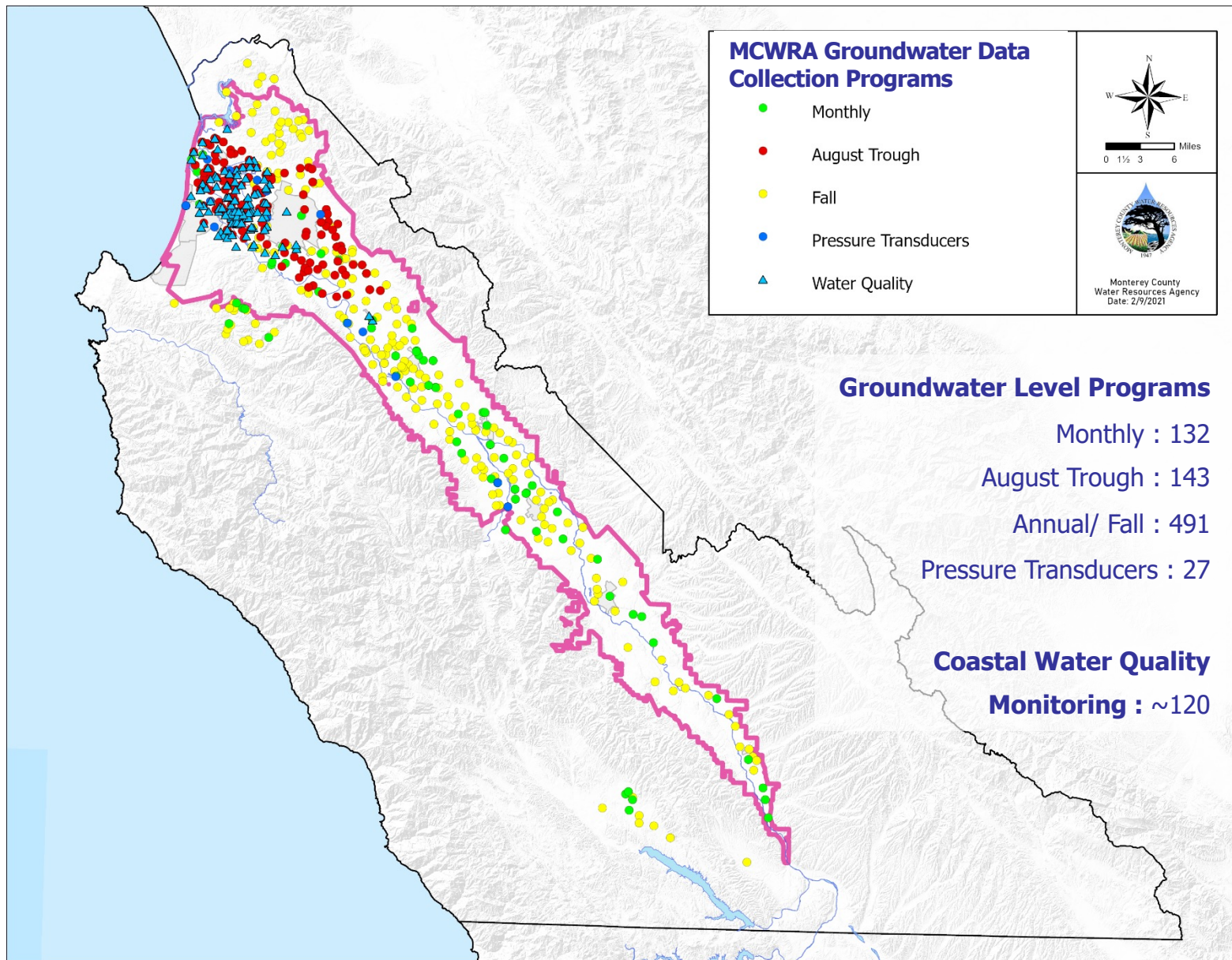






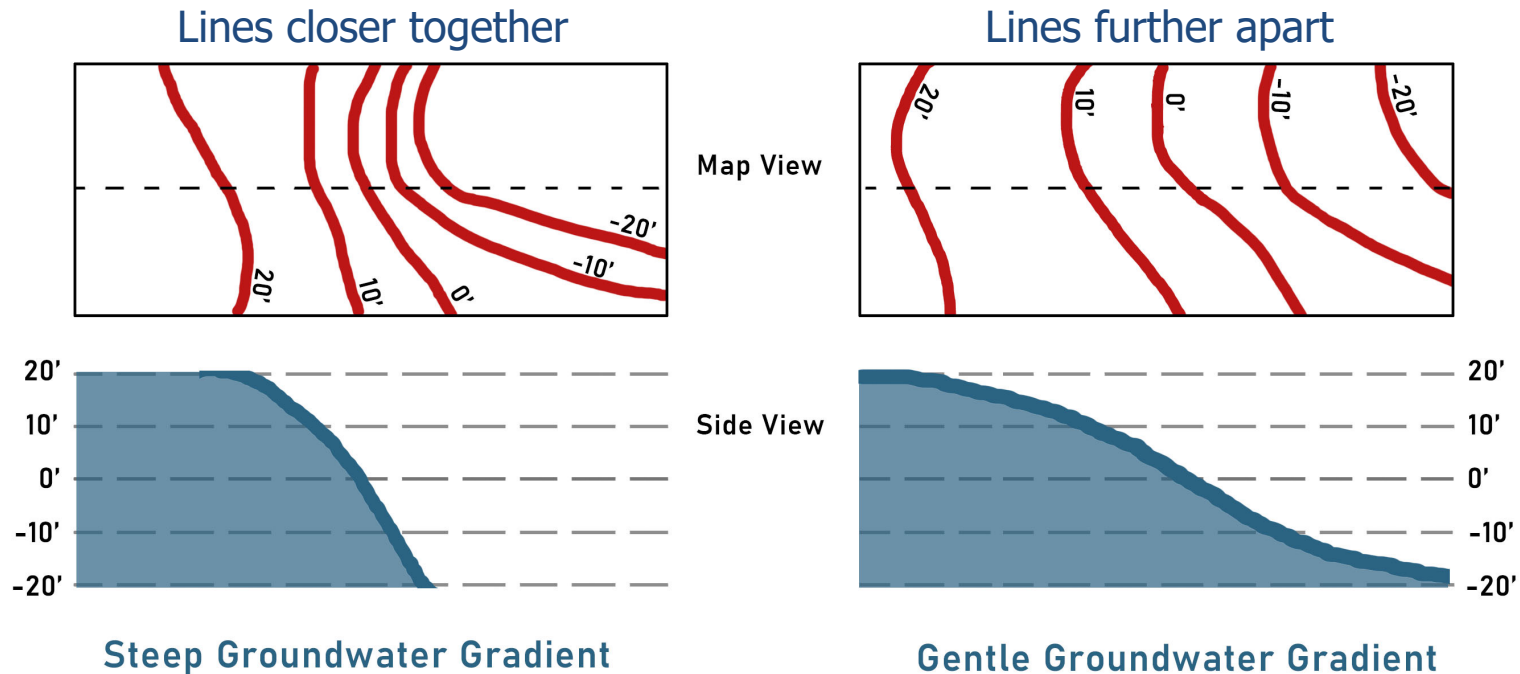
# **2022 August Trough Groundwater Level and Seawater Intrusion Contour Maps**





