

# Update on San Joaquin Valley Groundwater Conditions



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Department of Water Resources  
South Central Region Office  
August 16, 2017

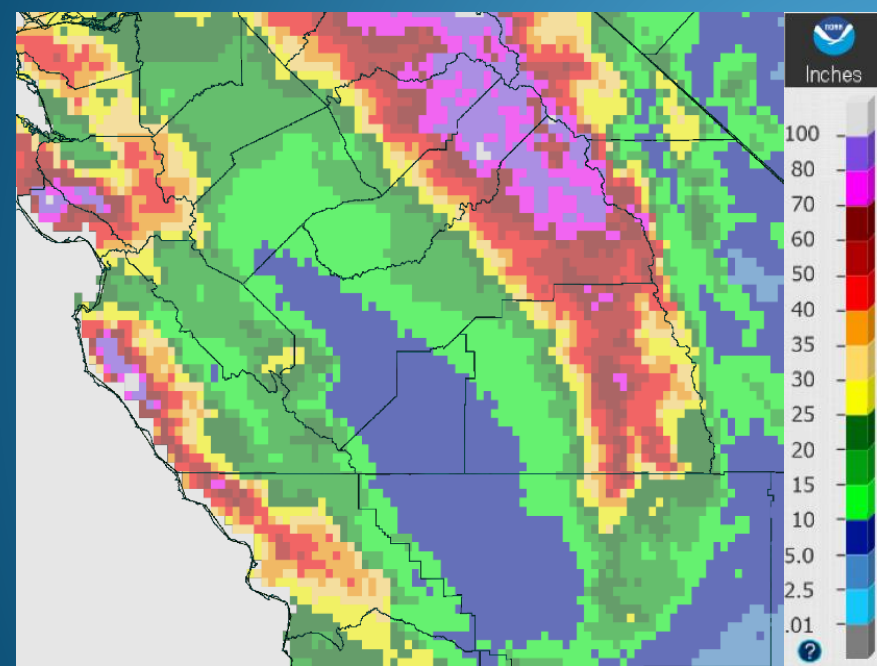
# Outline



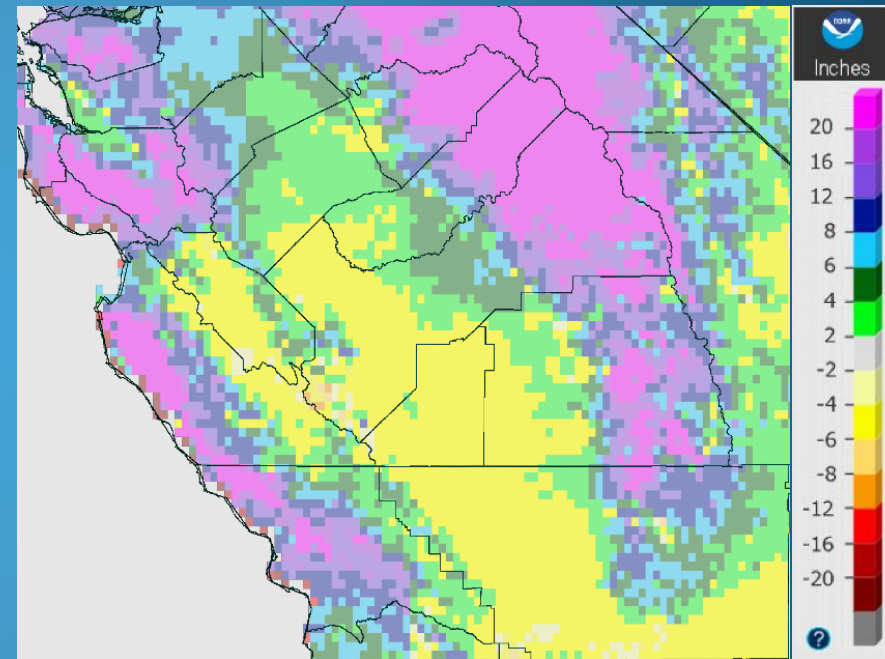
- Precipitation Maps
- Measurement of Groundwater Levels
- San Joaquin Valley GW conditions
- Field observations from Spring 2017
- Questions



# Precipitation: San Joaquin Valley, Water Year 2016/2017



Measured Precipitation (inches)



Deviation from Normal (inches)

# Precipitation: San Joaquin Valley, Water Year 2016/2017

City: % of Normal Precip (Since Oct. 1)



## San Joaquin Region Summary

### Precip: 5-Station Index

Season to Date	179%	% Avg year	175%
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### Central Sierra Snow Water Content

% to Date	n/a	% Apr 1	n/a
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### Reservoir Storage

Reservoir	%Hist.Avg.	%Capacity	*Enrch
New Melones	146%	88%	n/a
Don Pedro	129%	96%	n/a
Exchequer	154%	91%	n/a
Millerton	160%	91%	-44

## Tulare Lake Region Summary

### Precip: Tulare Precipitation Index

Season to Date	162%	% Avg year	158%
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### Southern Sierra Snow Water Content

% to Date	n/a	% Apr 1	n/a
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### Reservoir Storage

Reservoir	%Hist.Avg.	%Capacity	*Enrch
Pine Flat	178%	83%	n/a
Terminus	171%	38%	-115
Success	215%	77%	n/a
Isabella	106%	48%	-90



# Measurement of Groundwater Levels

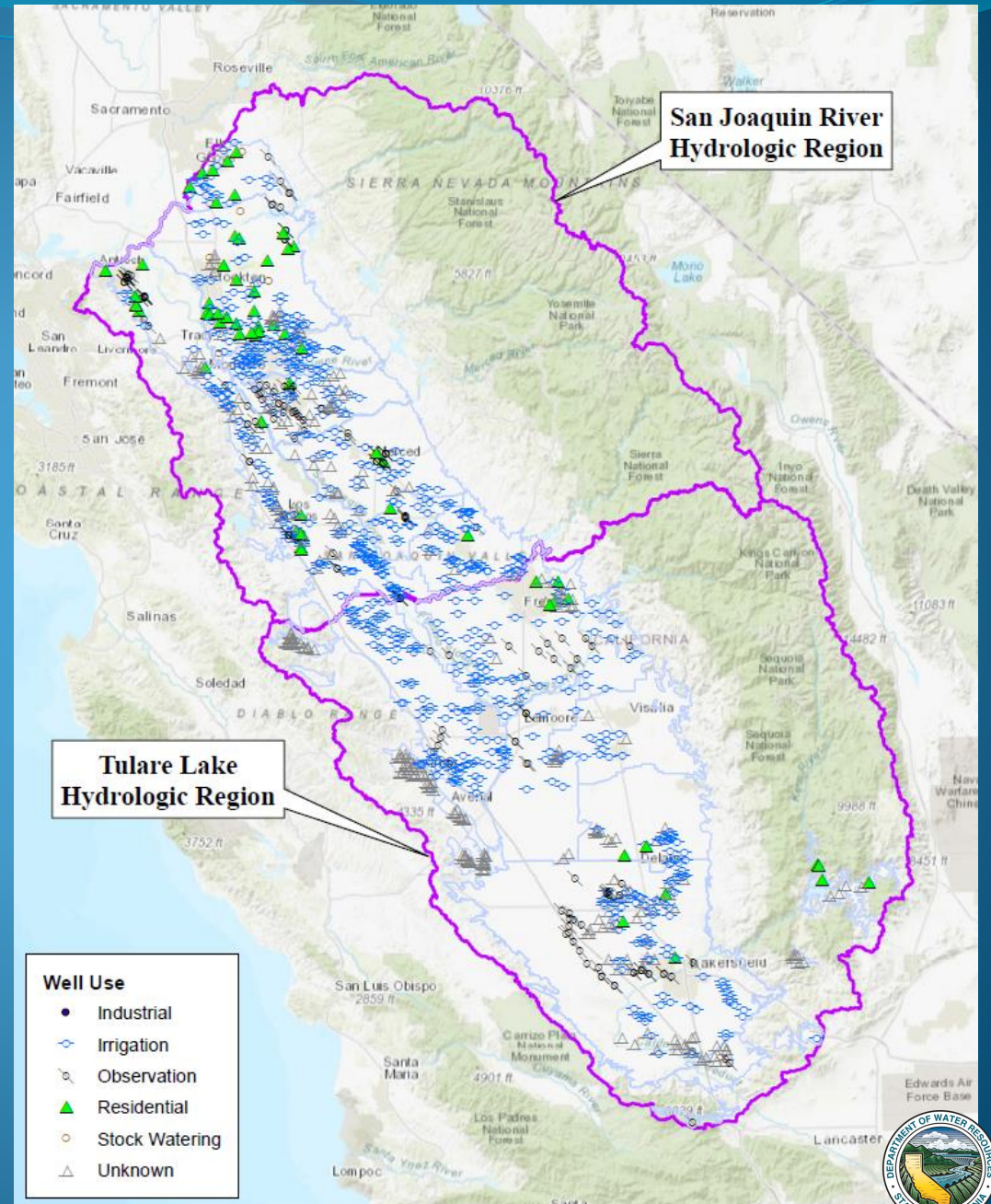


- Prior to 2016, spring groundwater level collection by SCRO began in late January
  - Goal: *“Beat the pumps”*
- CASGEM/SGMA requirements: spring measurements have been moved to March
  - *Will align DWR water level data more closely with local water agency reporting.*

