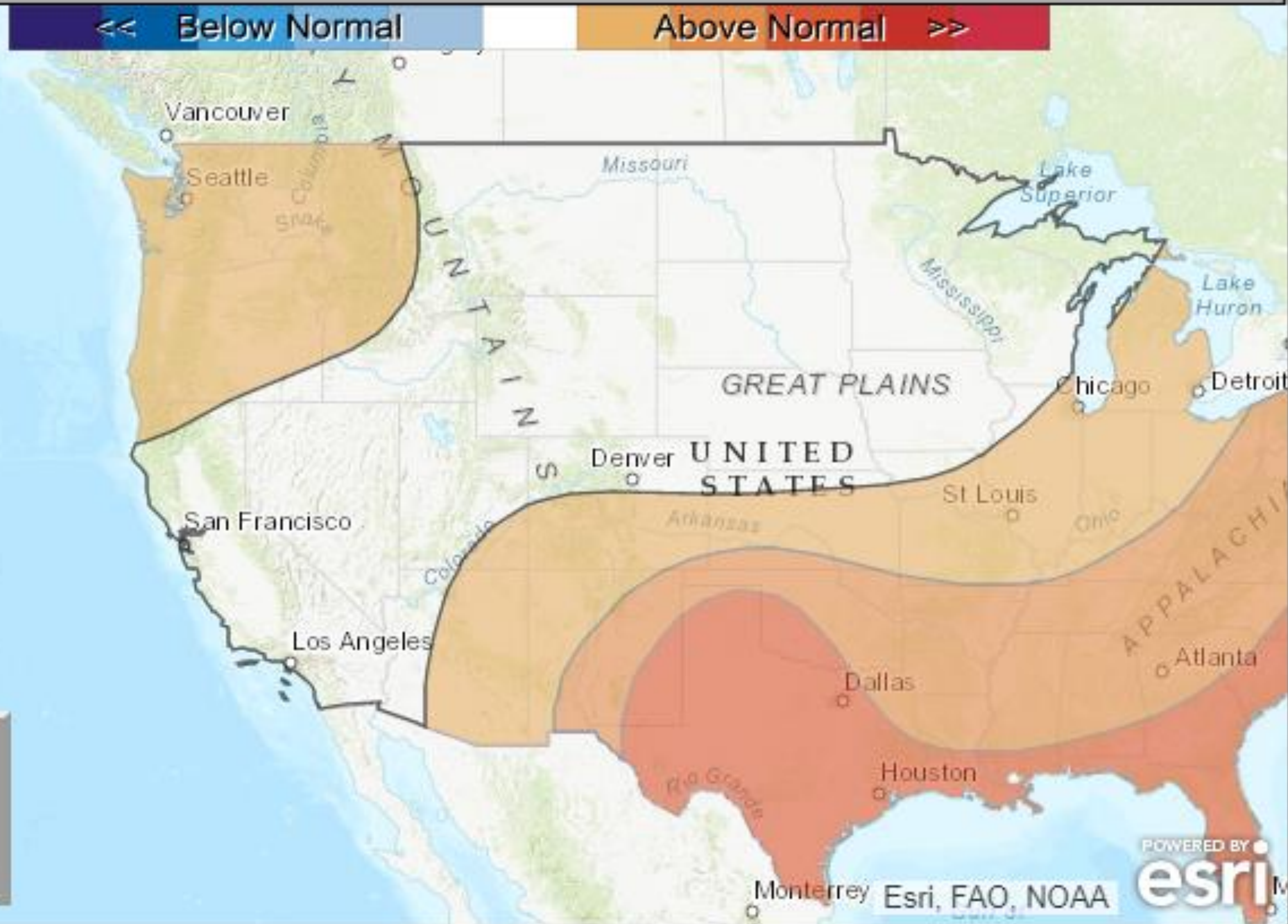


Precipitation

● Outlook

<< Below Normal

Above Normal >>



POWERED BY  
Esri, FAO, NOAA





Select Lead ▾

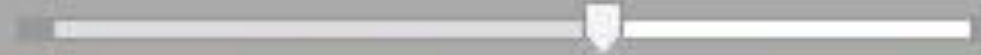
# Seasonal Outlook

May 2023-July 2023 (Lead 1)

Temperature

● Outlook

Opacity: 60%

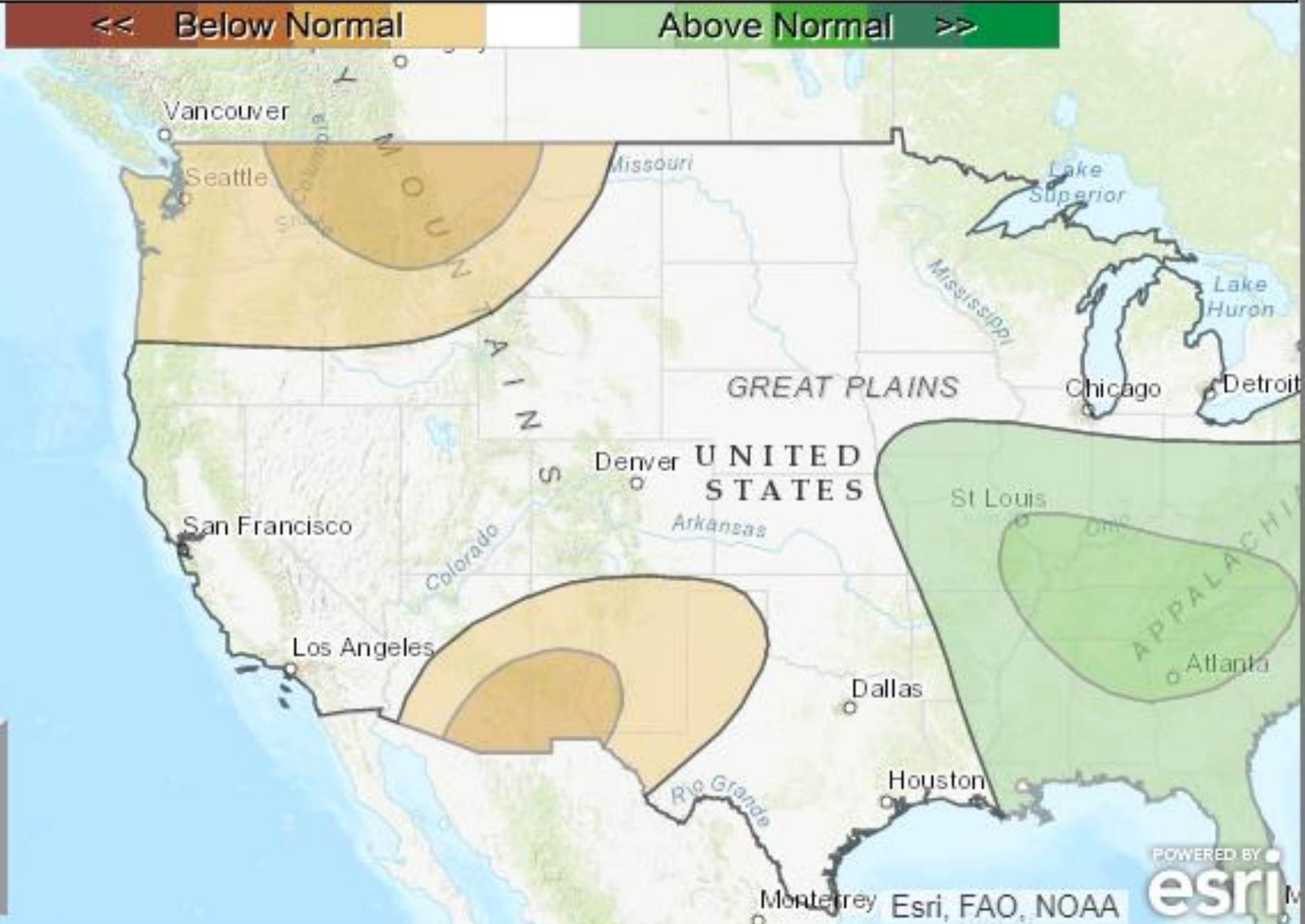


Precipitation

● Outlook

<< Below Normal

Above Normal >>



# Change in Land Use – Glenn and Tehama Counties

## Glenn County

Croptype	2003 Acres	2020 Acres	Difference	Percent Change
Citrus	5,183	8,660	3,477	67%
Deciduous	53,652	108,257	54,605	102%
Field	30,268	16,217	-14,051	-46%
Grain	21,760	14,137	-7,623	-35%
Idle	8,056	16,564	8,508	106%
Pasture	38,879	21,185	-17,694	-46%
Rice	90,644	77,154	-13,490	-15%
Truck	2,789	2,757	-32	-1%
Vineyard	1,438	3	-1,435	-100%
<b>Totals</b>	<b>252,669</b>	<b>264,934</b>	<b>12,265</b>	

Overall Gain

Loss of Rice above is reflected in gain of Idle...