# What are Groundwater Level Contours?

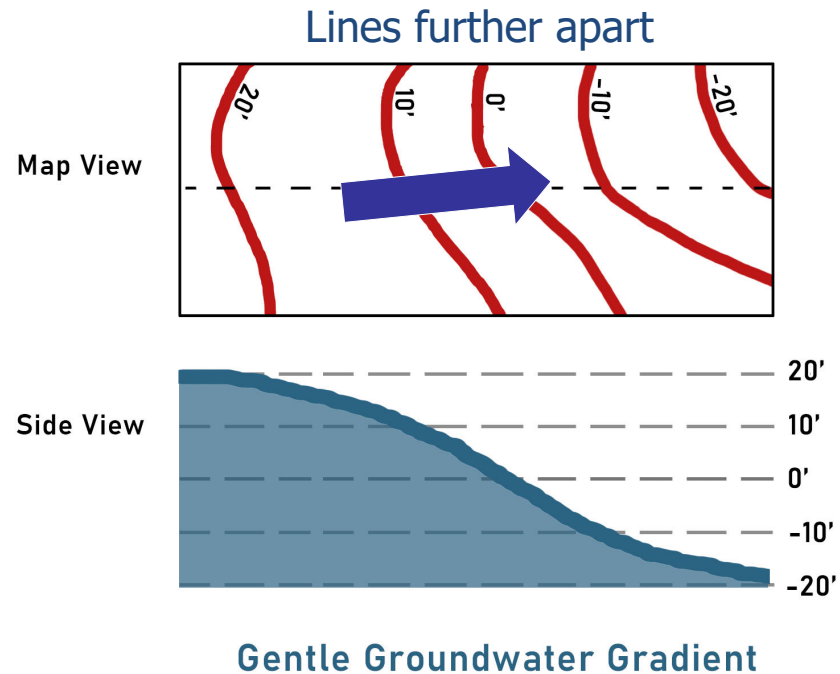
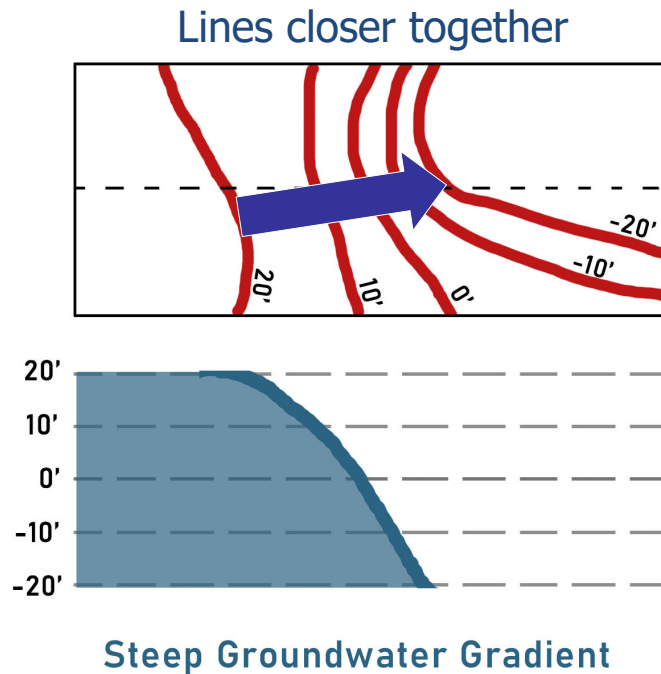
- Lines on a map representing equal lines of groundwater levels, or elevations relative to mean sea level





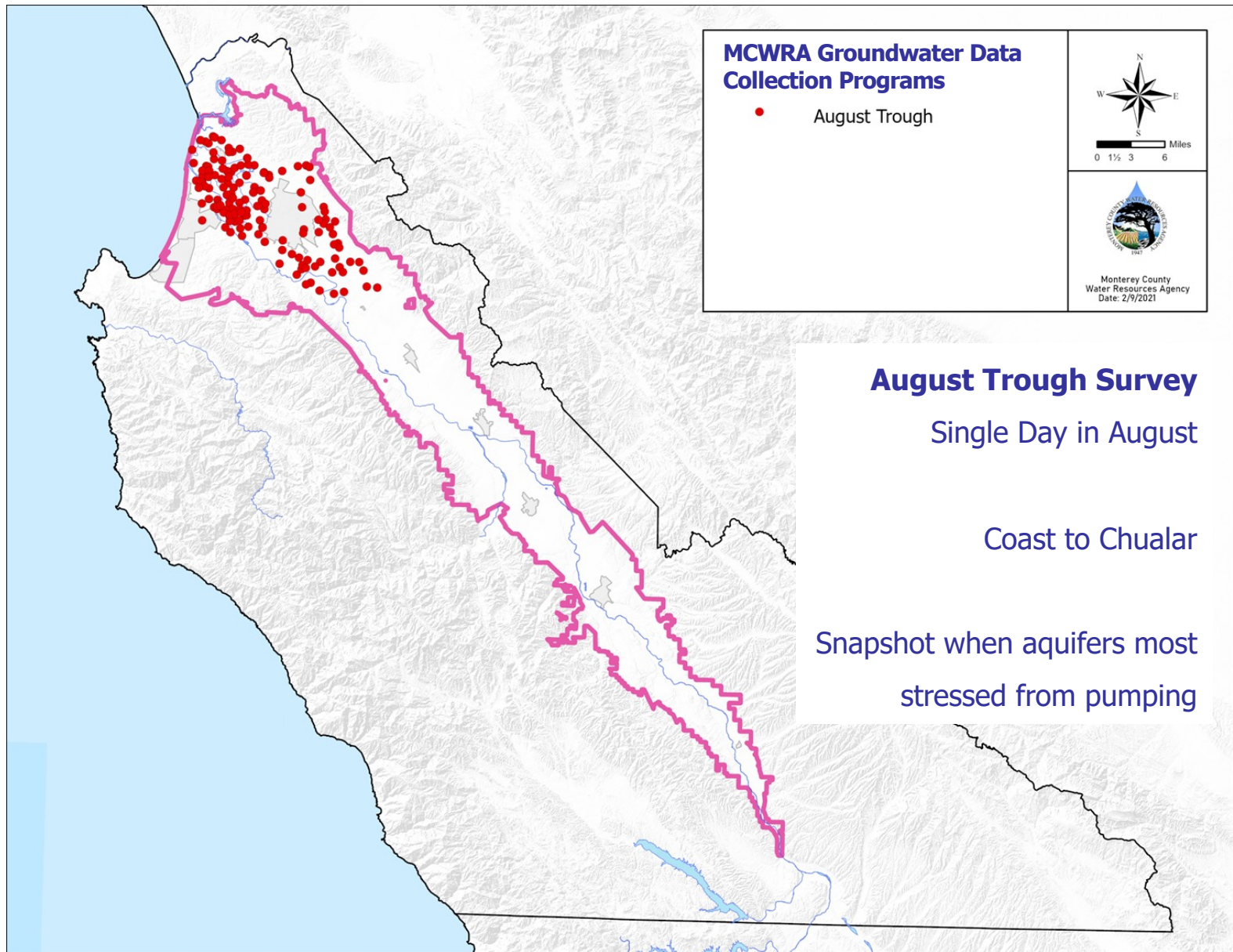
# What are Groundwater Level Contours?

- Lines on a map representing equal lines of groundwater levels, or elevations relative to mean sea level