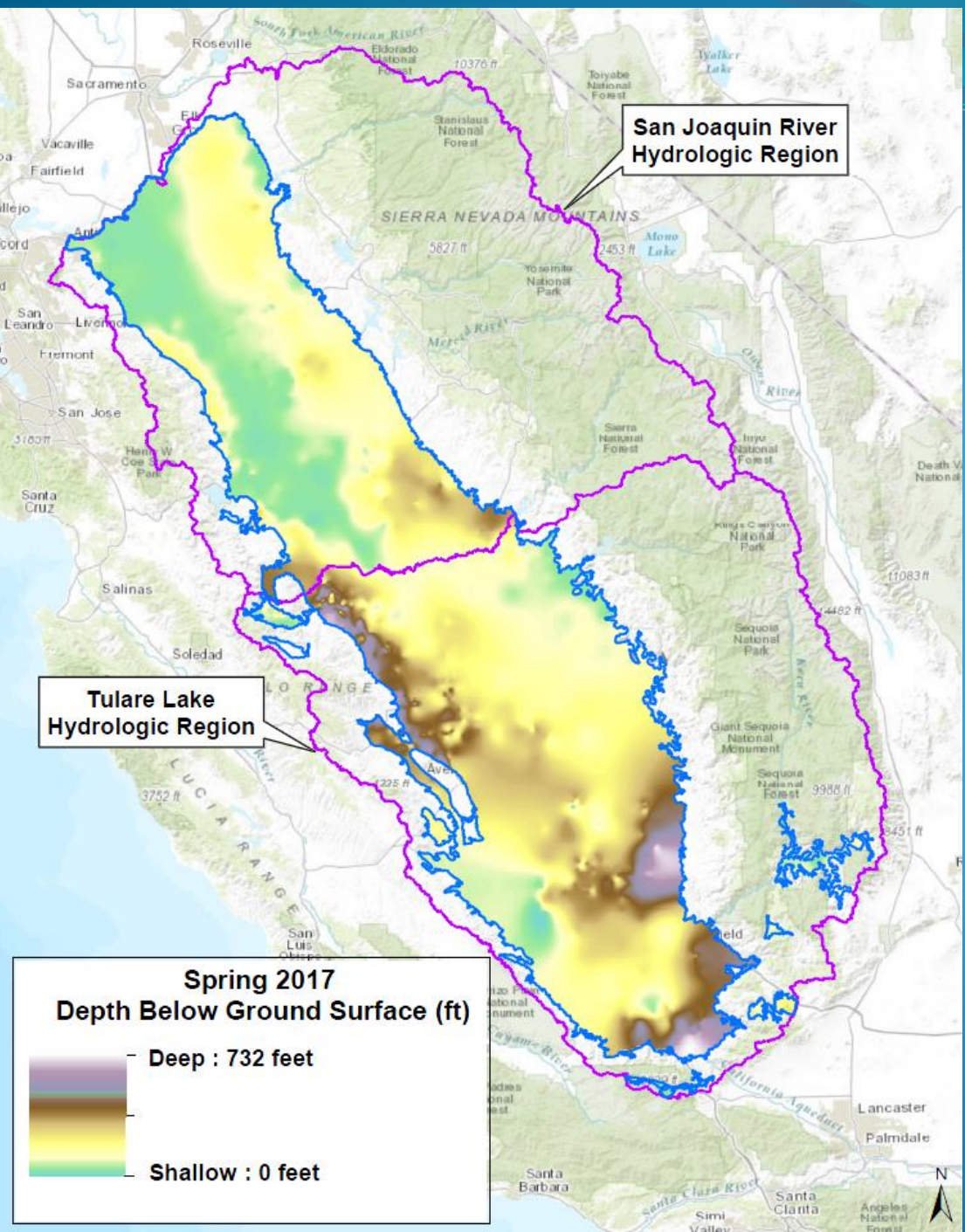


# Water Level Measurements by Well Type San Joaquin Valley: Spring 2017

Industrial:	1
Irrigation:	960
Observation:	256
Residential:	117
Stock Watering:	10
Unknown:	441
<b>Total:</b>	<b>1,785</b>

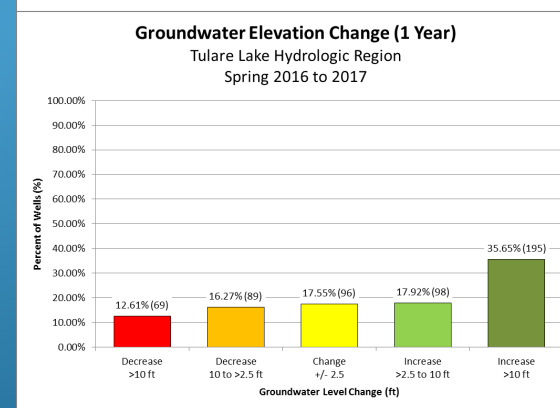
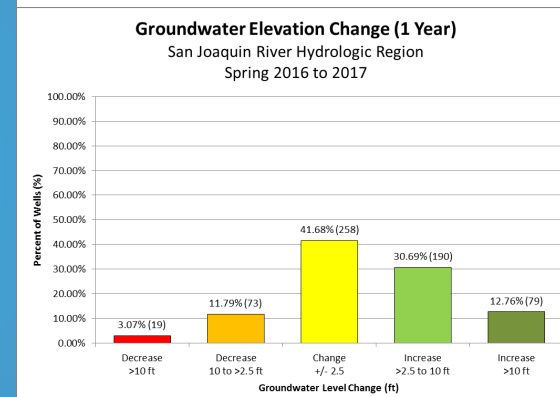
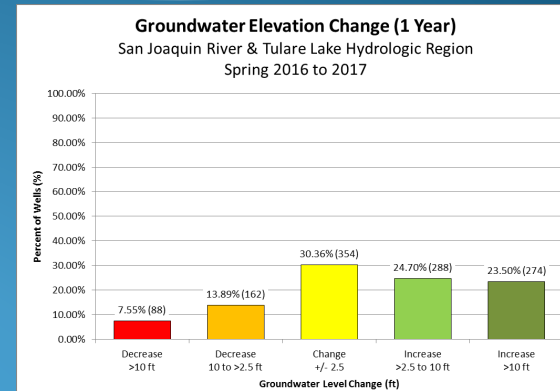
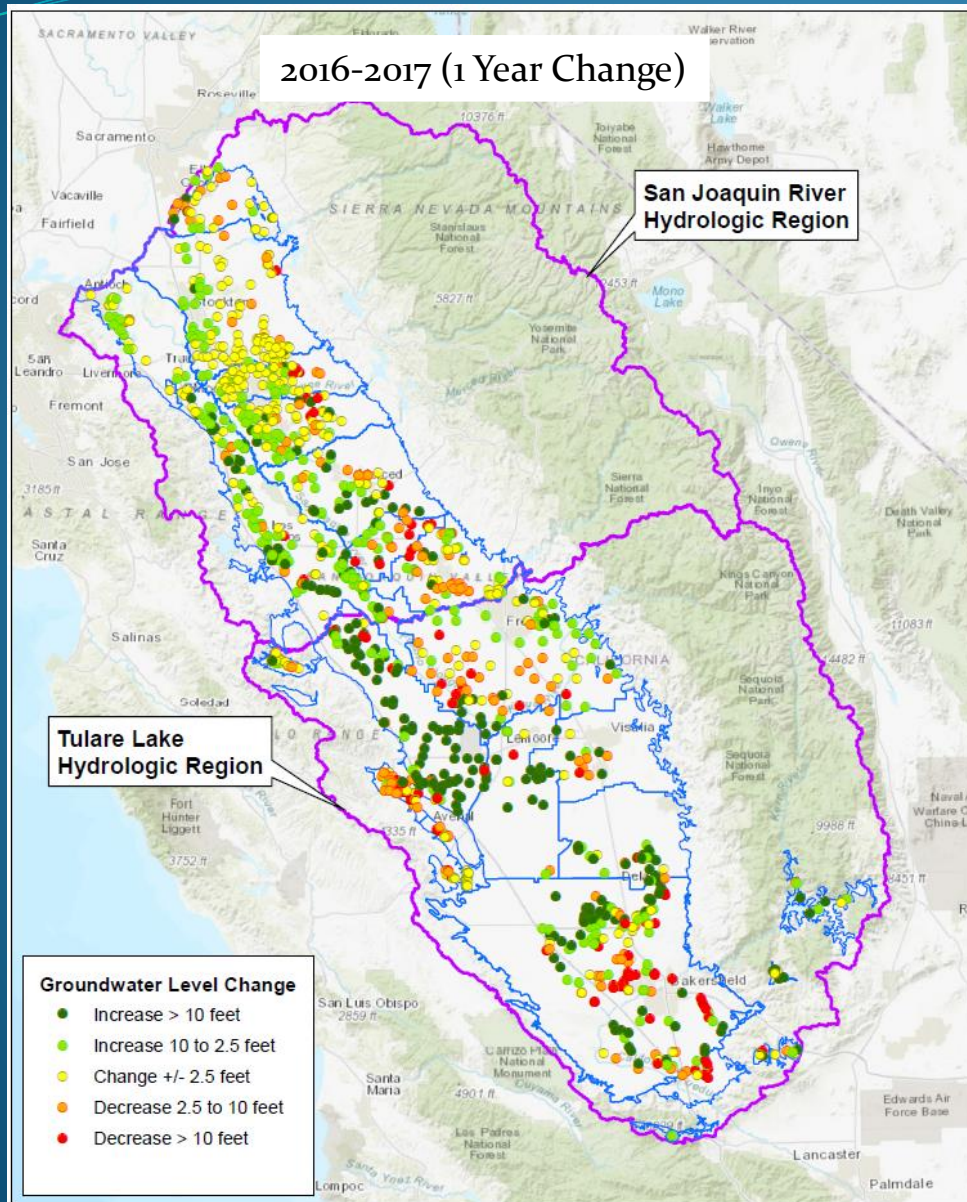