## Tehama County

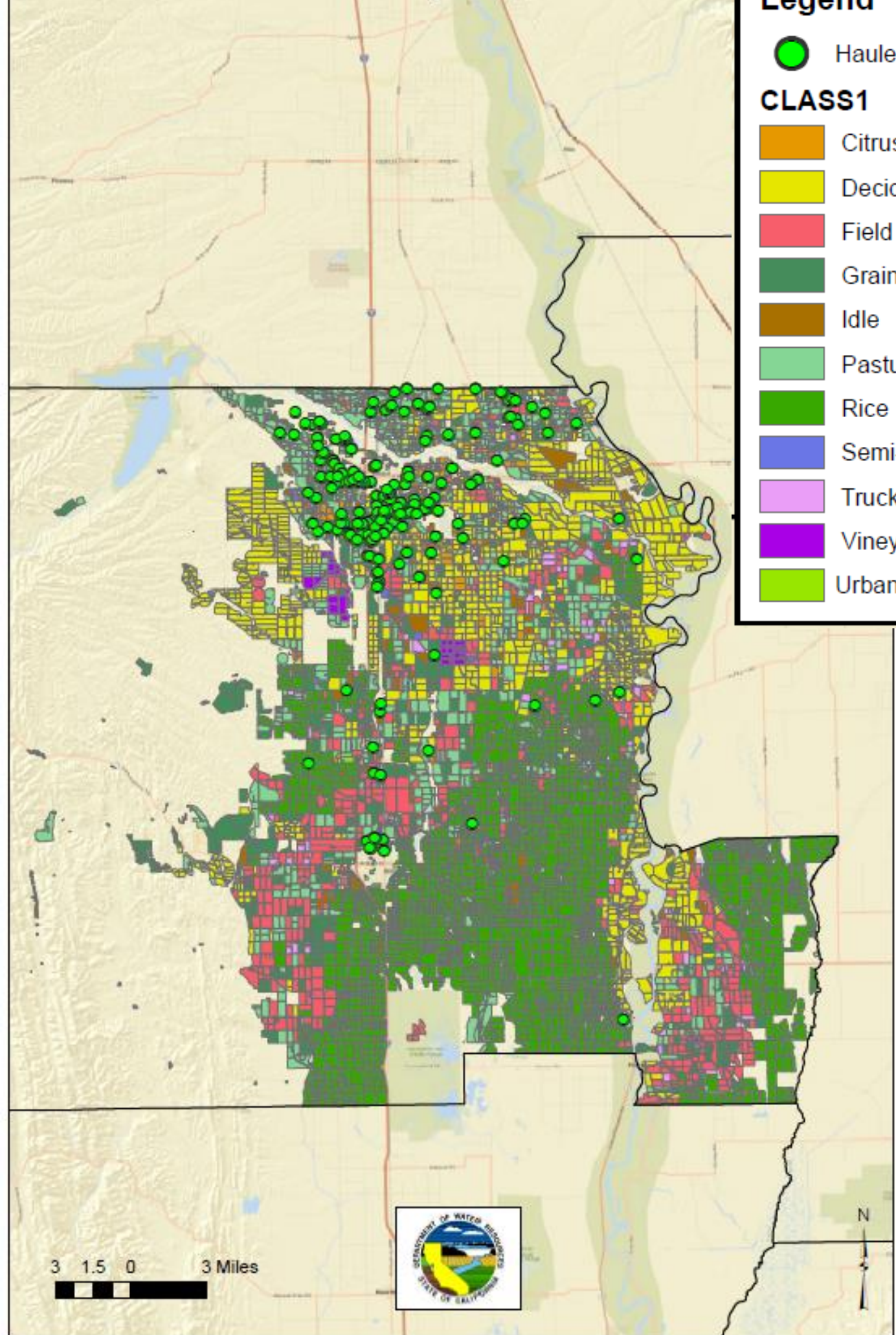
Croptype	2005 Acres	2020 Acres	Difference	Percent Change
Citrus	18,380	18,939	559	3%
Deciduous	36,406	60,840	24,434	67%
Field	1,775	2,459	684	39%
Grain	10,924	8,653	-2,271	-21%
Idle	6,685	11,776	5,091	76%
Pasture	44,679	19,826	-24,853	-56%
Rice	2,438	212	-2,226	-91%
Truck	884	250	-634	-72%
Vineyard	187	253	66	35%
<b>Totals</b>	<b>122,358</b>	<b>123,208</b>	<b>850</b>	

Overall Gain













Loss of Rice above is reflected in gain of Idle...



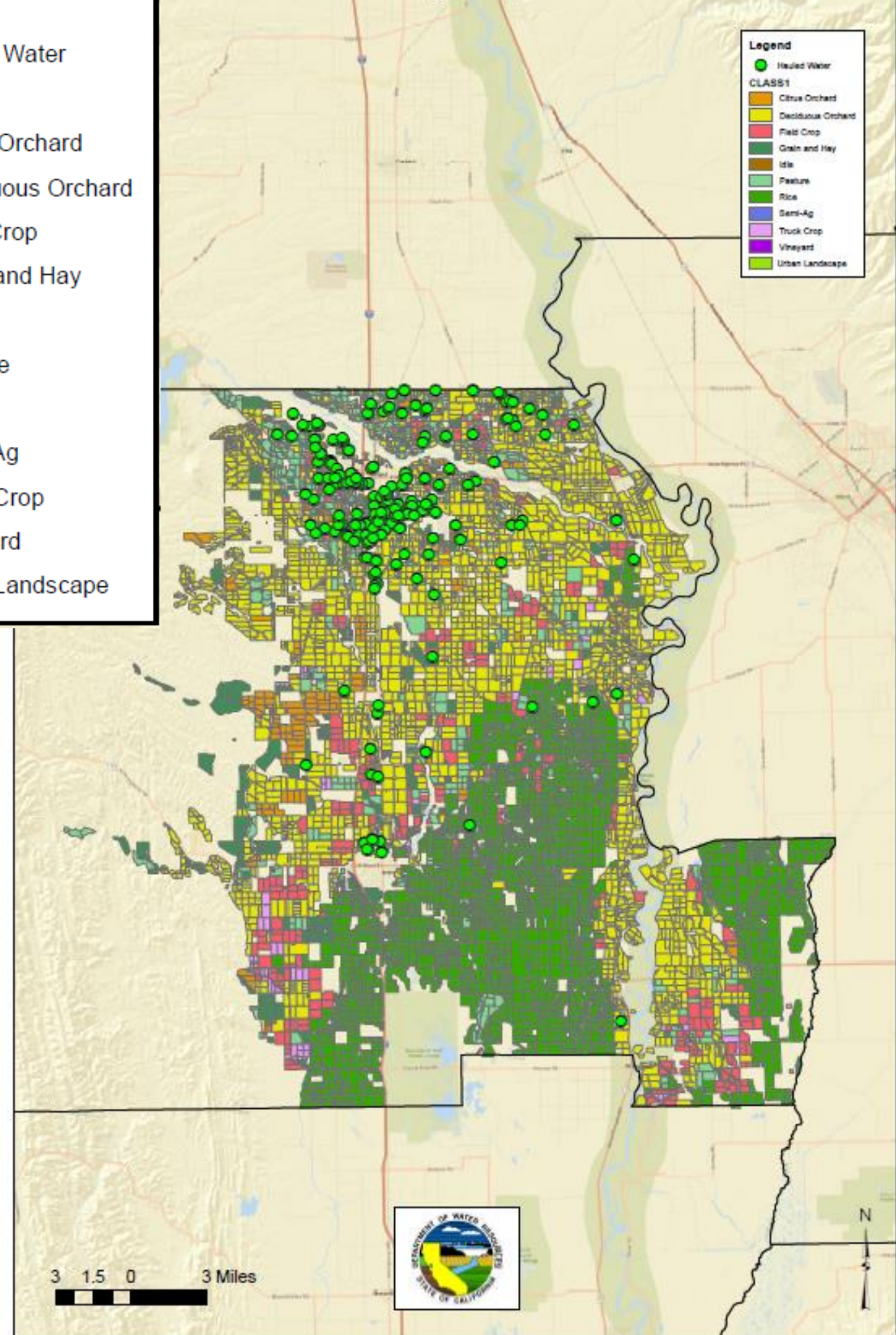
Glenn County Land Use 2003










**Legend**

-  Hauled Water
- CLASS1**
-  Citrus Orchard
-  Deciduous Orchard
-  Field Crop
-  Grain and Hay
-  Idle
-  Pasture
-  Rice
-  Semi-Ag
-  Truck Crop
-  Vineyard
-  Urban Landscape

Glenn County Land Use 2020



-  Hauled Water
- CLASS1**
-  Citrus Orchard
-  Deciduous Orchard
-  Field Crop
-  Grain and Hay
-  Idle
-  Pasture
-  Rice
-  Semi-Ag
-  Truck Crop
-  Vineyard
-  Urban Landscape