# **August 2022 Groundwater Level Contours**





# August Trough 2022

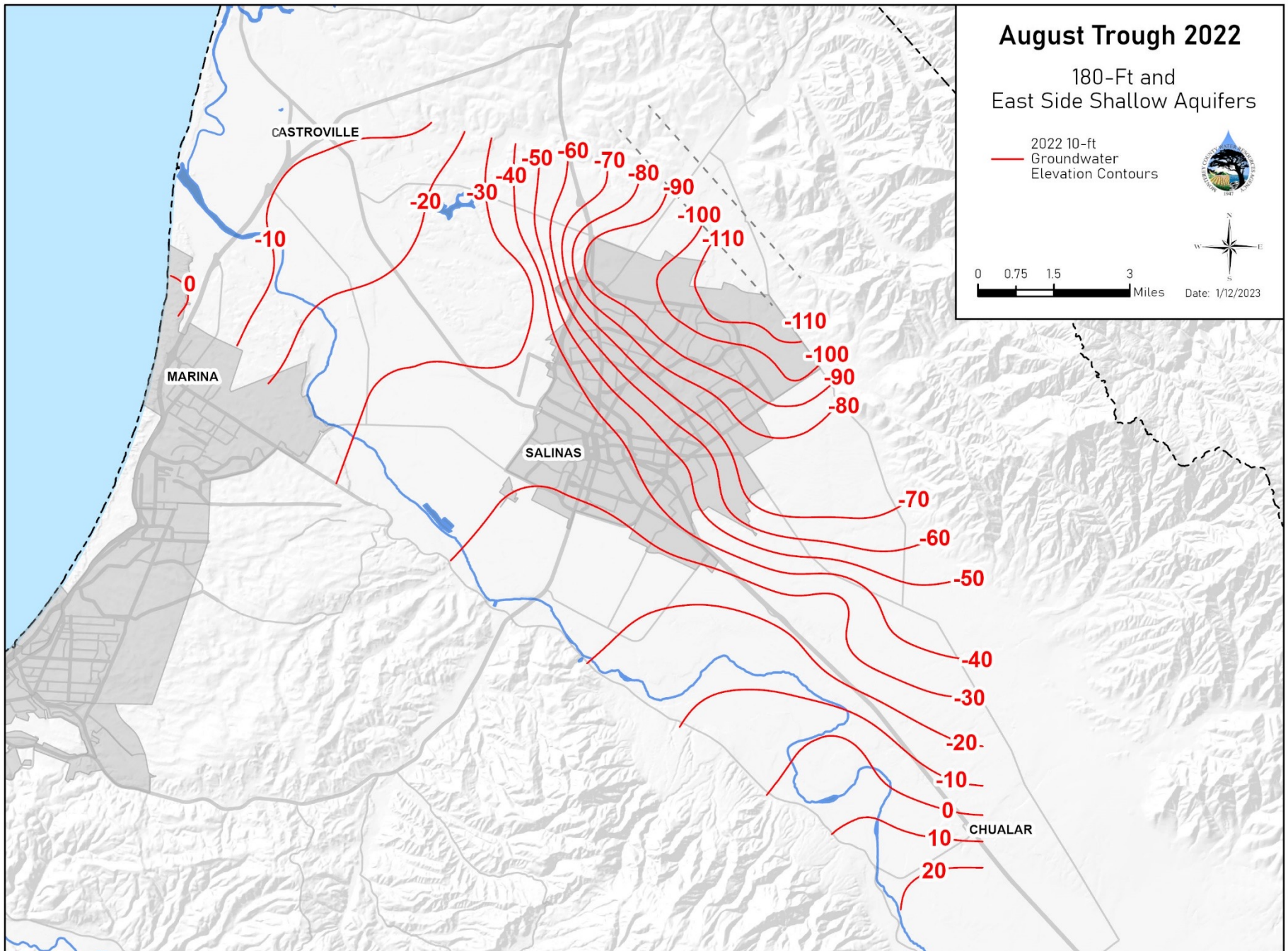
180-Ft and  
East Side Shallow Aquifers

2022 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3 Miles

Date: 1/12/2023



# August Trough 2022

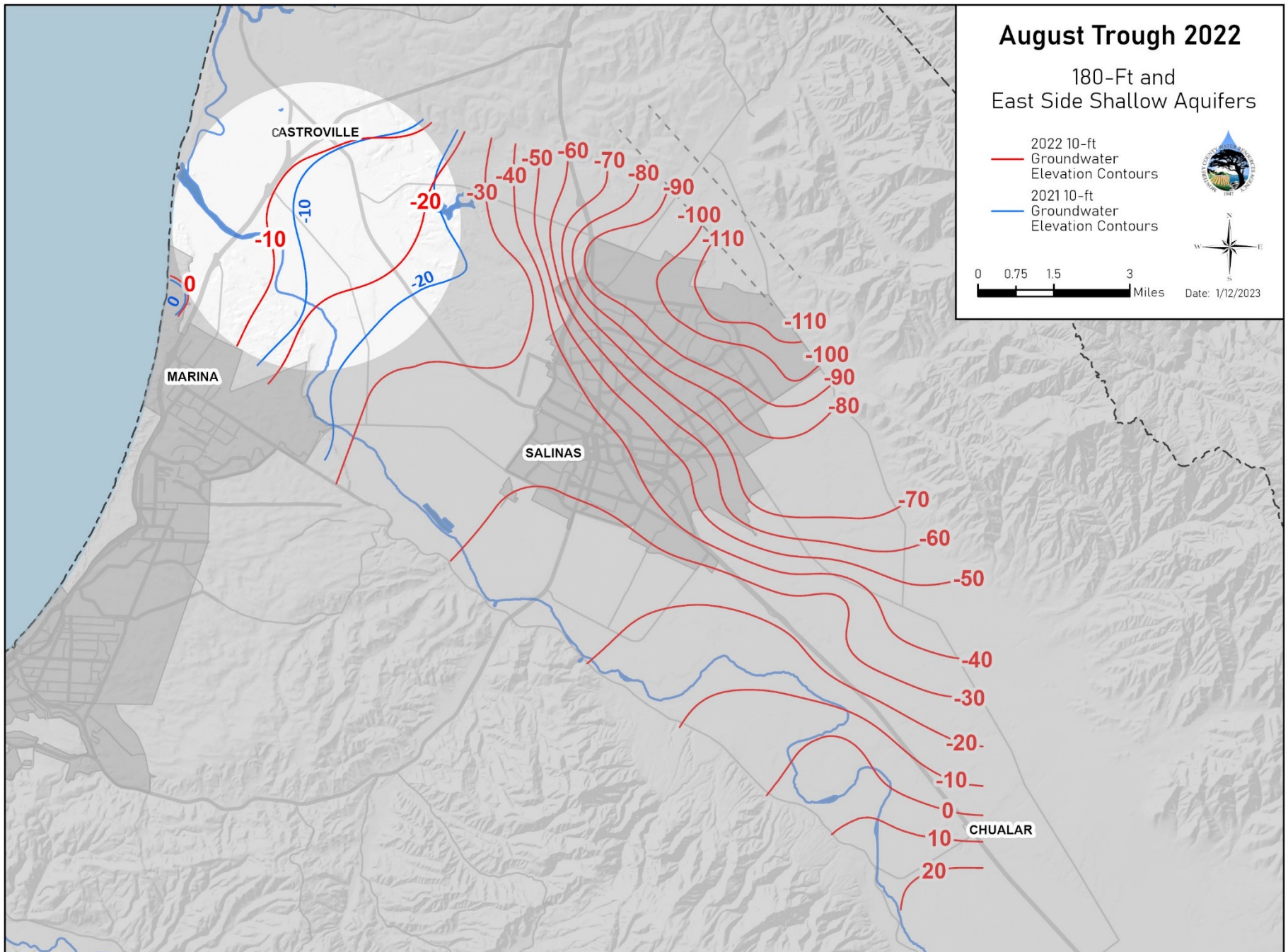
180-Ft and  
East Side Shallow Aquifers

2022 10-ft  
Groundwater  
Elevation Contours  
2021 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3 Miles

Date: 1/12/2023





# August Trough 2022

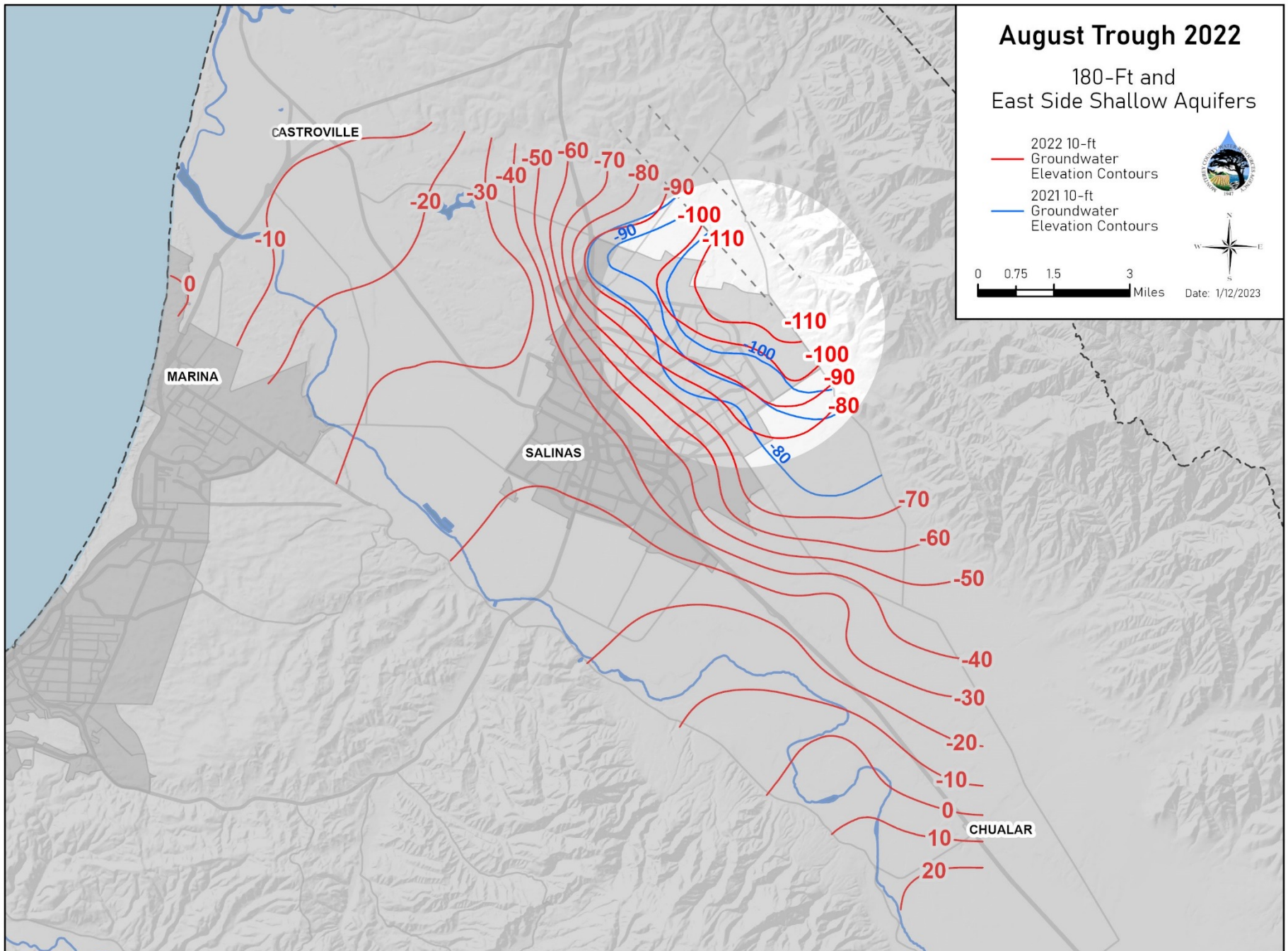
180-Ft and  
East Side Shallow Aquifers

2022 10-ft  
Groundwater  
Elevation Contours  
2021 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3 Miles