# Depth to Groundwater: San Joaquin Valley -Spring 2017-

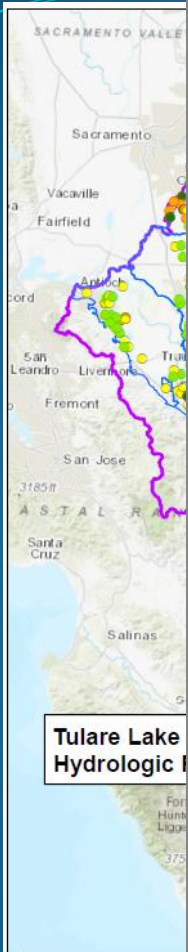




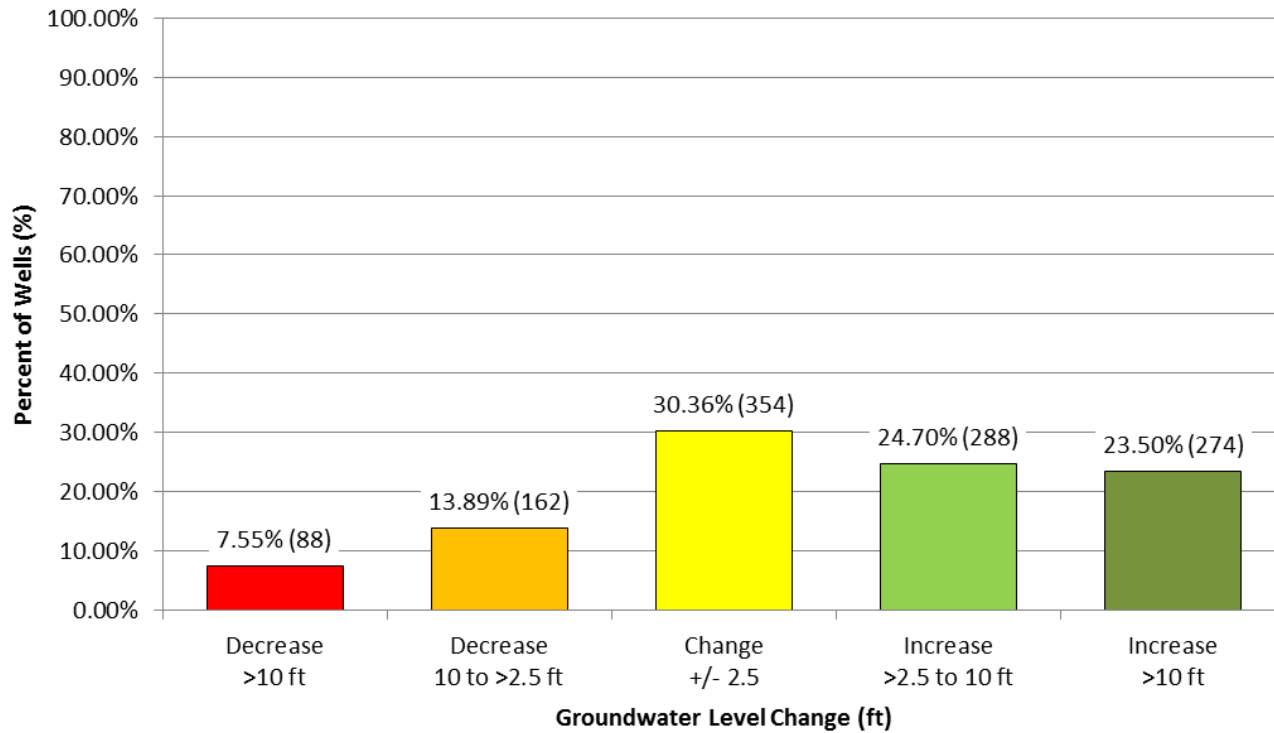
# Groundwater Elevation Change 2016-2017



# Groundwater Elevation Change 2016-2017

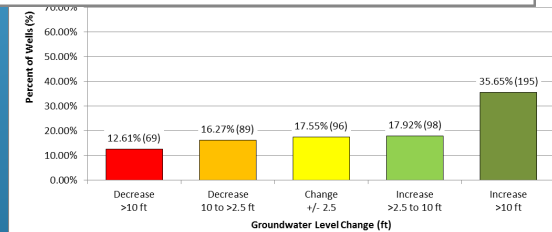
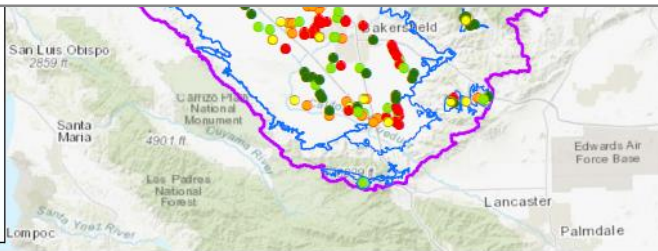


## Groundwater Elevation Change (1 Year) San Joaquin River & Tulare Lake Hydrologic Region Spring 2016 to 2017



### Groundwater Level Change

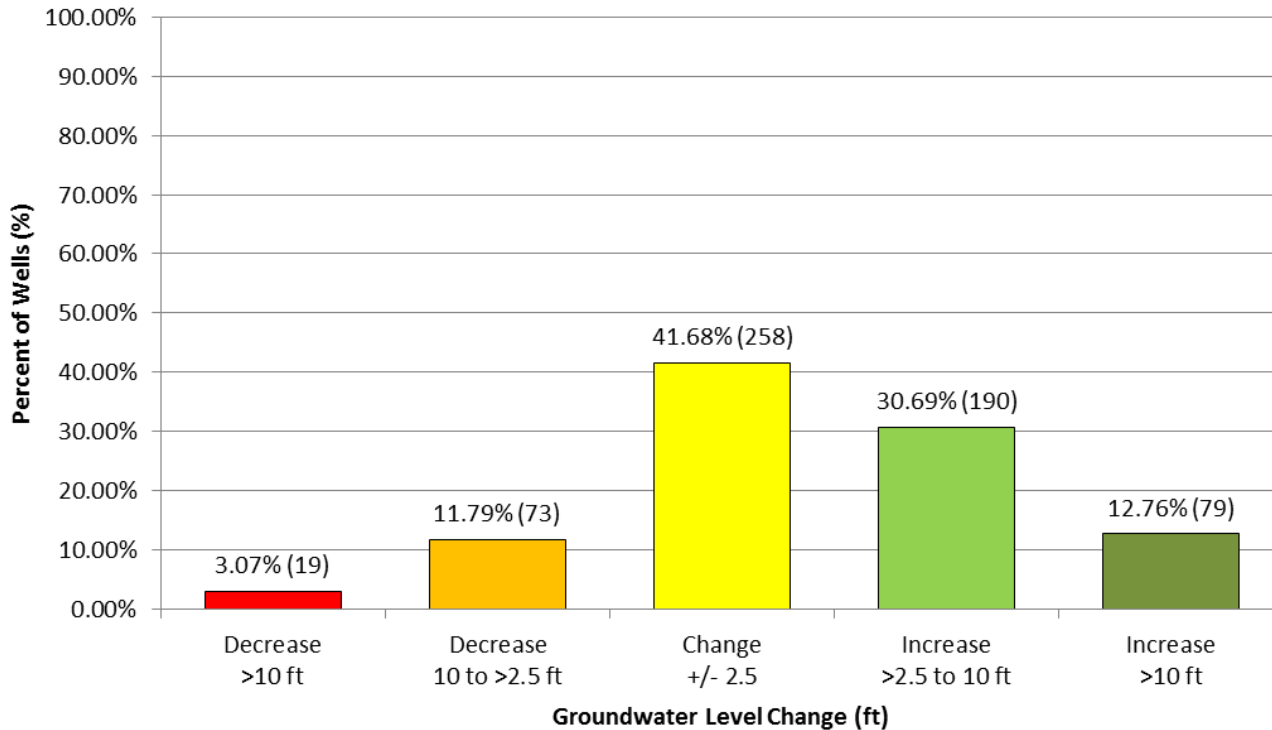
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- Increase 10 to 2.5 feet
- Change +/- 2.5 feet
- Decrease 2.5 to 10 feet
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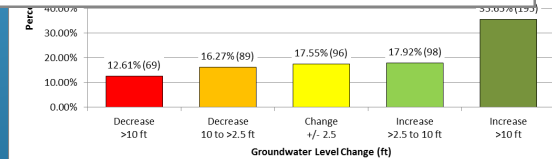
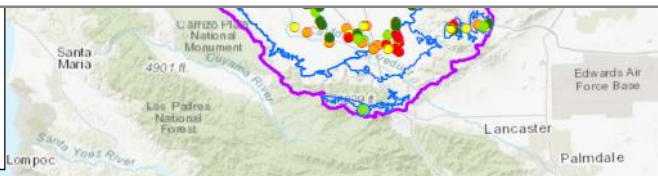
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Groundwater Elevation Change (1 Year)  
San Joaquin River & Tulare Lake Hydrologic Region  
Spring 2016 to 2017