Glenn County Water Source 2003

Glenn County Water Source 2003

### Legend

● Hauled Water

### WATERSOURC

□ No Applied Water

■ Surface

■ Mixed

■ Ground

■ Unknown

■ Reclaimed

### Legend

● Hauled Water

### WATERSOURC

□ No Applied Water

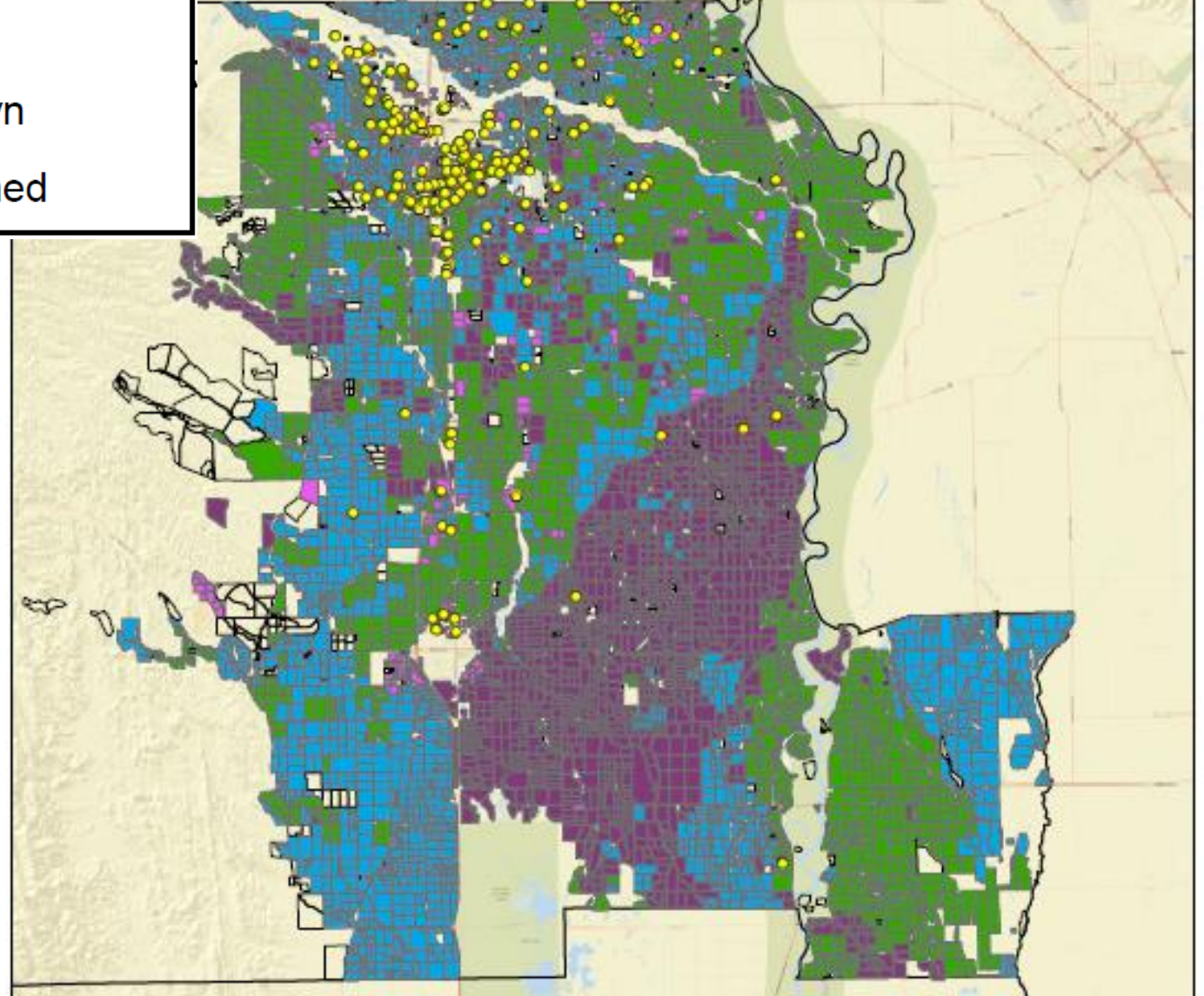
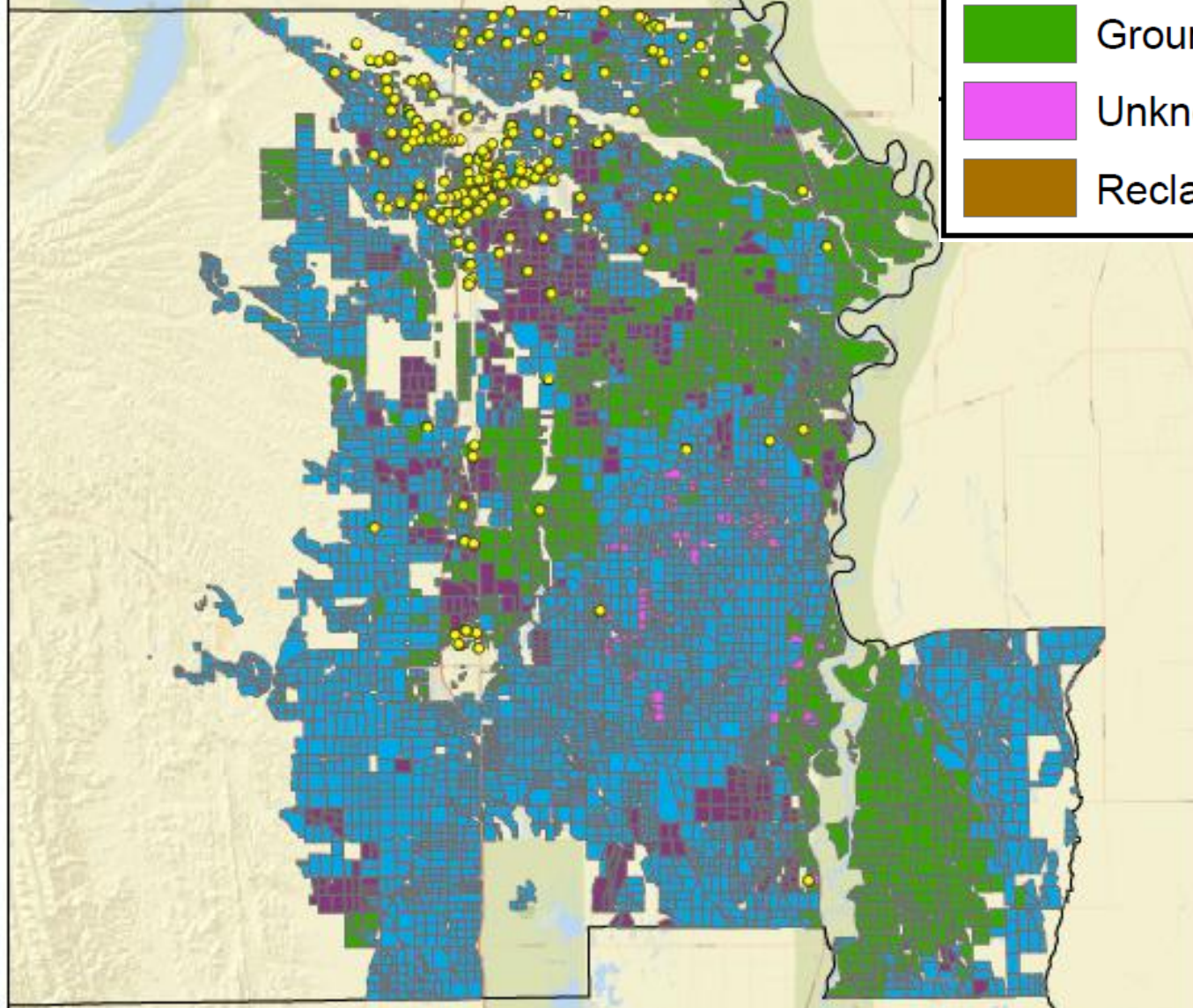
■ Surface

■ Mixed

■ Ground

■ Unknown

■ Reclaimed



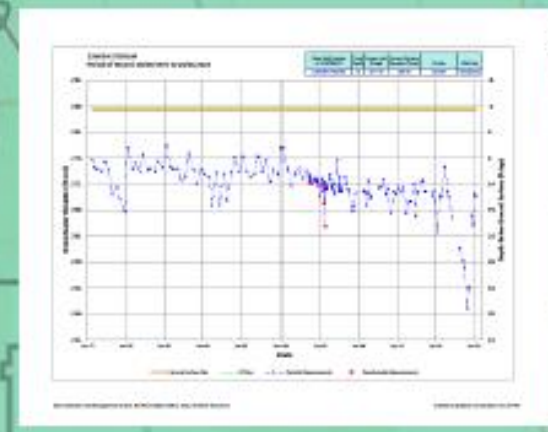
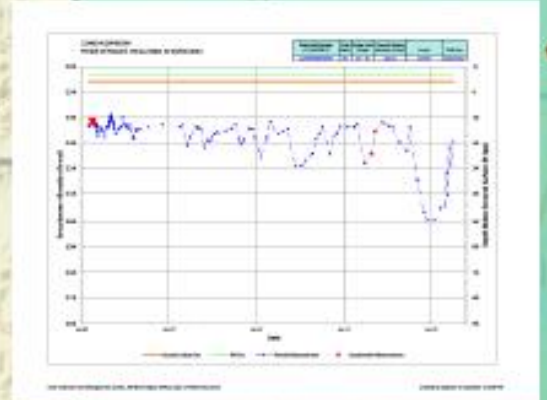
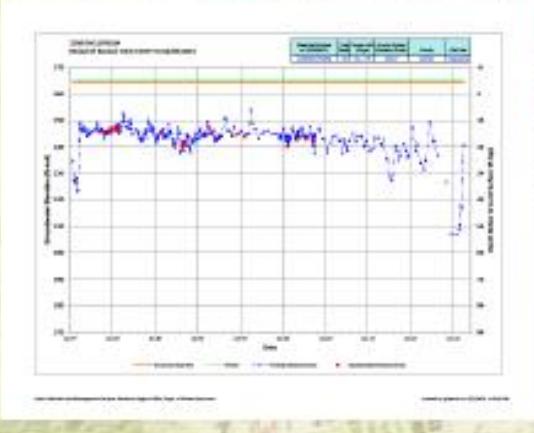
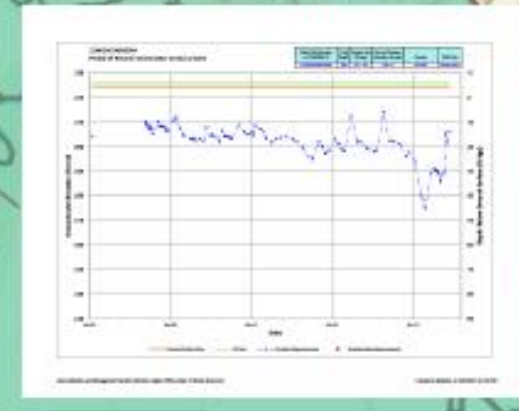
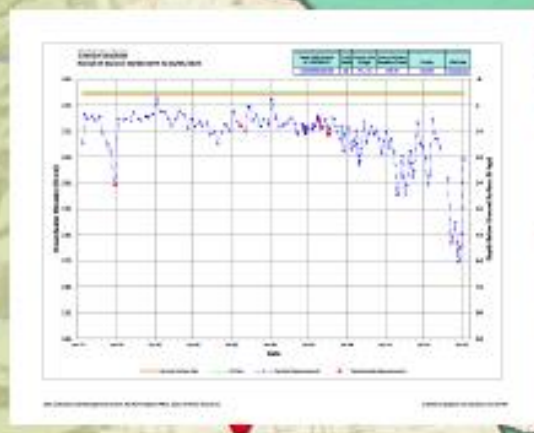
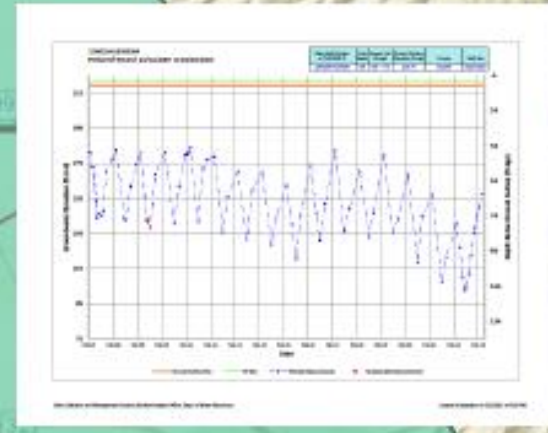
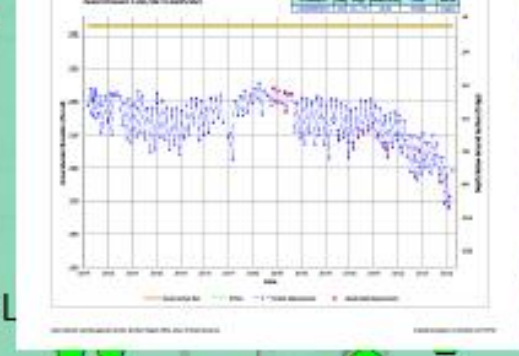
4 2 0 4 Miles