Date: 1/12/2023



# August Trough 2022

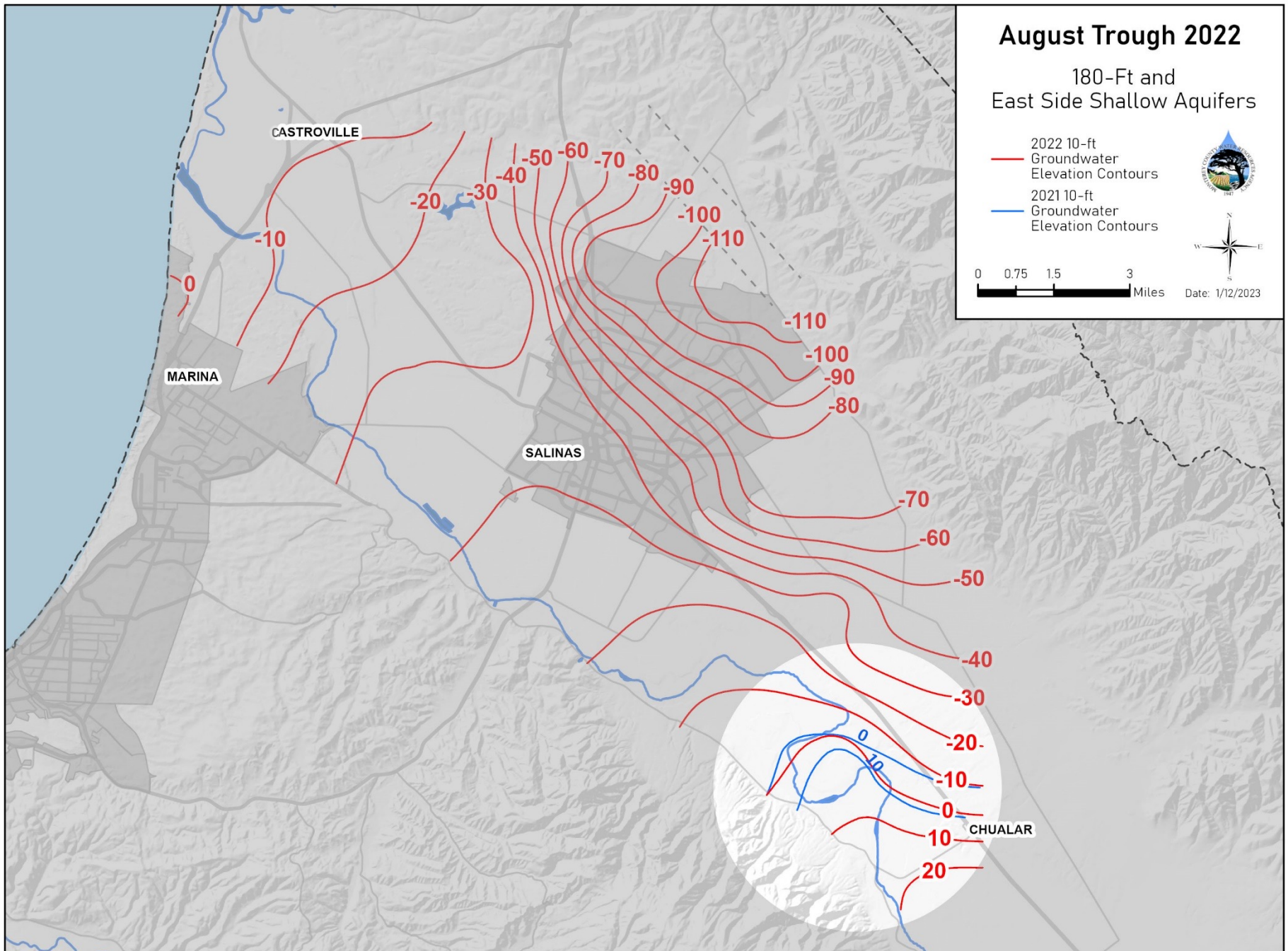
180-Ft and  
East Side Shallow Aquifers

- 2022 10-ft  
Groundwater  
Elevation Contours
- 2021 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3  
Miles