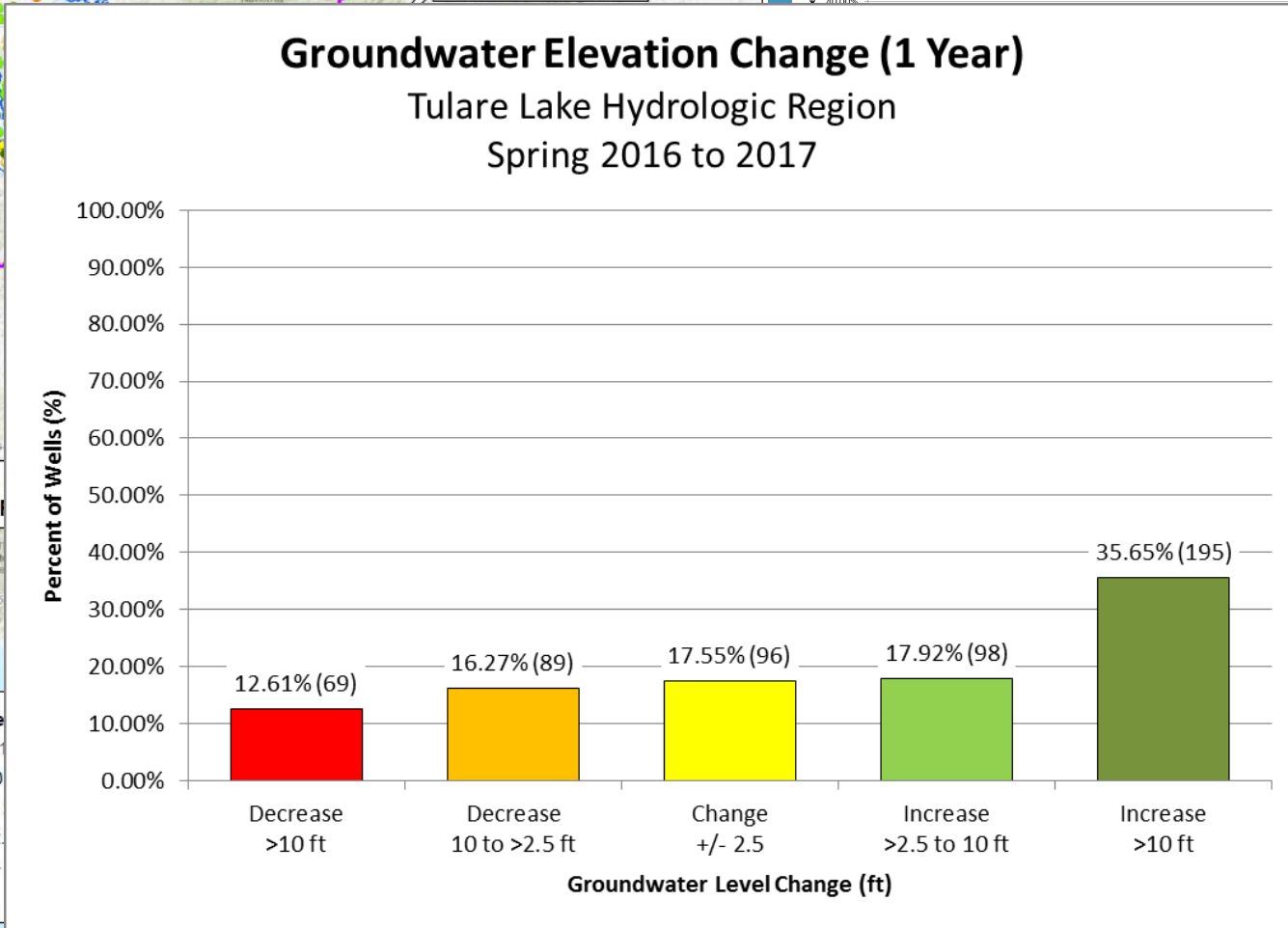
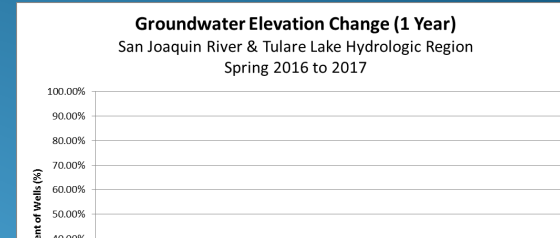
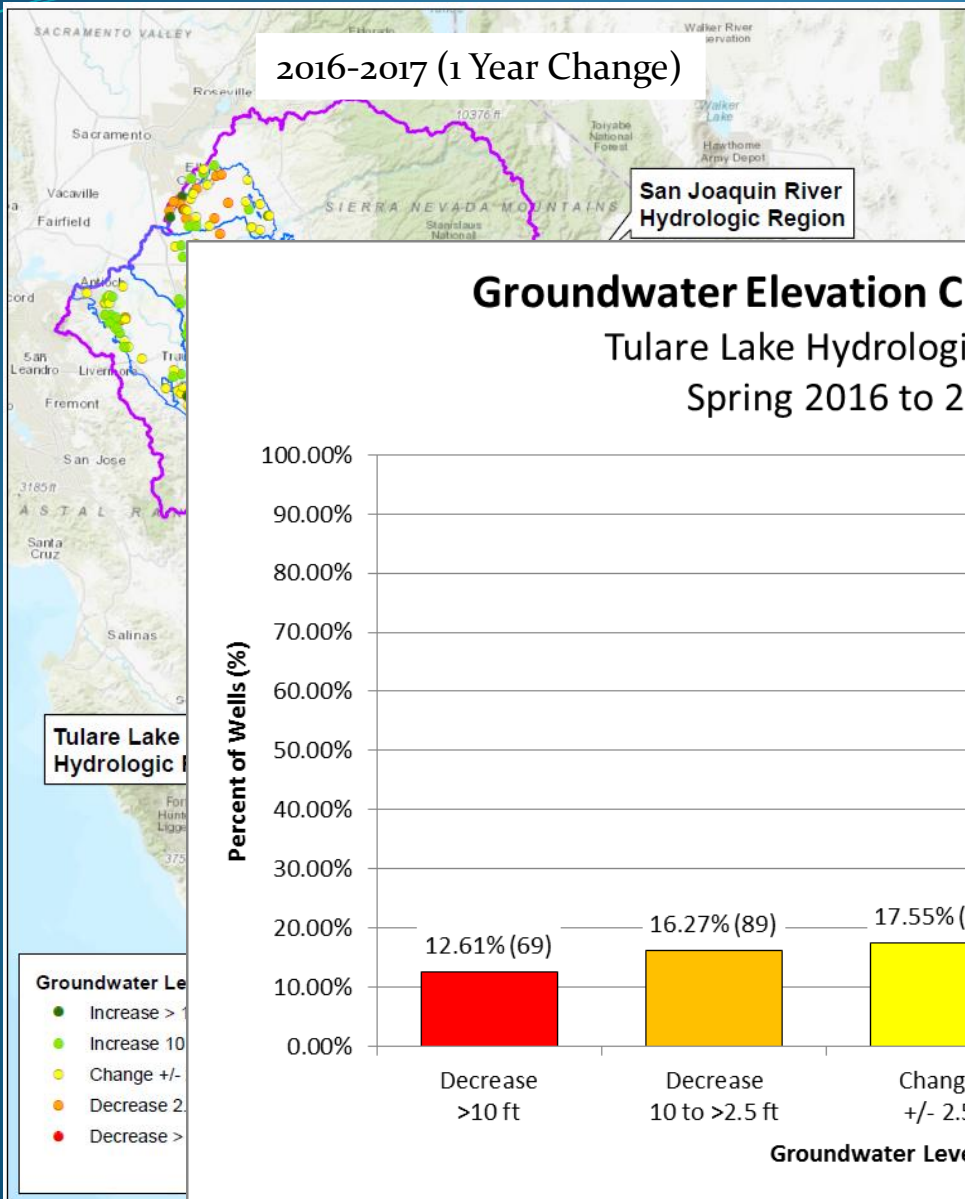
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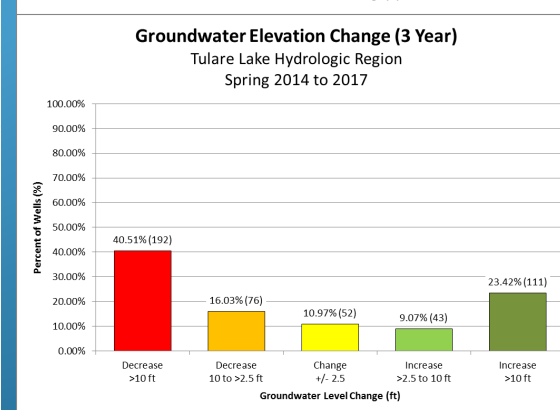
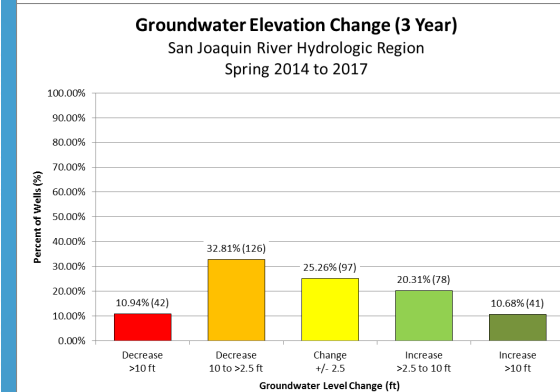
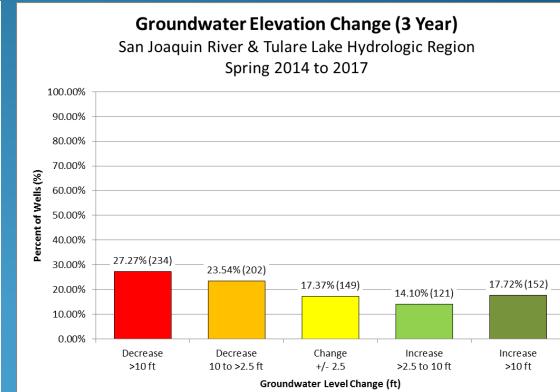
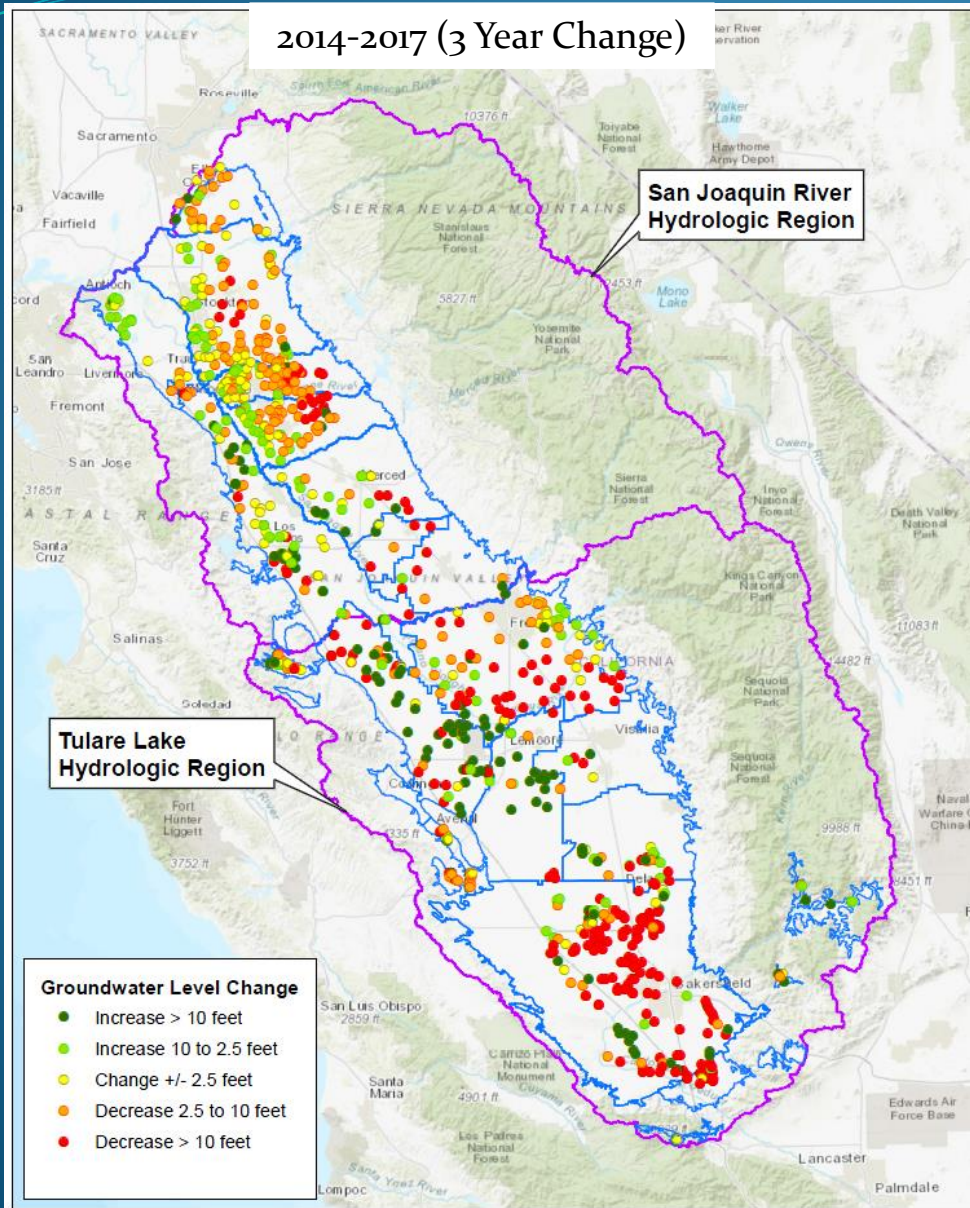
- Groundwater Level Change Legend**
- Increase > 10 ft
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  - Decrease > 10 feet