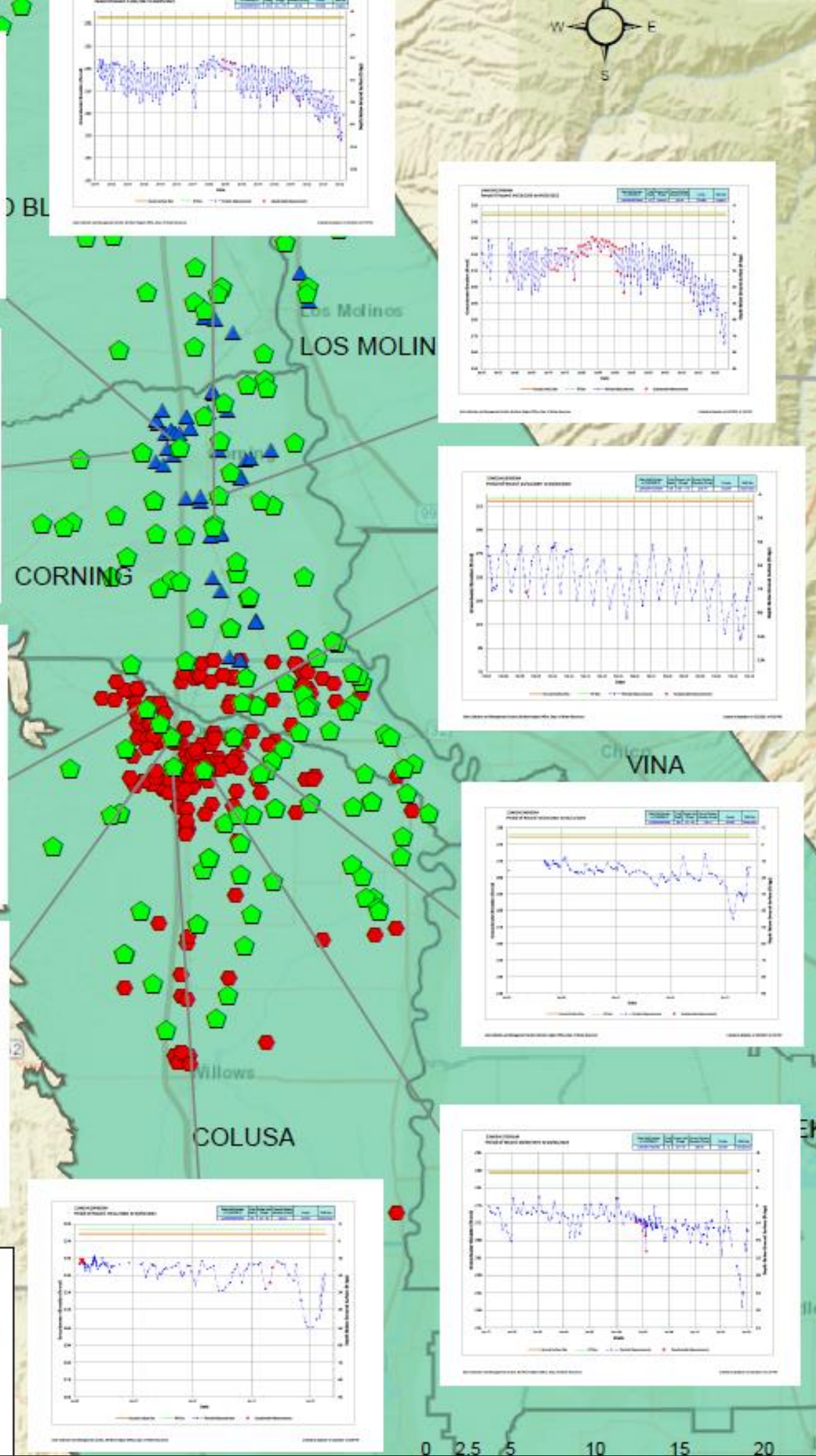
4 2 0 4 Miles







- Monitoring Wells
- ▲ Hauled Water Tehama
- Hauled Water Glenn
- Subbasin



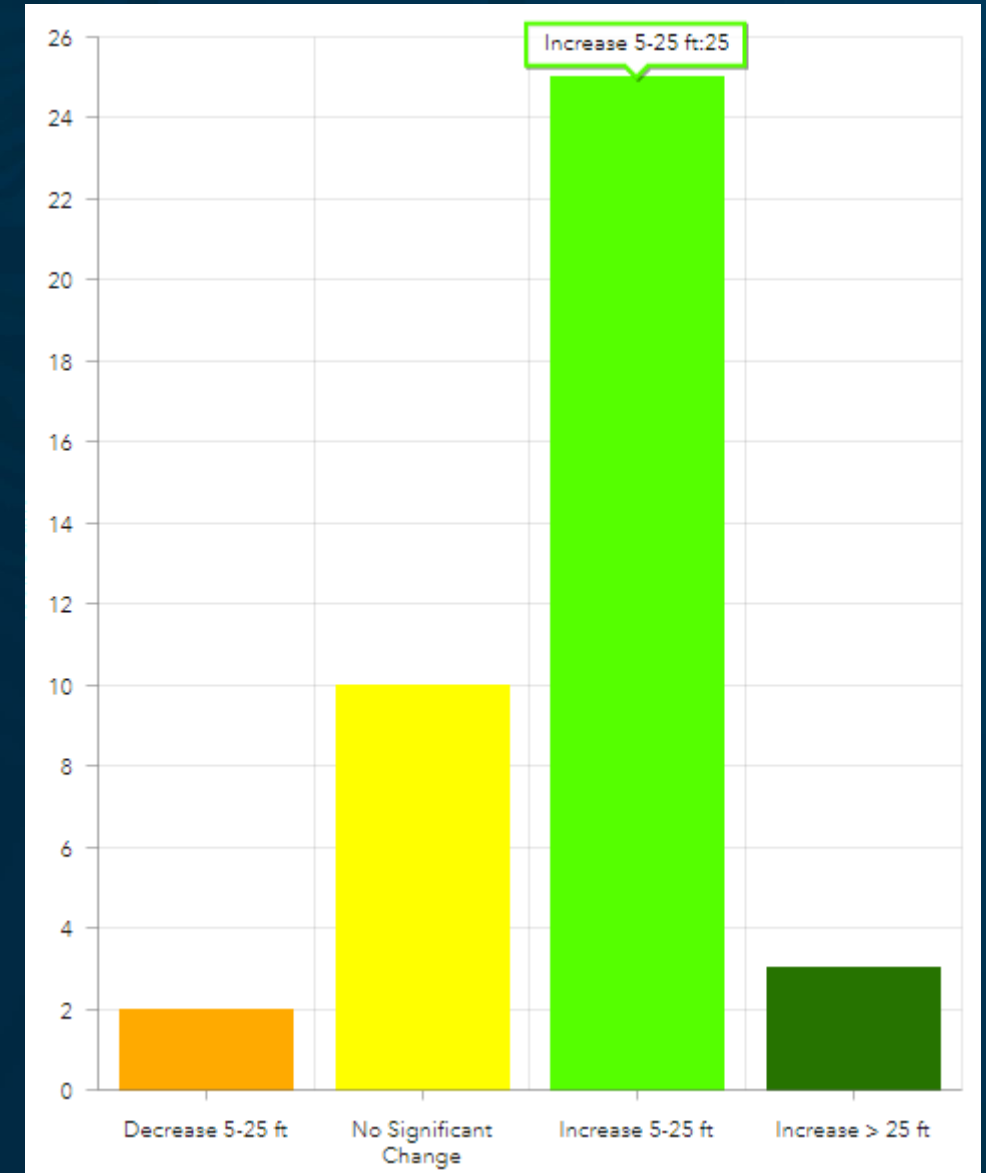
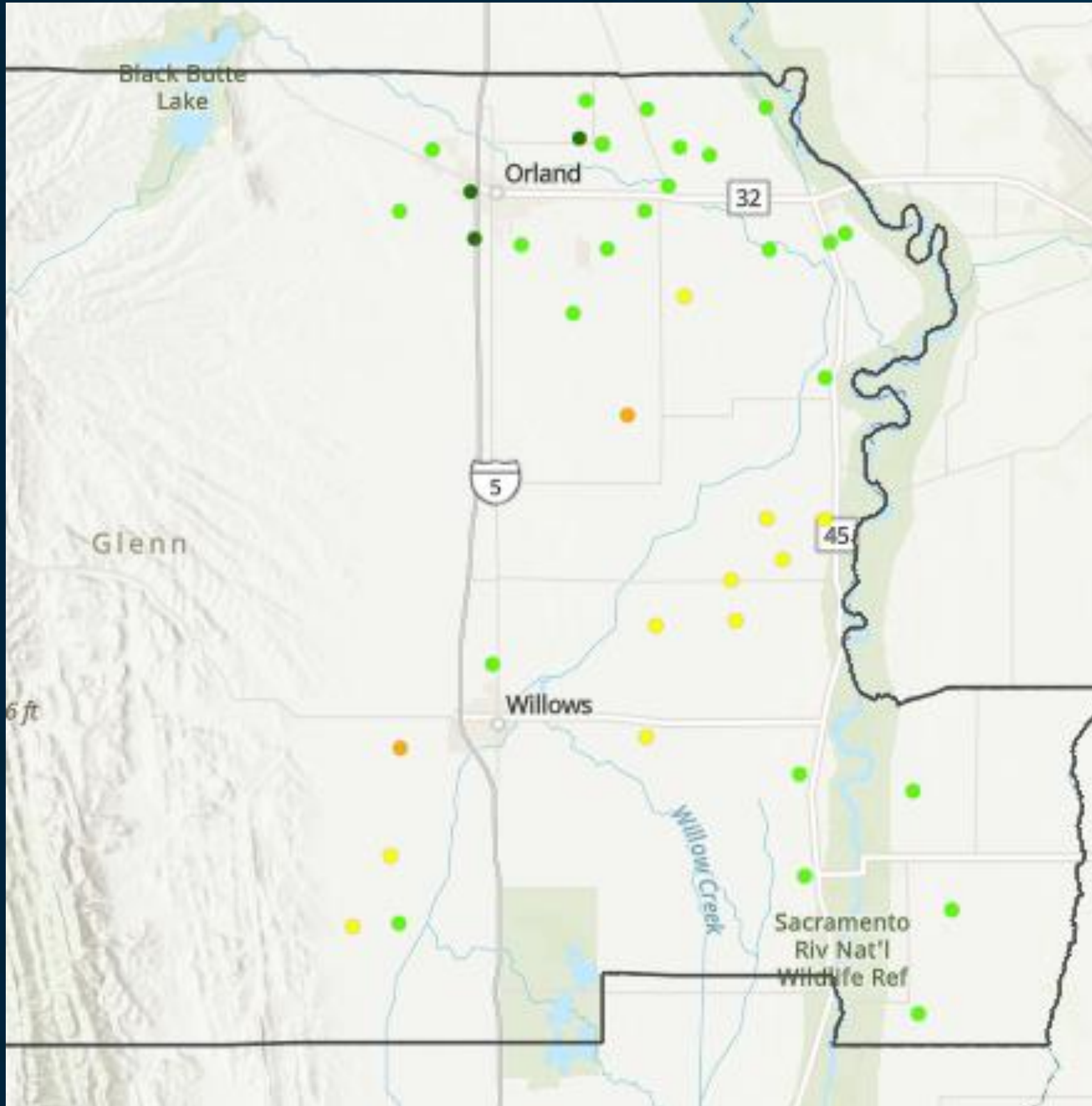
0 2.5 5 10 15 20