Date: 1/12/2023





# August Trough 2022

180-Ft and  
East Side Shallow Aquifers

2022 10-ft  
Groundwater  
Elevation Contours

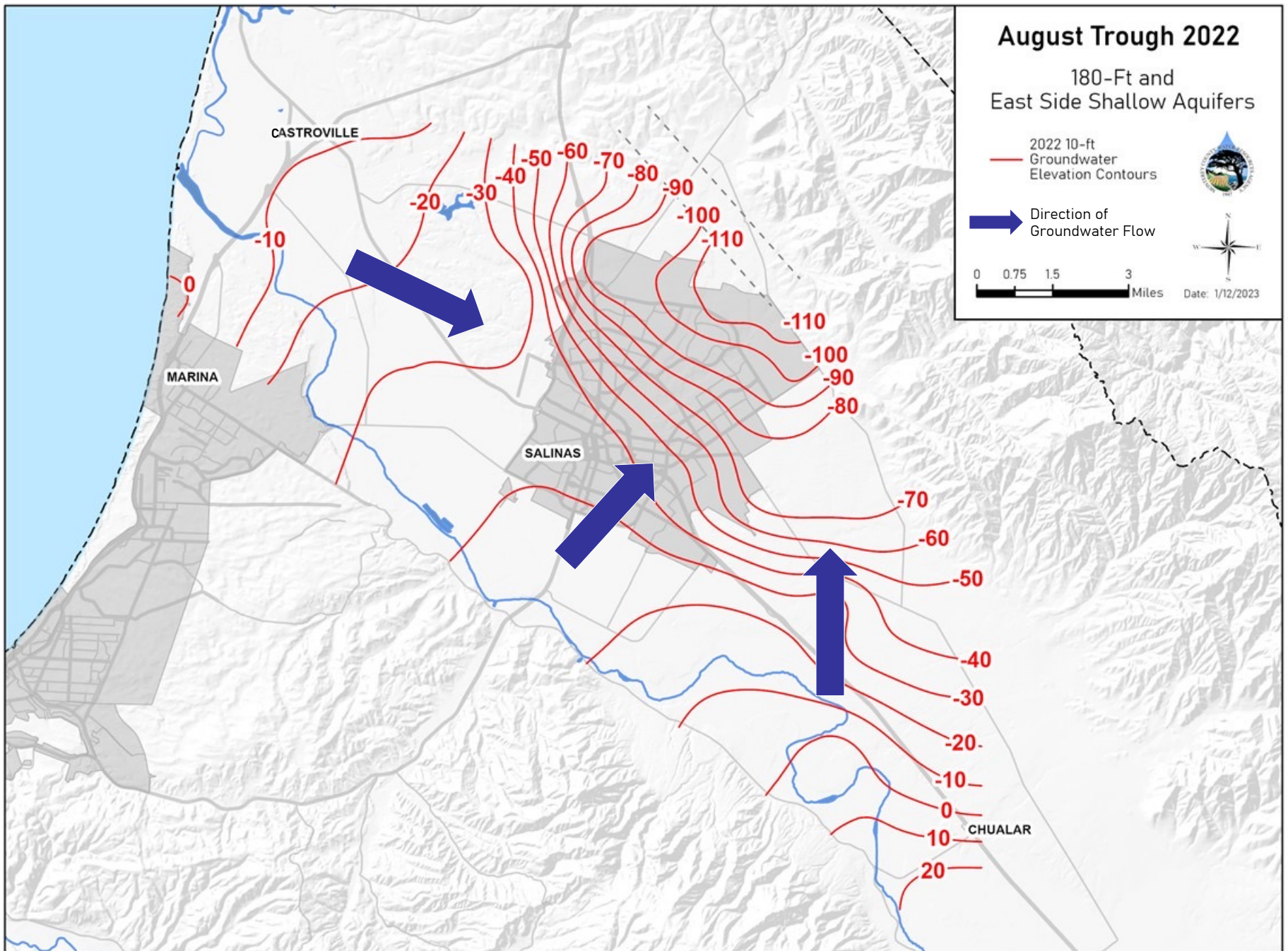


Direction of  
Groundwater Flow

0 0.75 1.5 3  
Miles



Date: 1/12/2023



# August Trough 2022

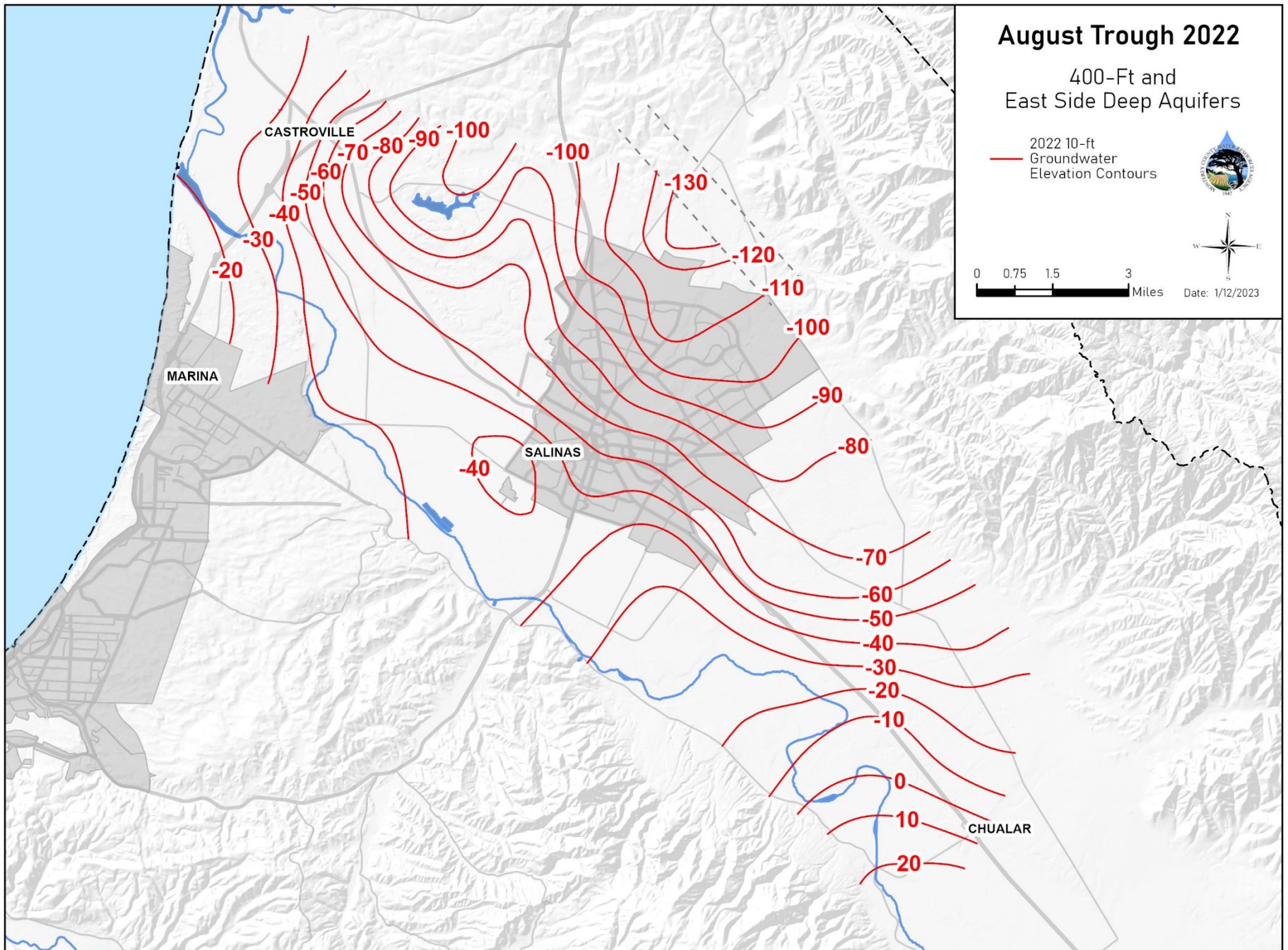
400-Ft and  
East Side Deep Aquifers

2022 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3 Miles

Date: 1/12/2023





# August Trough 2022

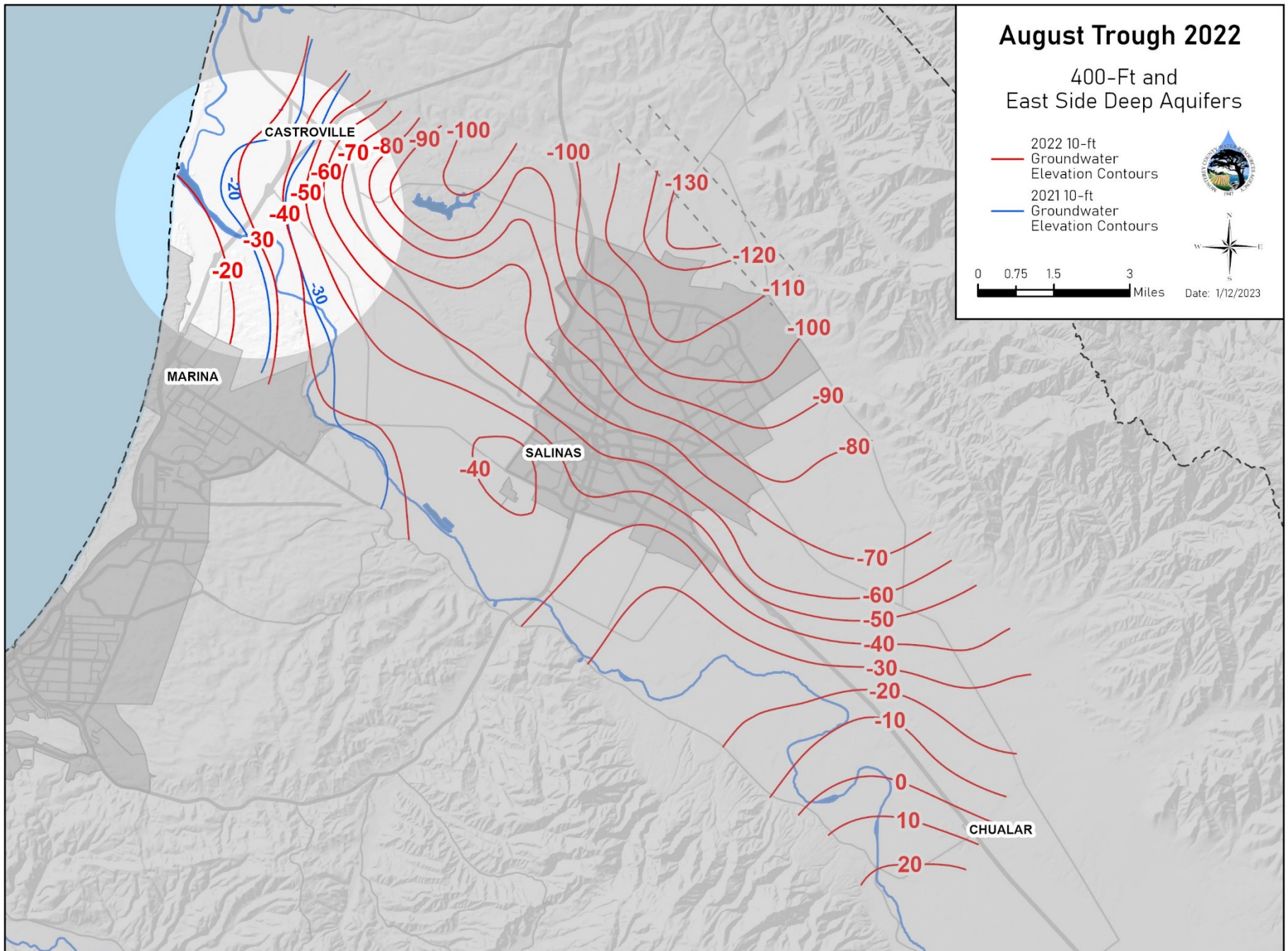
## 400-Ft and East Side Deep Aquifers

- 2022 10-ft  
Groundwater  
Elevation Contours
- 2021 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3 Miles