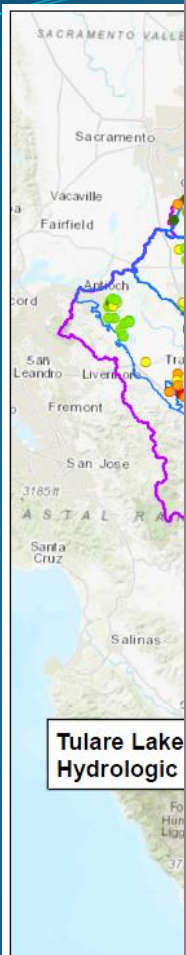
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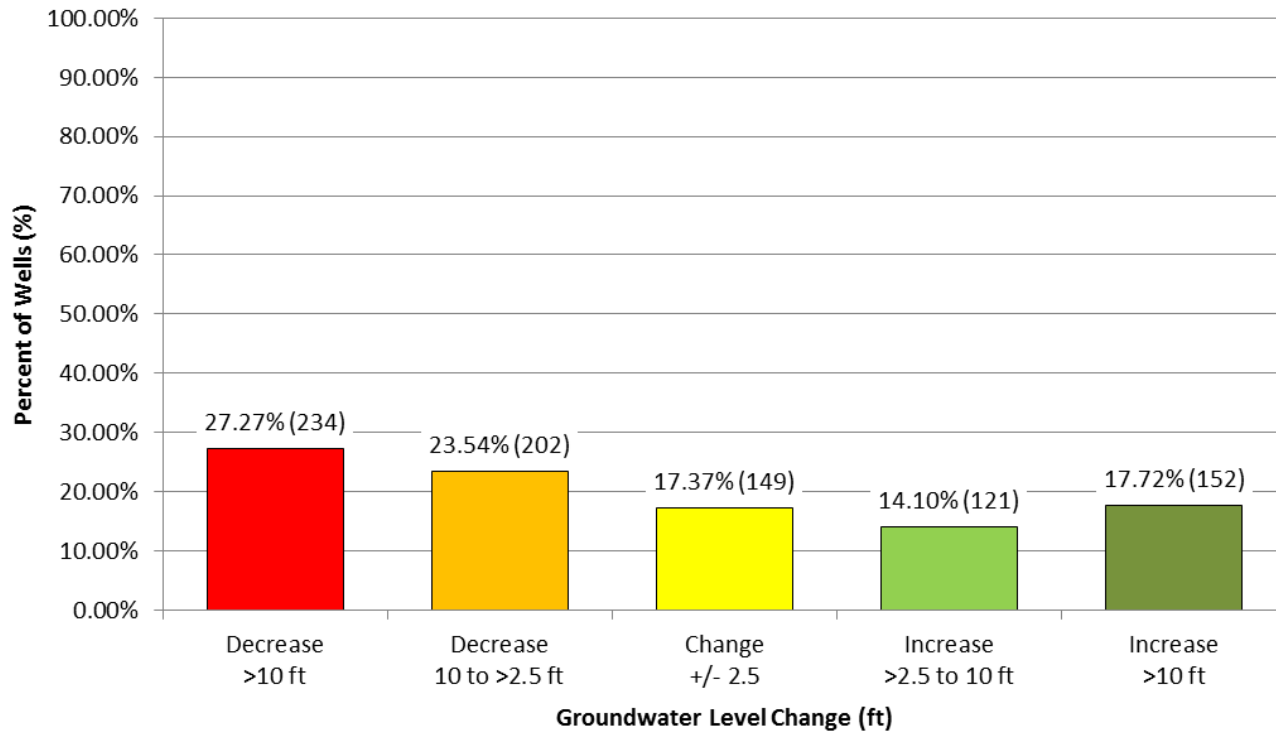
# Groundwater Elevation Change 2014-2017



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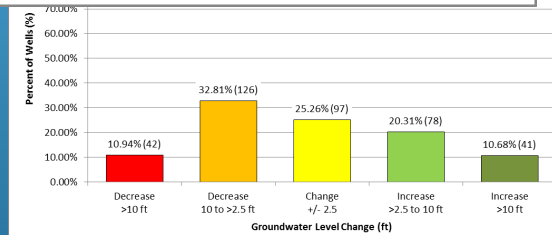
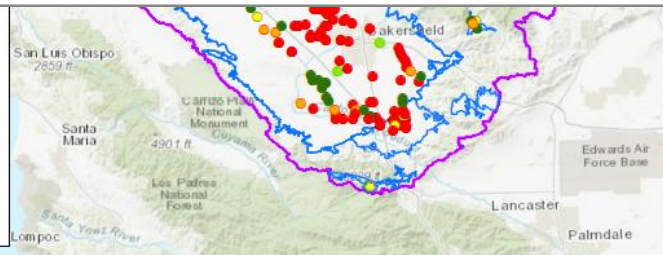


## Groundwater Elevation Change (3 Year) San Joaquin River & Tulare Lake Hydrologic Region Spring 2014 to 2017



### Groundwater Level Change

- Increase > 10 feet
- Increase 10 to 2.5 feet
- Change +/- 2.5 feet
- Decrease 2.5 to 10 feet
- Decrease > 10 feet