# Change Maps of Glenn County using California's Groundwater Live

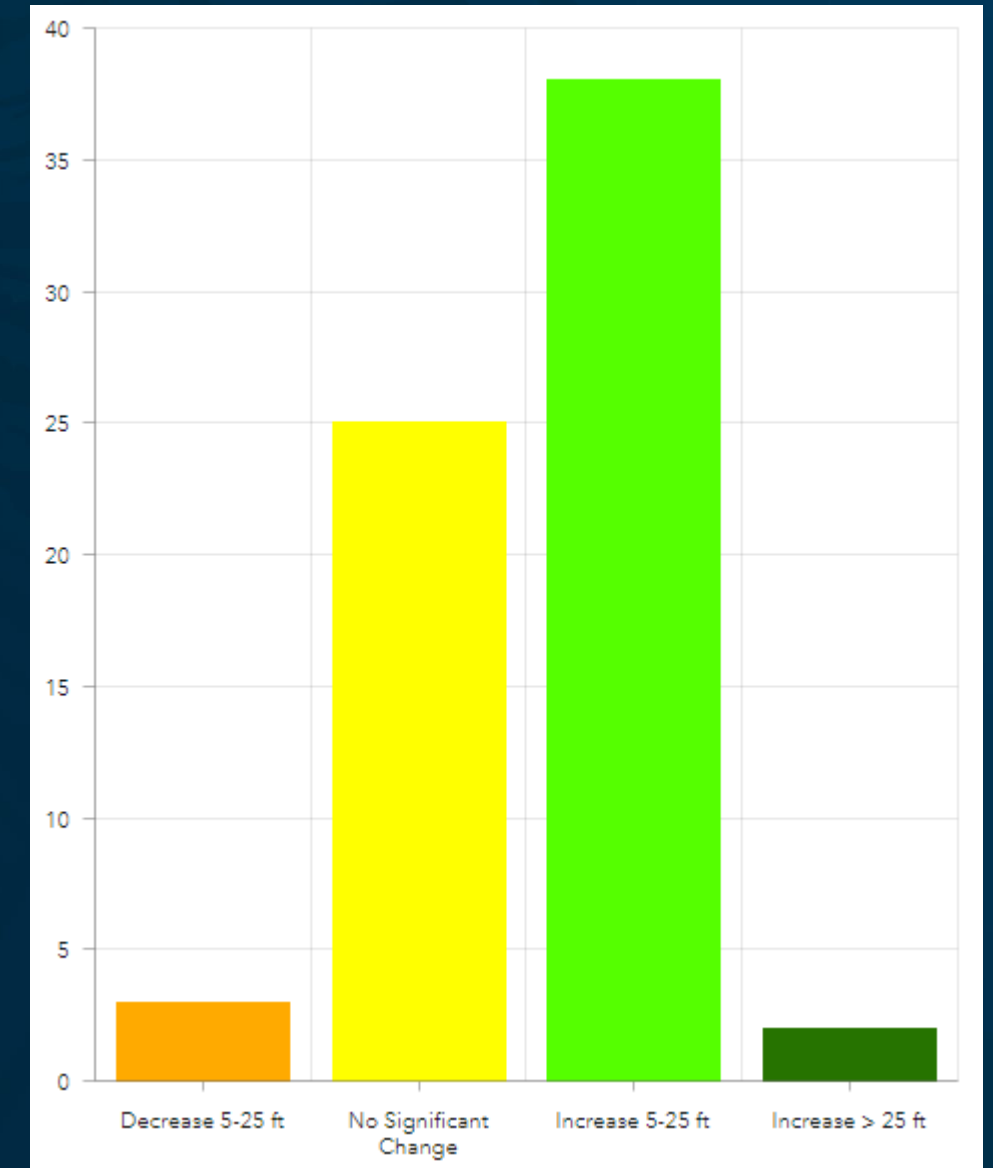
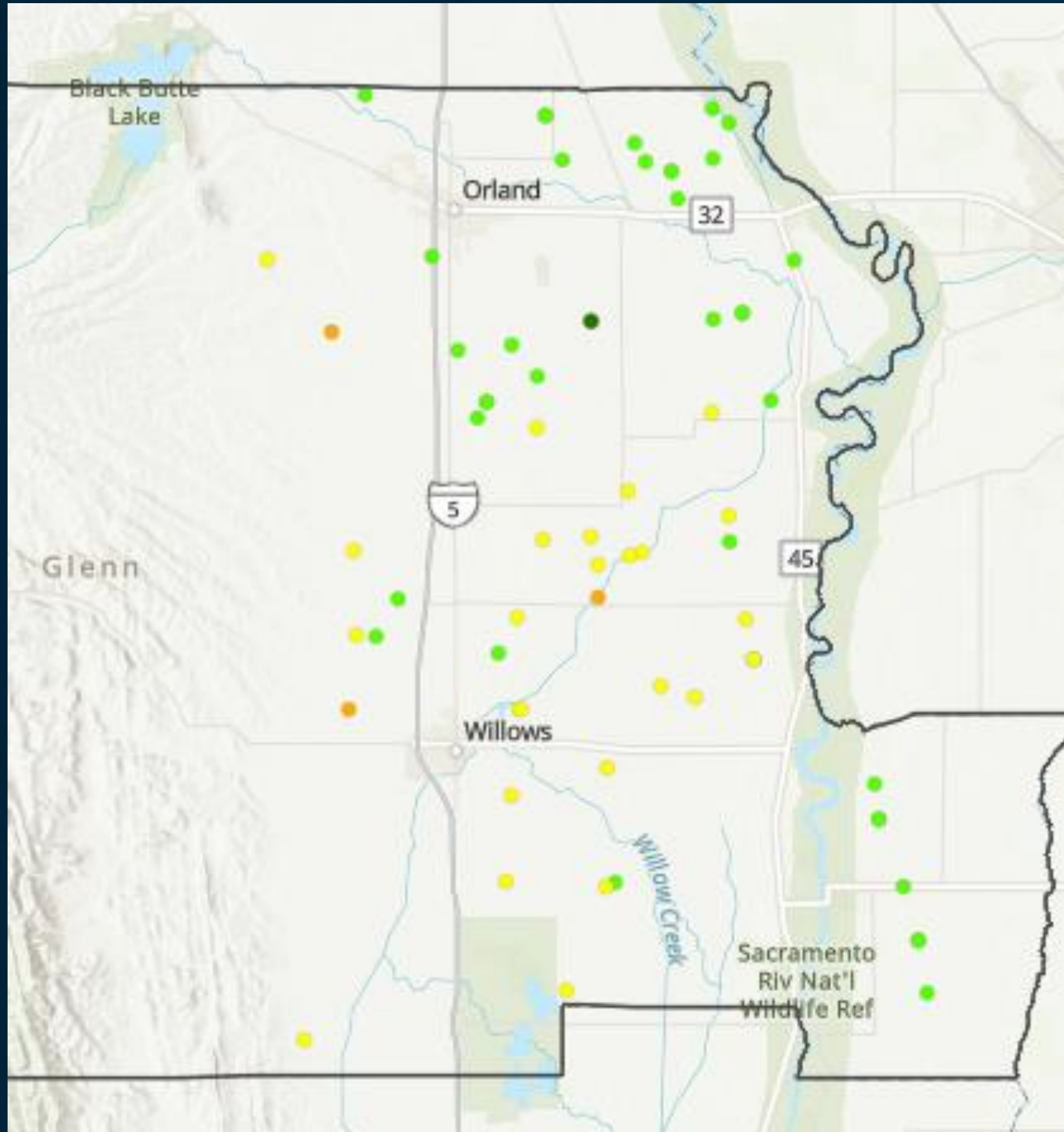
- Spring-Spring  
2022 - 2023
- By well depth:
  - 0-200 ft. deep
  - 200-400 ft. deep
  - > 600 ft. deep