Date: 1/12/2023





# August Trough 2022

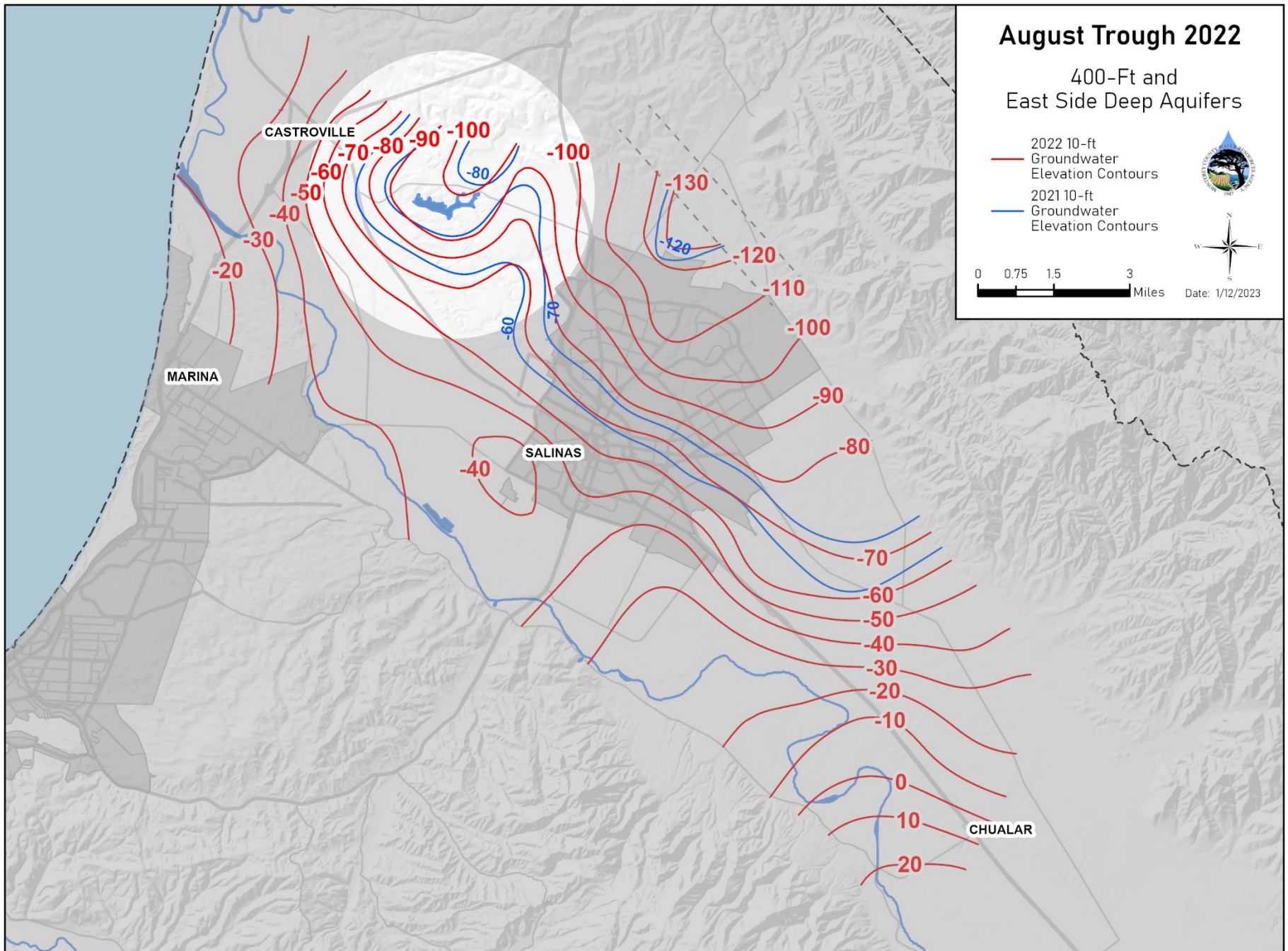
## 400-Ft and East Side Deep Aquifers

- 2022 10-ft  
Groundwater  
Elevation Contours
- 2021 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3  
Miles

Date: 1/12/2023



# August Trough 2022

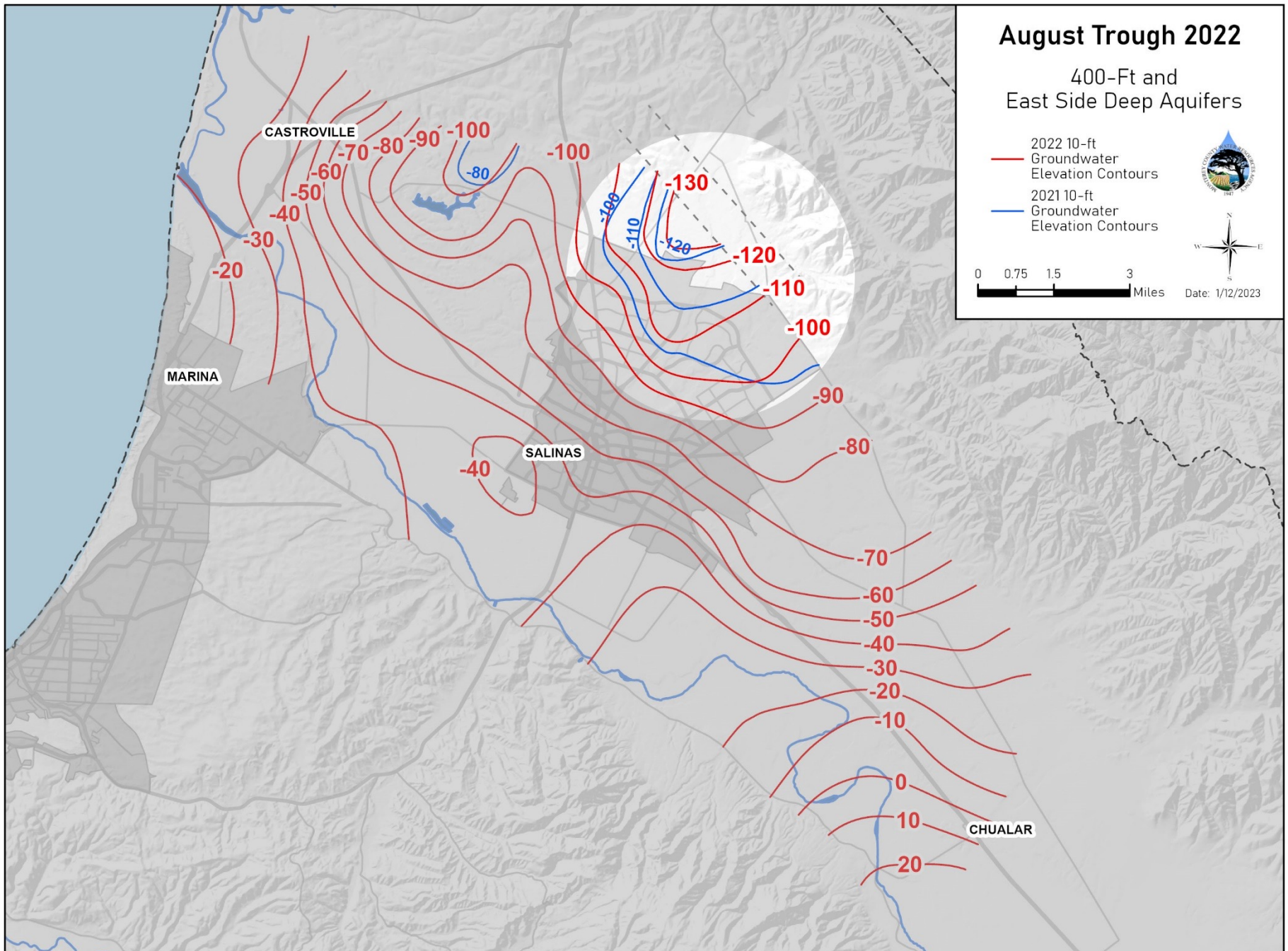
## 400-Ft and East Side Deep Aquifers

- 2022 10-ft  
Groundwater  
Elevation Contours
- 2021 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3 Miles

Date: 1/12/2023





# August Trough 2022

## 400-Ft and East Side Deep Aquifers

- 2022 10-ft  
Groundwater  
Elevation Contours
- 2021 10-ft  
Groundwater  
Elevation Contours