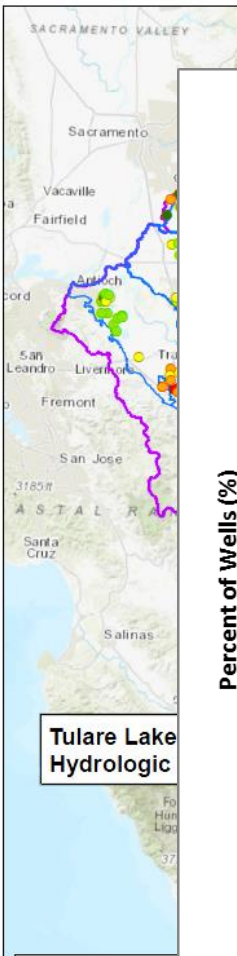
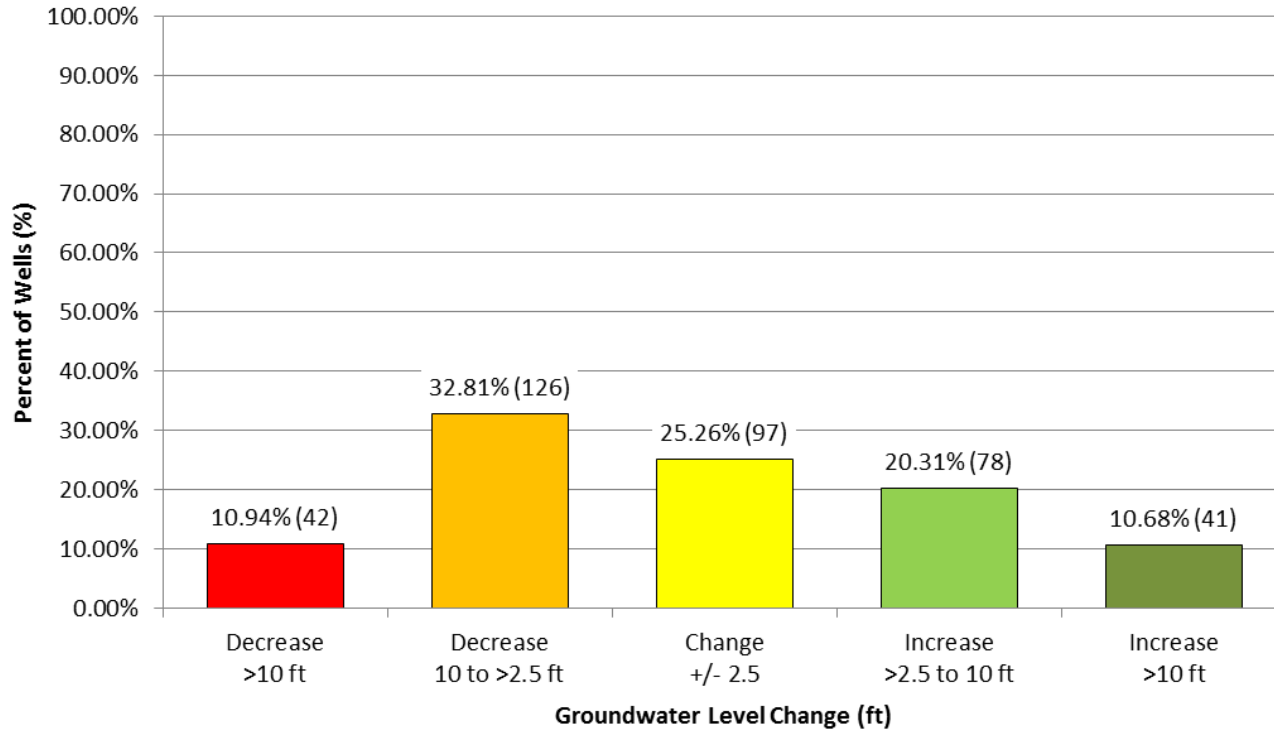


# Groundwater Elevation Change 2014-2017

2014-2017 (3 Year Change)

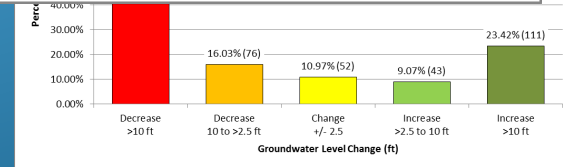
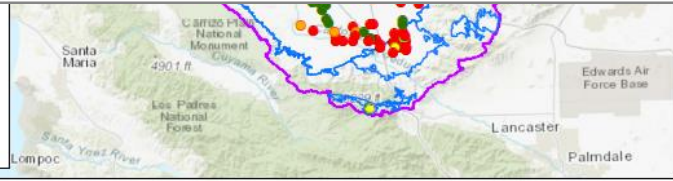
**Groundwater Elevation Change (3 Year)**  
San Joaquin River & Tulare Lake Hydrologic Region  
Spring 2014 to 2017

## Groundwater Elevation Change (3 Year) San Joaquin River Hydrologic Region Spring 2014 to 2017

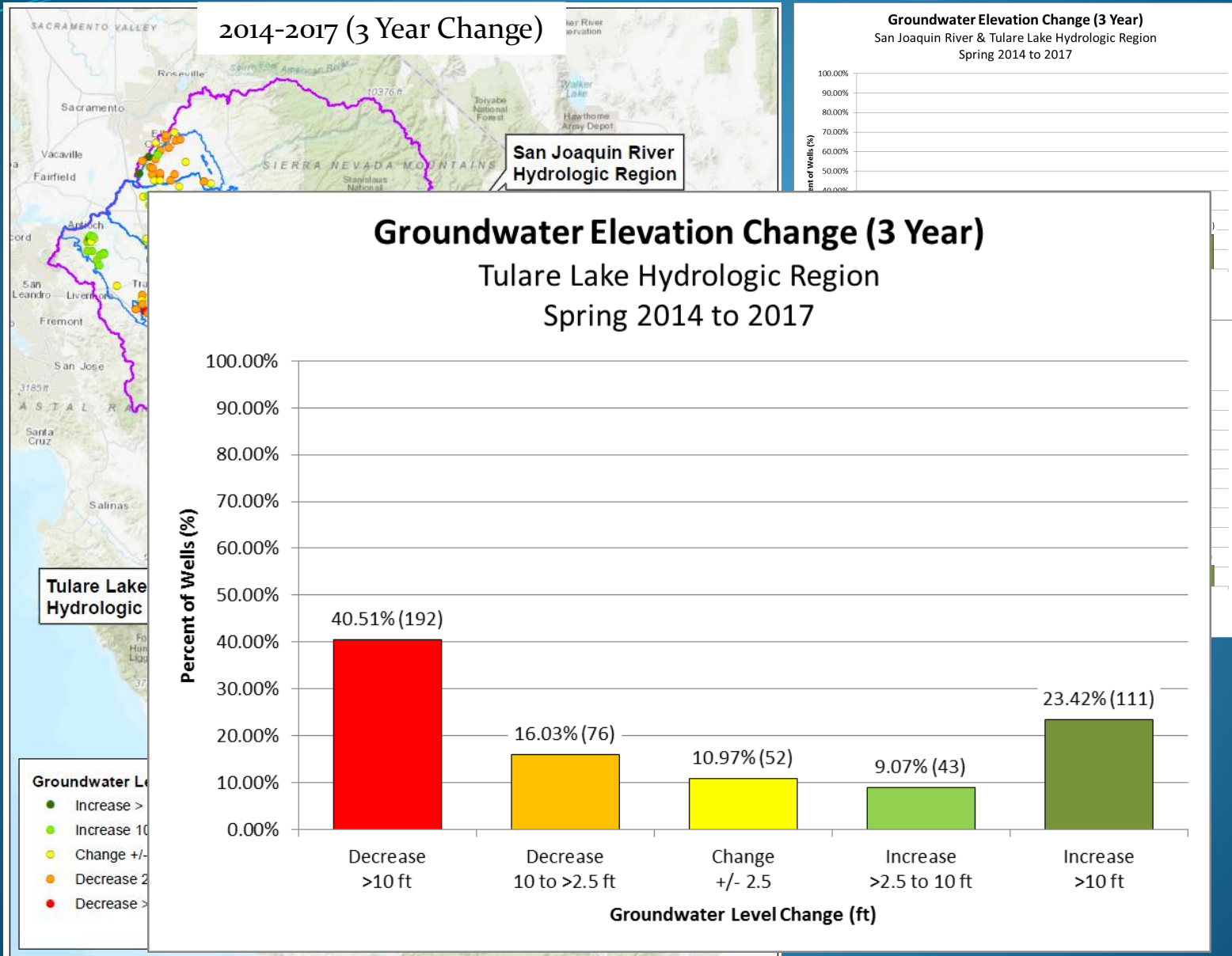


**Tulare Lake Hydrologic**

- Groundwater Level Change**
- Increase > 10 feet
  - Increase 10 to 2.5 feet
  - Change +/- 2.5 feet
  - Decrease 2.5 to 10 feet
  - Decrease > 10 feet