# Spring 22-23 – Shallow Wells – 0-200 ft.

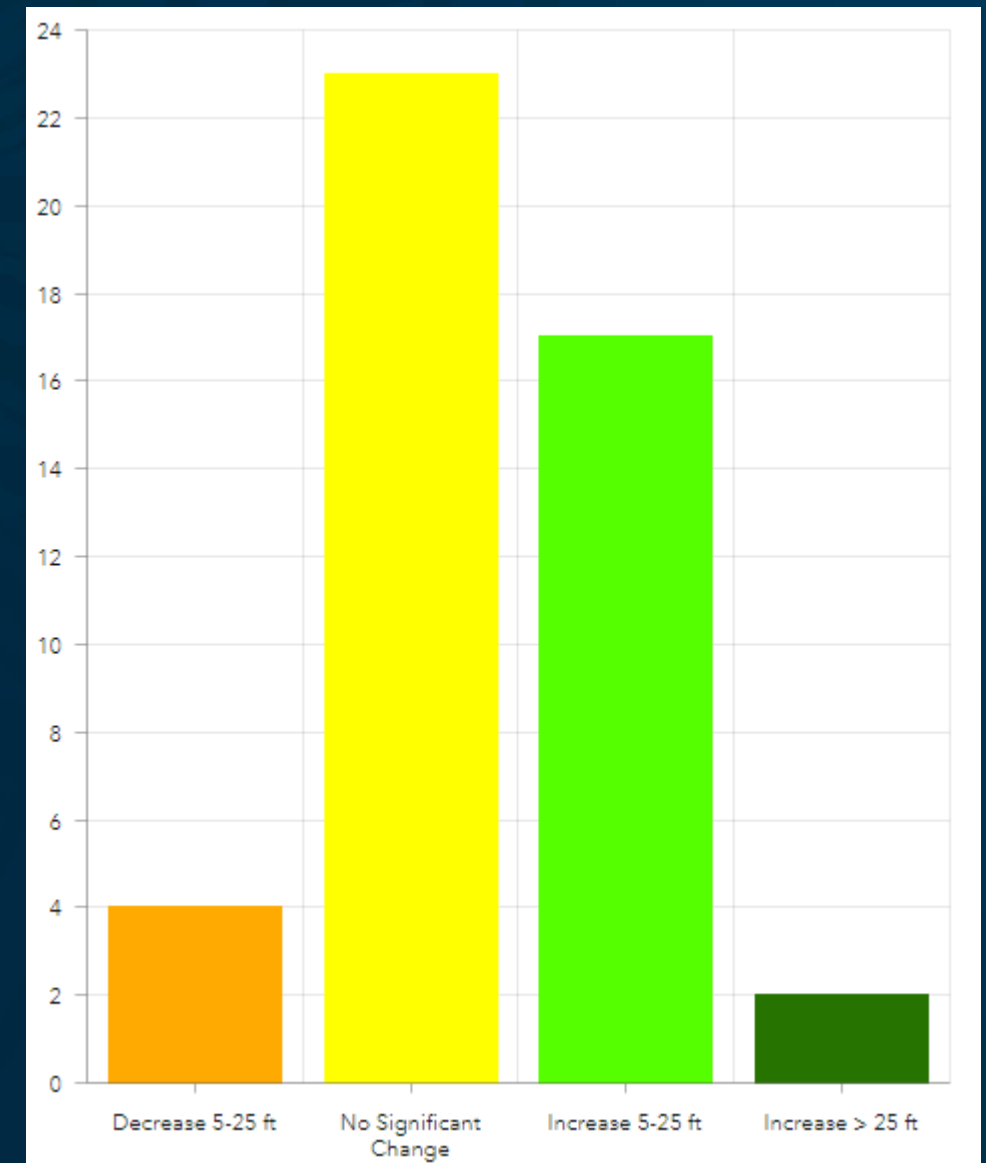
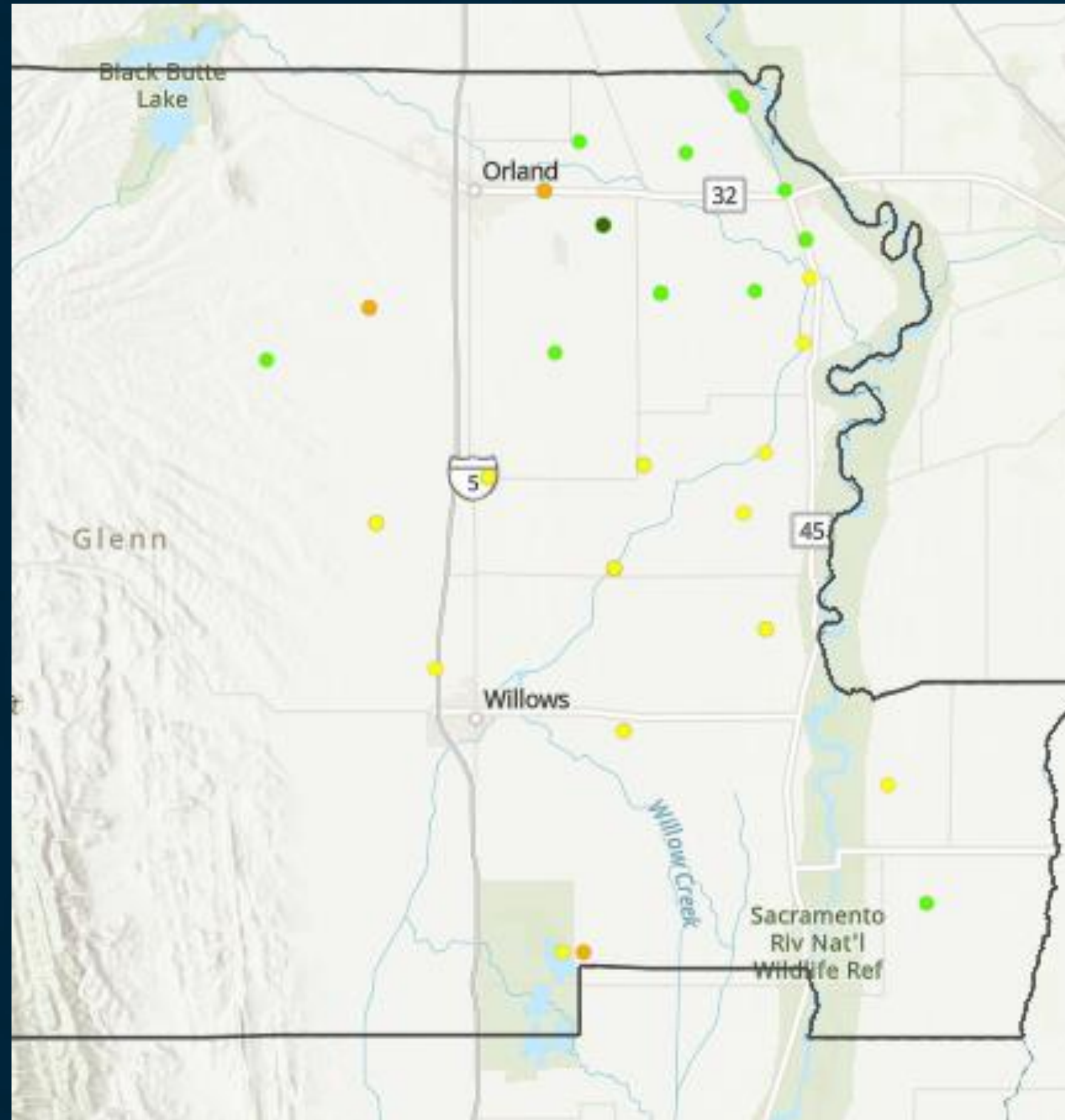