0 0.75 1.5 3 Miles

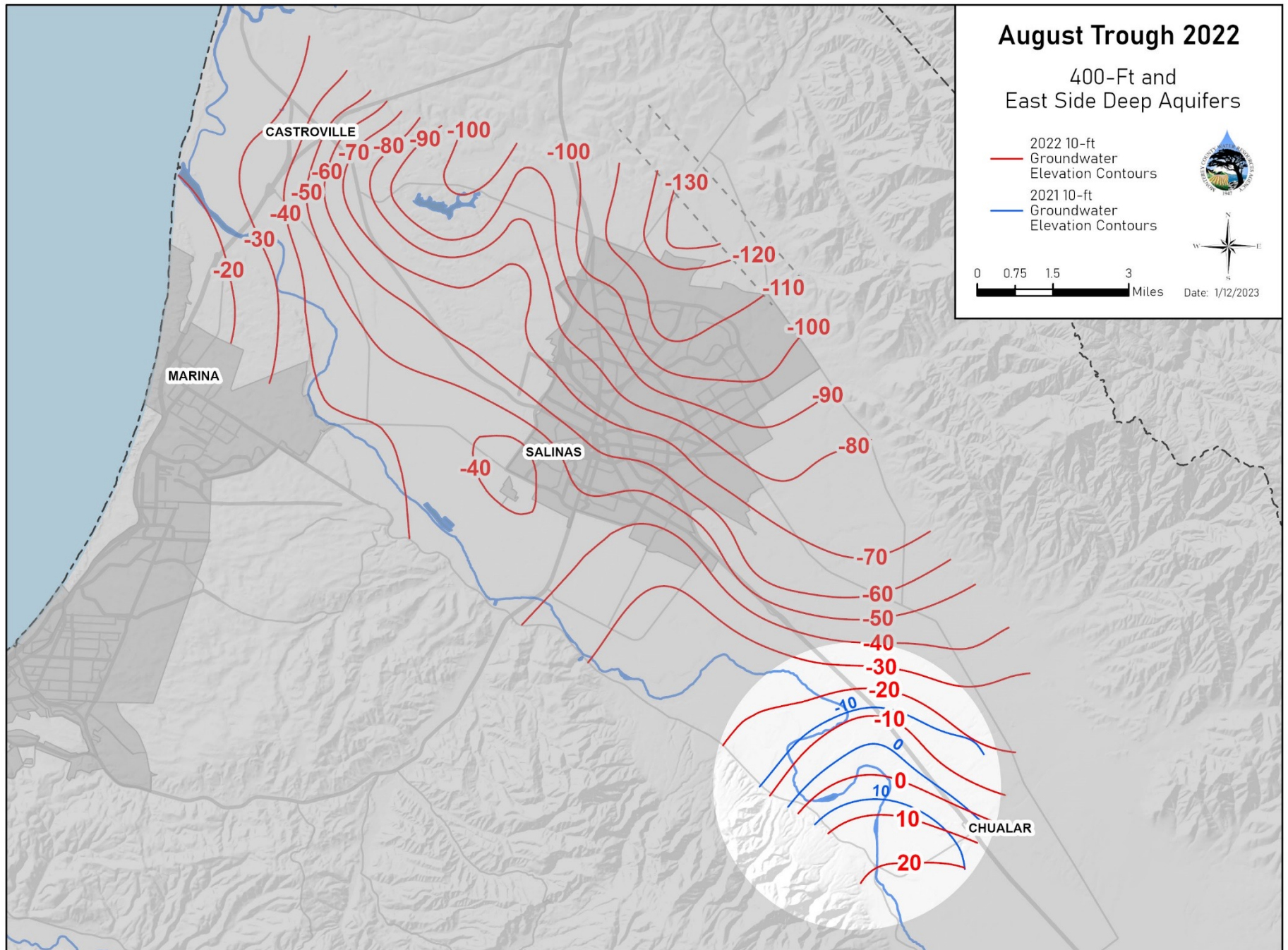
Date: 1/12/2023

CASTROVILLE

MARINA

SALINAS

CHUALAR



# August Trough 2022

## 400-Ft and East Side Deep Aquifers

2022 10-ft  
Groundwater  
Elevation Contours

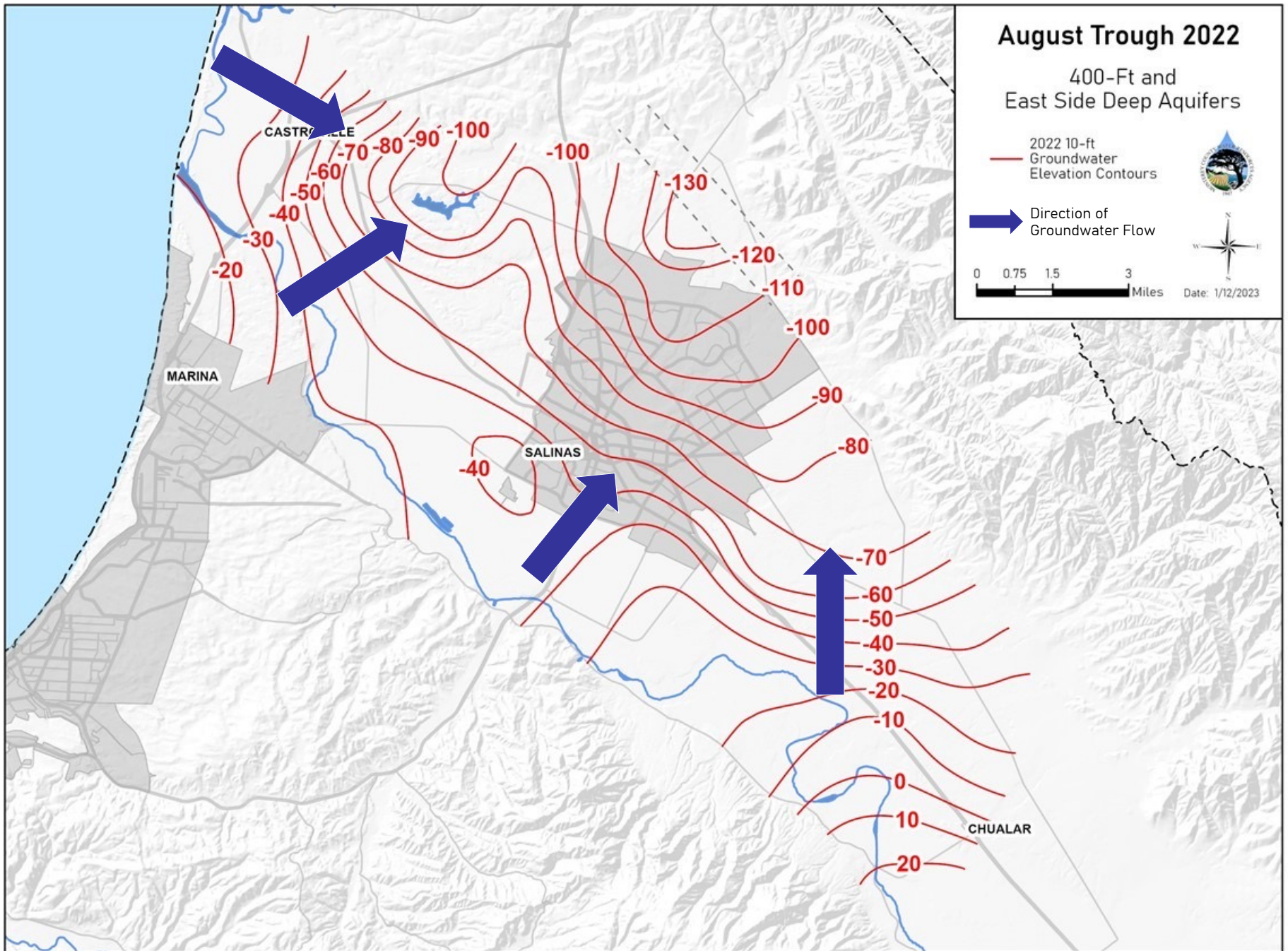


Direction of  
Groundwater Flow

0 0.75 1.5 3 Miles



Date: 1/12/2023







# August 2022 Summary: Changes Since 2021

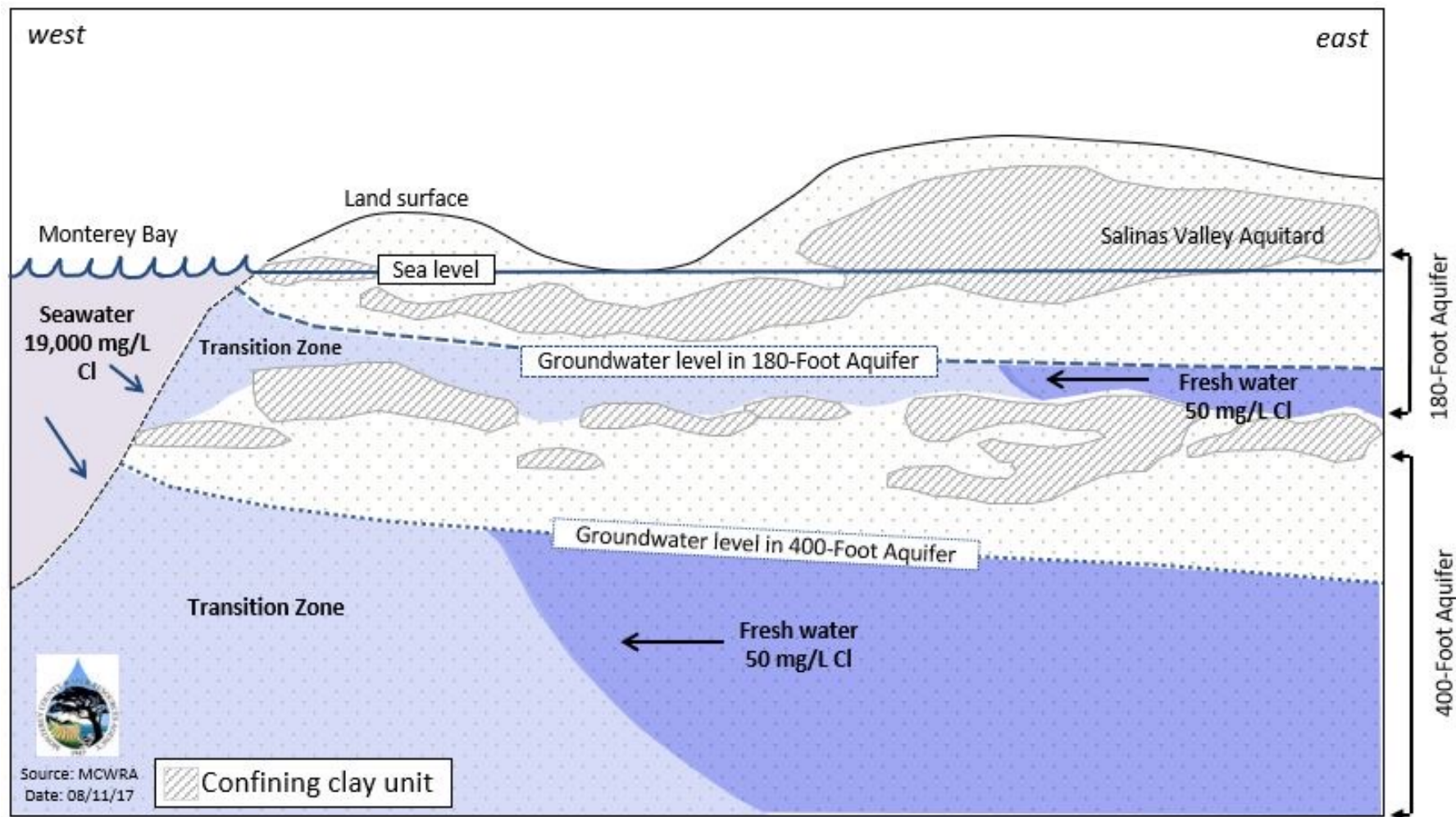
- 180-Ft Aquifer, East Side Shallow
  - Decline near coast of 2-4'
  - Deepening of East Side trough, and area north of Salinas by 10'
  - Decline in levels up valley of 4-12'
- 400-Ft Aquifer, East Side Deep
  - Declines at coast, ranging from 3-6' near river, -10' towards Castroville, and -25' north of Espinosa Lake
  - Deepening of East Side trough by 10'
  - Decline in levels up valley of 5-12'