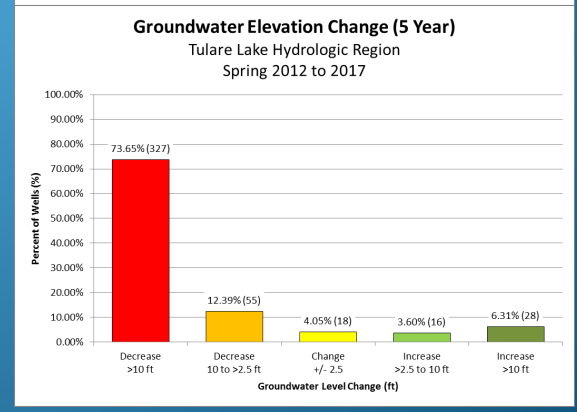
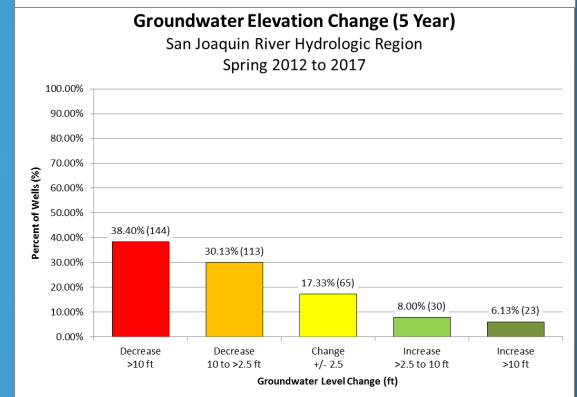
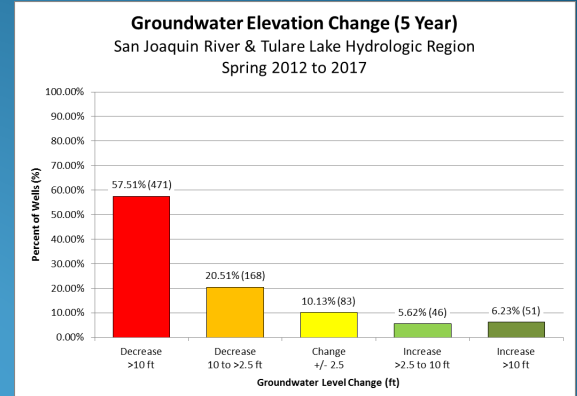
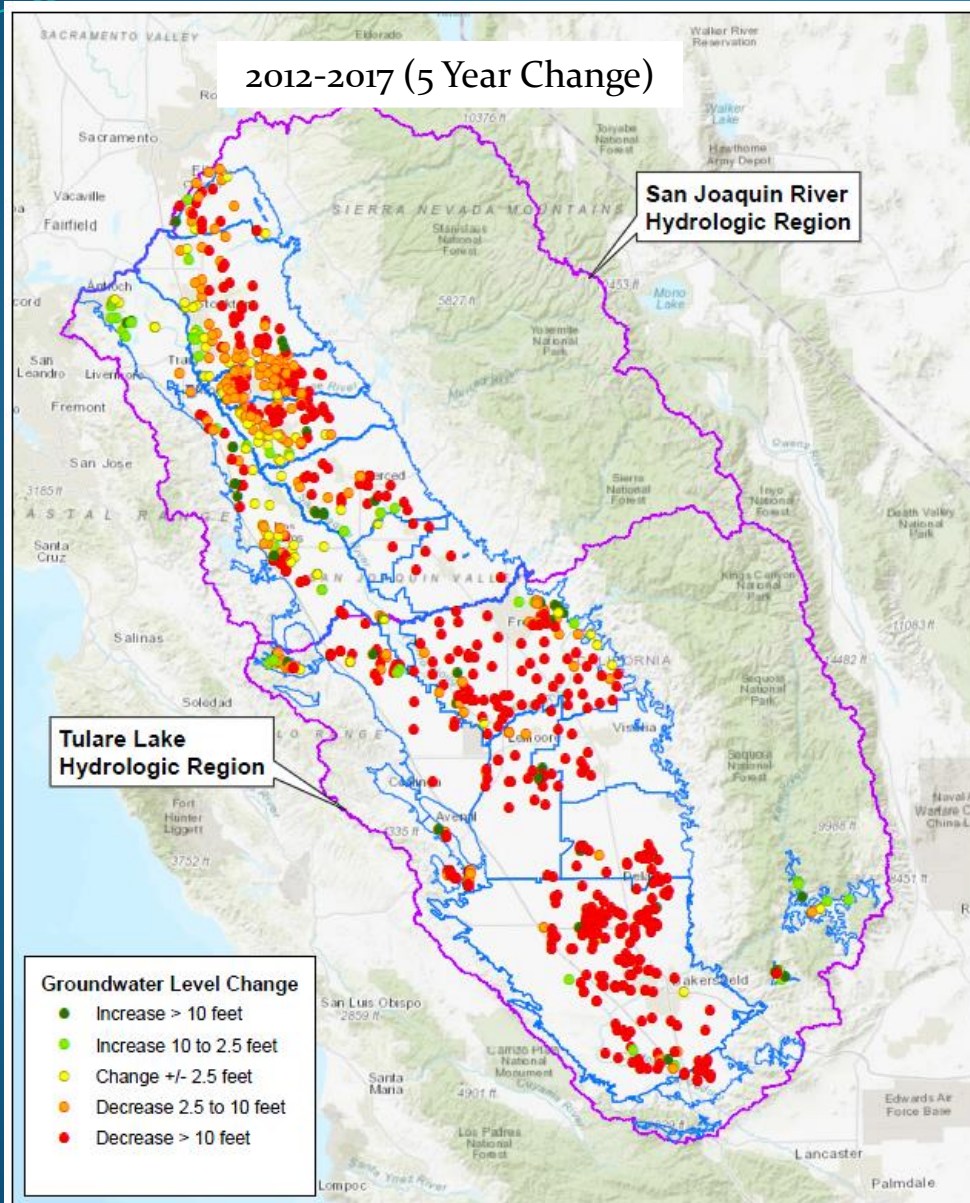


# Groundwater Elevation Change 2014-2017





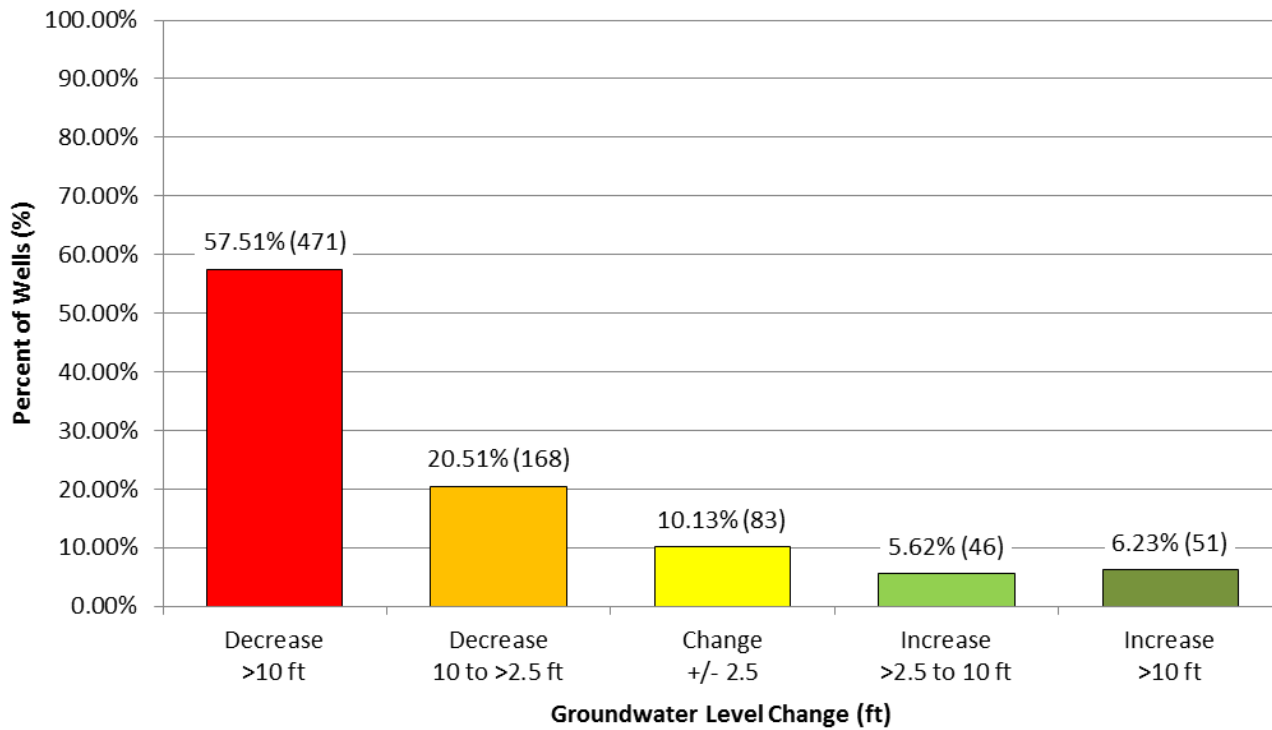
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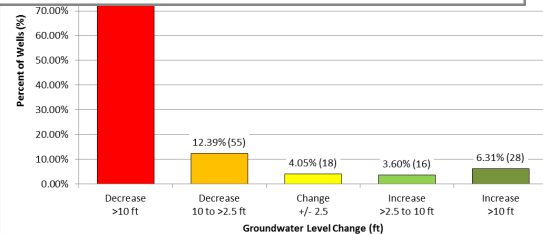
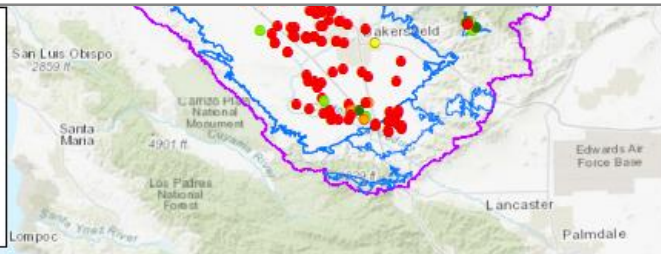


## Groundwater Elevation Change (5 Year) San Joaquin River & Tulare Lake Hydrologic Region Spring 2012 to 2017



### Groundwater Level Change

- Increase > 10 feet
- Increase 10 to 2.5 feet
- Change +/- 2.5 feet
- Decrease 2.5 to 10 feet
- Decrease > 10 feet