# Spring 22-23 – Intermediate Wells –200-600 ft.

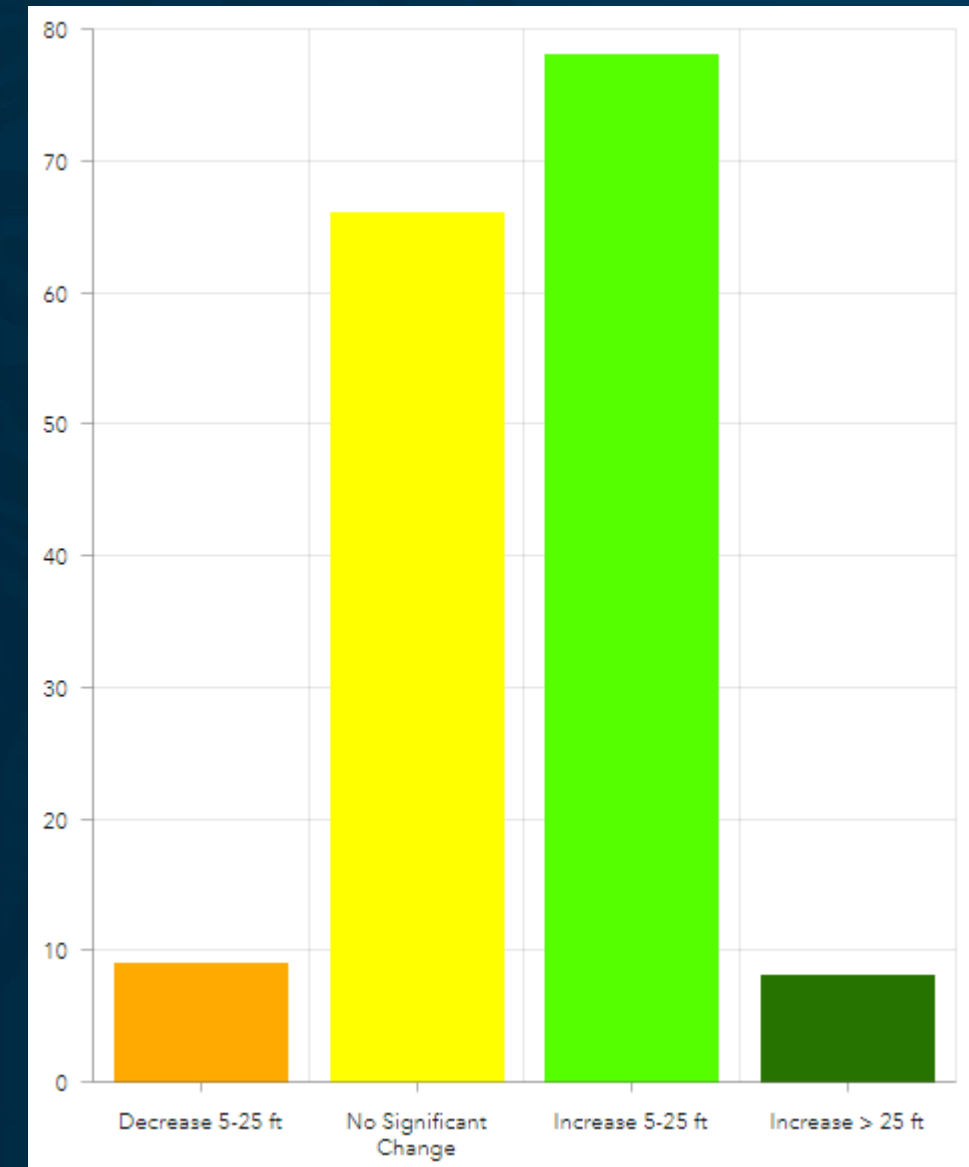
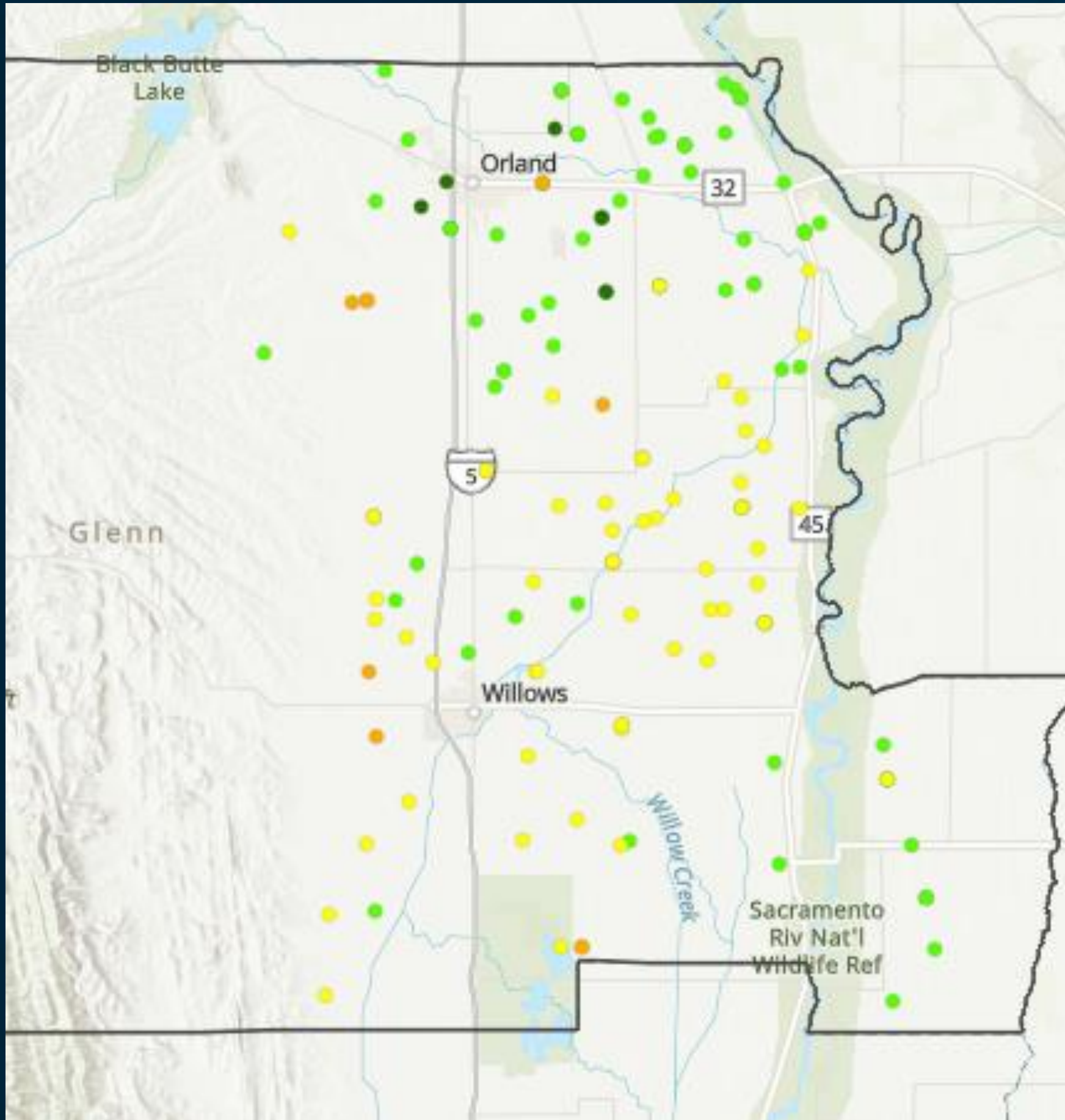




# Spring 22-23 – Deep Wells – >600 ft.



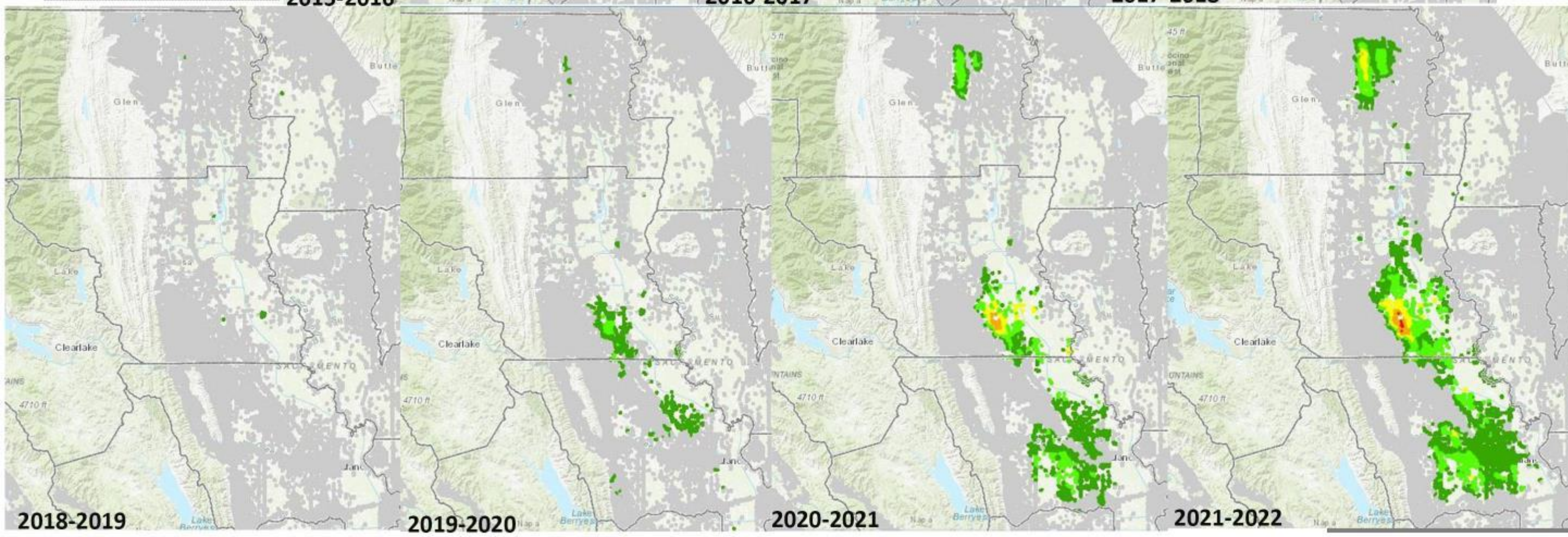
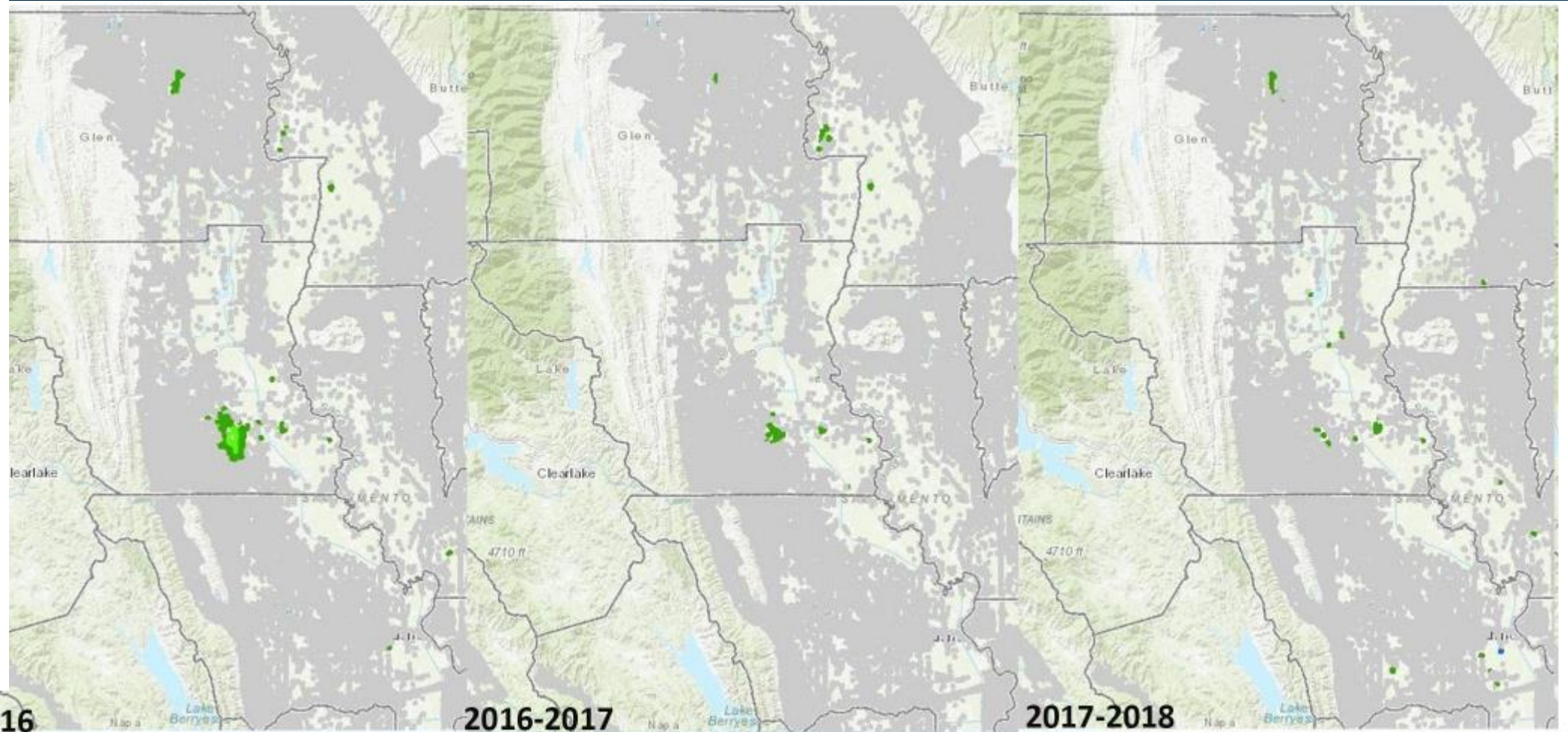
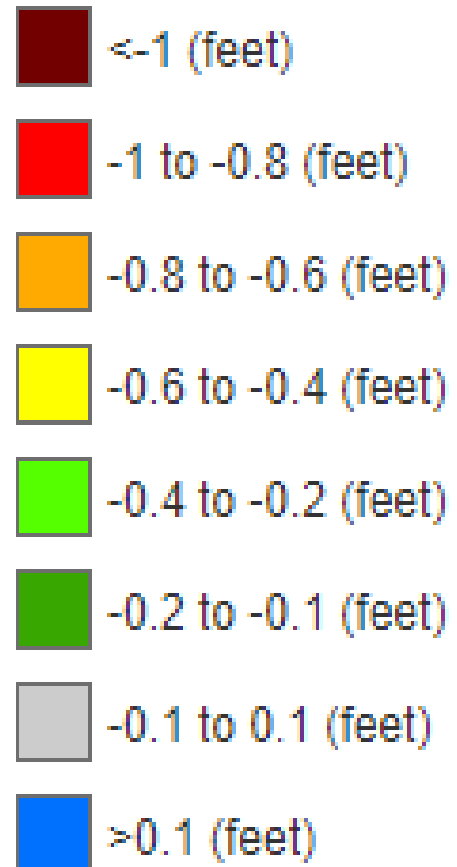
# Spring 22-23 – All Well Depths





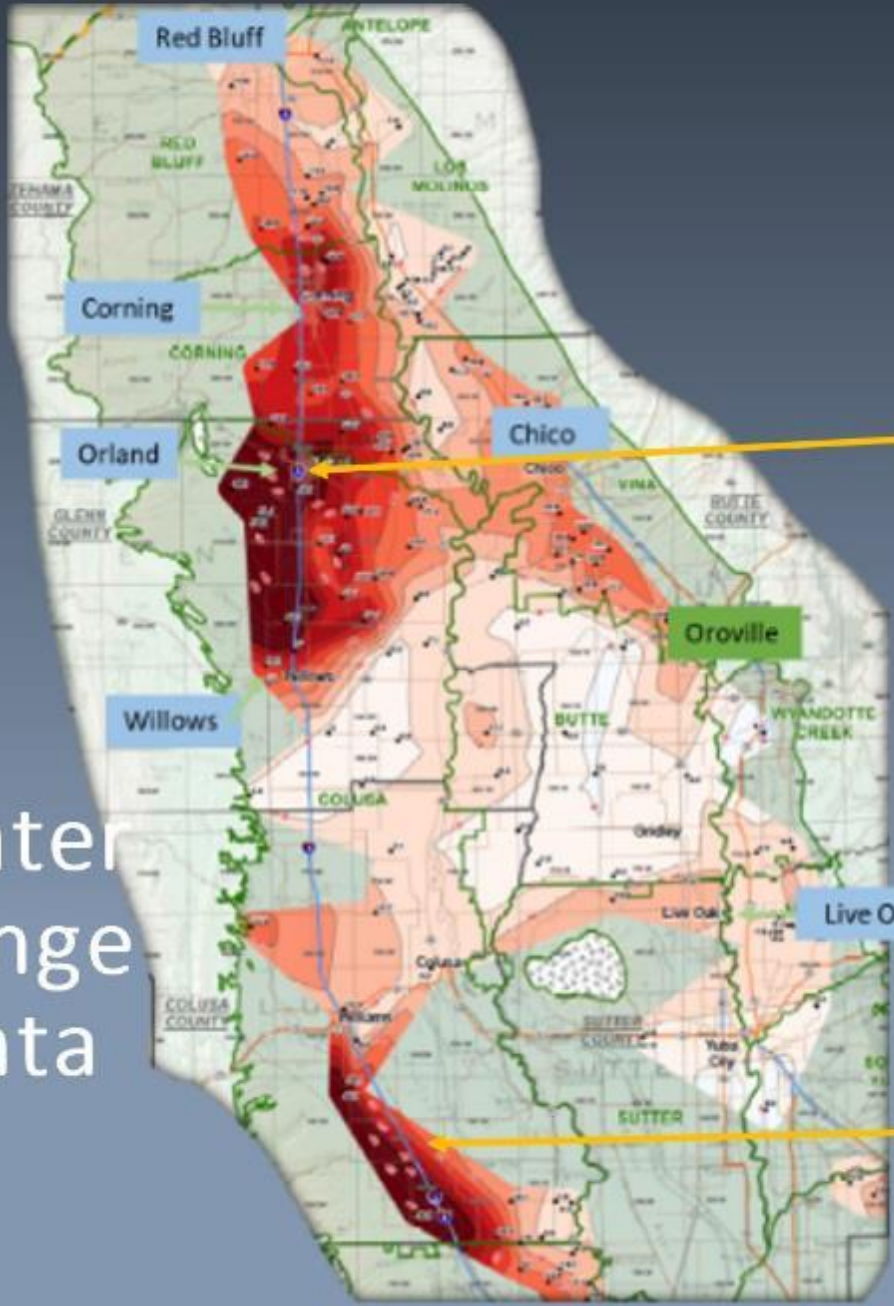
# Land Subsidence

Vertical Displacement Raster

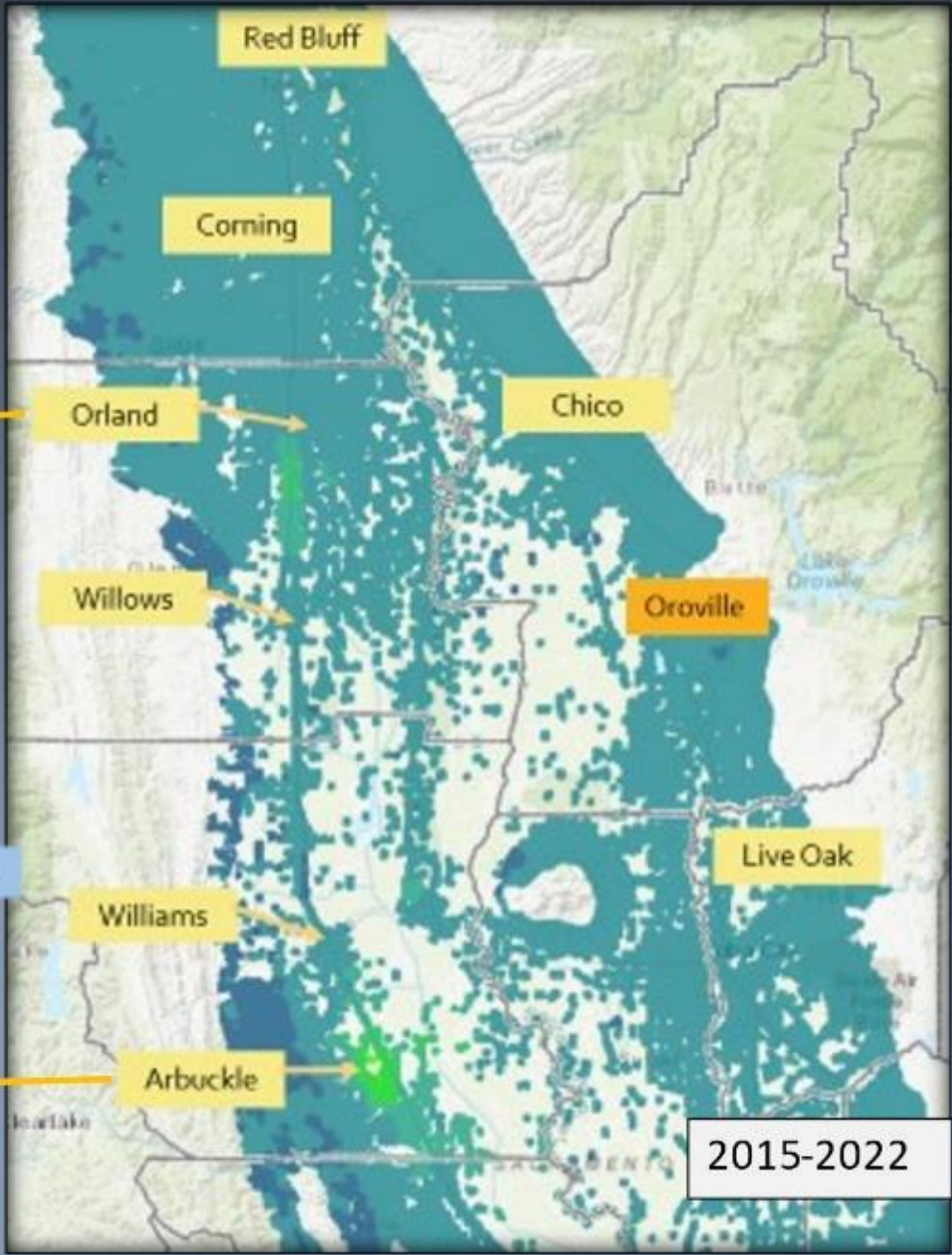




# Why We Need Enhanced Data Collection



Groundwater  
Level Change  
Data



Land  
Surface  
Subsidence  
Data



*Groundwater is a Renewable Resource  
and CAN be Managed Sustainably*



Questions? Comments?  
Thank You

<http://water.ca.gov/groundwater/>