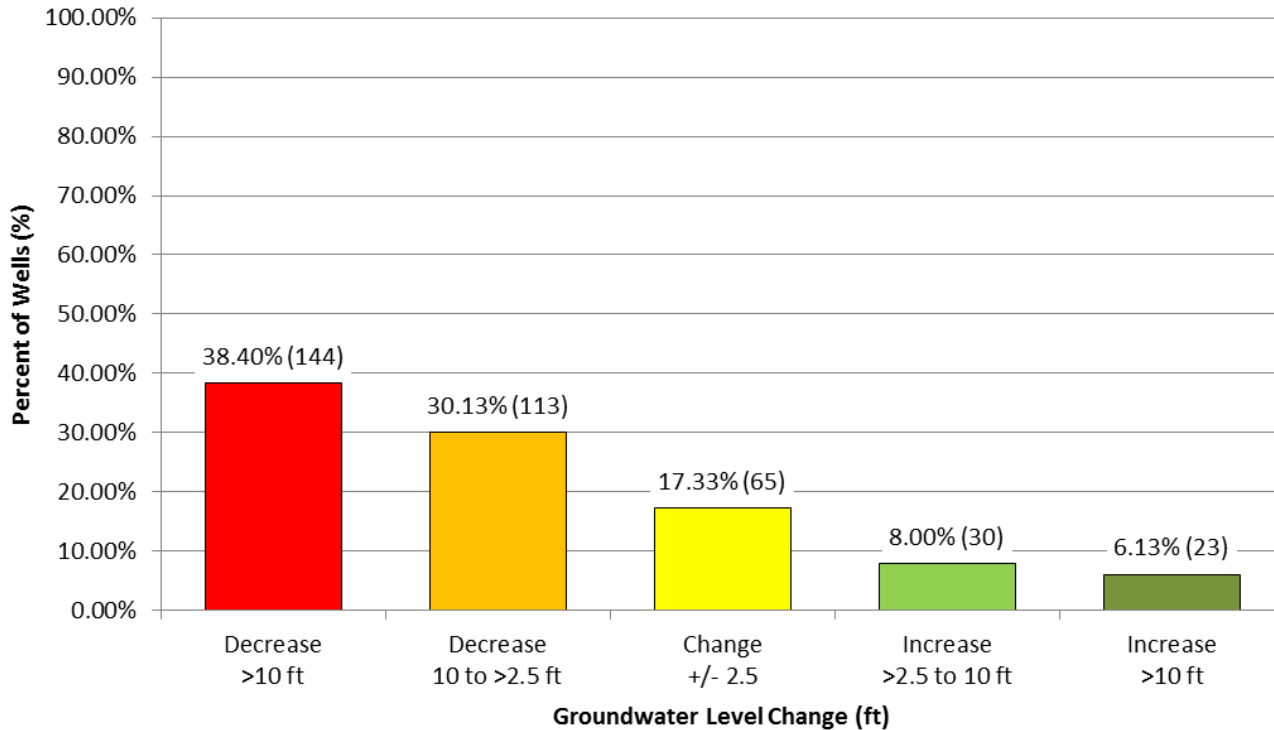


# Groundwater Elevation Change 2012-2017

2012-2017 (5 Year Change)

Groundwater Elevation Change (5 Year)  
San Joaquin River & Tulare Lake Hydrologic Region  
Spring 2012 to 2017

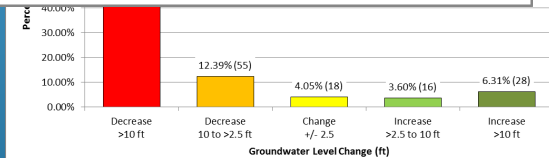
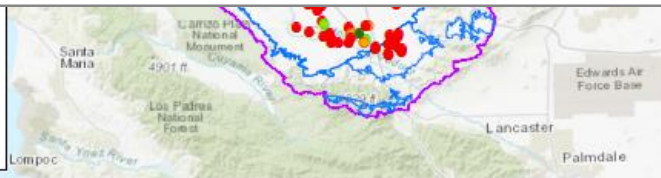
## Groundwater Elevation Change (5 Year) San Joaquin River Hydrologic Region Spring 2012 to 2017



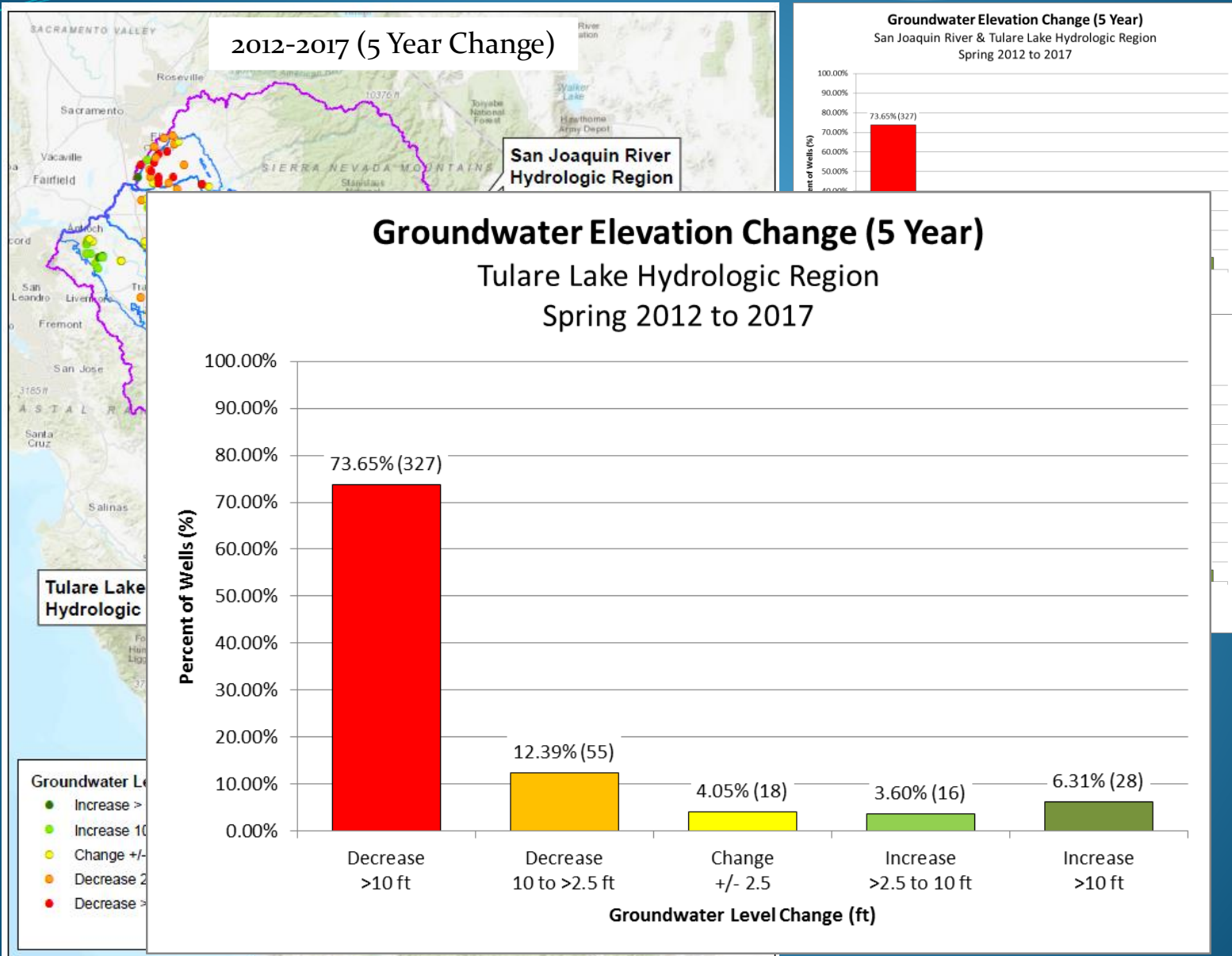
Tulare Lake Hydrologic

Groundwater L

- Increase >
- Increase 10 to 2.5 feet
- Change +/- 2.5 feet
- Decrease 2.5 to 10 feet
- Decrease > 10 feet



# Groundwater Elevation Change 2012-2017





# San Joaquin River Hydrologic Region

## Highlights:

- 1 Year Change: 31% with a rise between 2.5 and 10 feet
  - 13% with a 10 foot or greater rise
- 3 Year Change: 33% with a decline between 2.5 and 10 feet
  - 11% with 10 foot or greater decline
- 5 Year Change: 38% with a 10 foot or greater decline
  - 30% with a decline between 2.5 and 10 feet



# Tulare Lake Hydrologic Region

## Highlights:

- 1 Year Change: 36% with a 10 foot or greater rise.
  - 18% with a rise between 2.5 and 10 feet.
- 3 Year Change: 41% with a 10 foot or greater decline.
  - 16% with a decline between 2.5 and 10 feet.
- 5 Year Change: 74% with a 10 foot or greater decline.
  - 12% with a decline between 2.5 and 10 feet



# Field Observations from Spring 2017

- Approximately 6 feet of land subsidence
- Located approximately 7 miles northwest of Los Banos
- Well drilled in 1952
- Depth: 225 feet
- Completed above Corcoran Clay



Well No. 09S09E26B001M





# Field Observations from Spring 2017

Fall 2014

Spring 2017



**Well No. 15S11E32A001M**

**Little Panoche Valley**



# Field Observations



Fall 2014



# Field Observations



Spring  
2017



# Field Observations from Spring 2017

**Well No. 30S25E16L004M**

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- Piezometer at Kern Water Bank
- Depth: 130 feet
- Video taken May 3, 2017



# Contact Information

## South Central Region Office

**Mission Statement:** To carry out the Department's work within the South Central Region's boundaries and to maintain close contact with local interests to facilitate communication on integrated water-related matters, towards sustainable water resources management.

### Service Area

The South Central Region Office, headquartered in Fresno, covers 14 counties including Fresno, Kings, Madera, Mariposa, Merced, Monterey, San Benito, Santa Cruz, Stanislaus, and Tulare Counties as well as portions of Kern, Tuolumne, Stanislaus and San Joaquin Counties.



### Region Office Location



3374 East Shields Ave  
Fresno, CA 93726  
Phone: (559) 230-3300  
FAX: (559) 230-3301  
Office Hours: 8:00-4:30,  
Monday-Friday

### Northern Region (map)

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### North Central Region (map)

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### South Central Region (map)

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### Southern Region (map)

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### DWR Headquarters (map)

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Sustainable Groundwater  
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916-651-9263  
[Thomas.Lutterman@water.ca.gov](mailto:Thomas.Lutterman@water.ca.gov)



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

<http://www.water.ca.gov/groundwater/casgem/index.cfm>



# Questions?



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or 559.230.3308