# 2022 Seawater Intrusion Contours

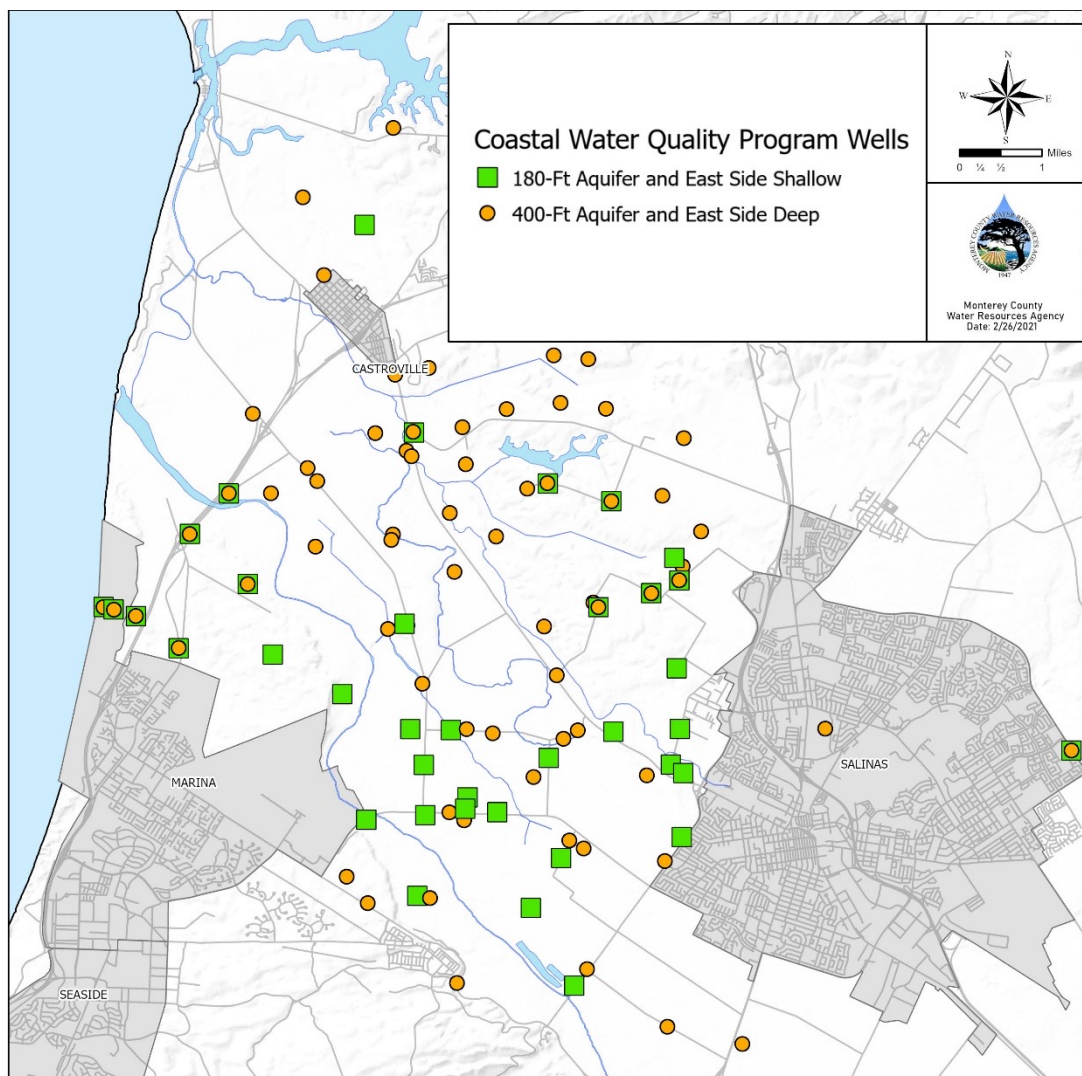
# Seawater Intrusion – Transition Zone



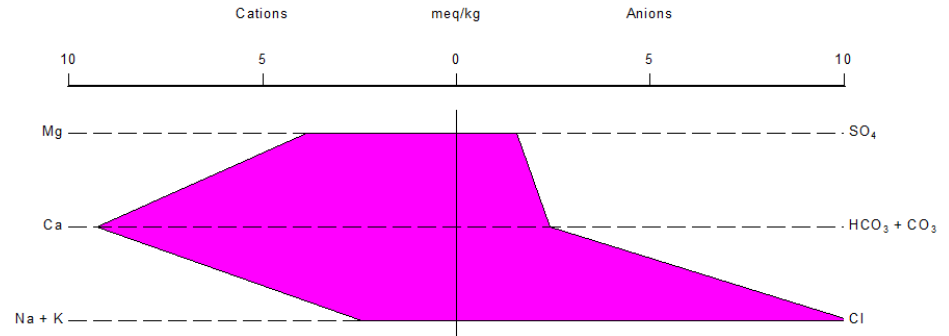
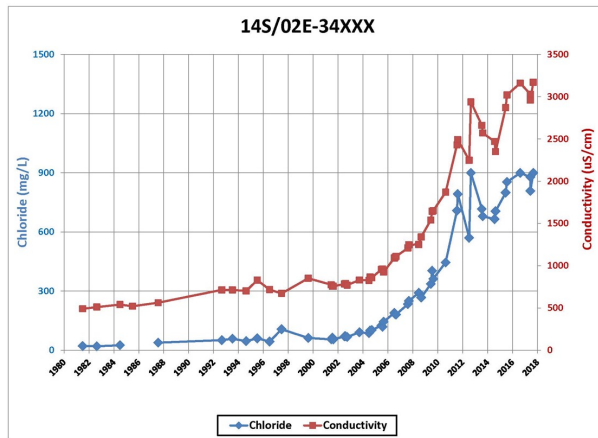
# Seawater Intrusion – Monitoring Program

## Groundwater Well

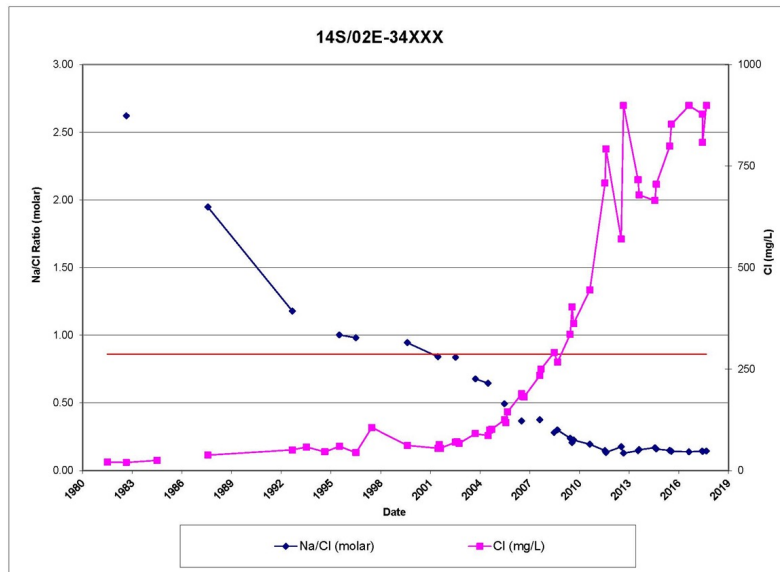
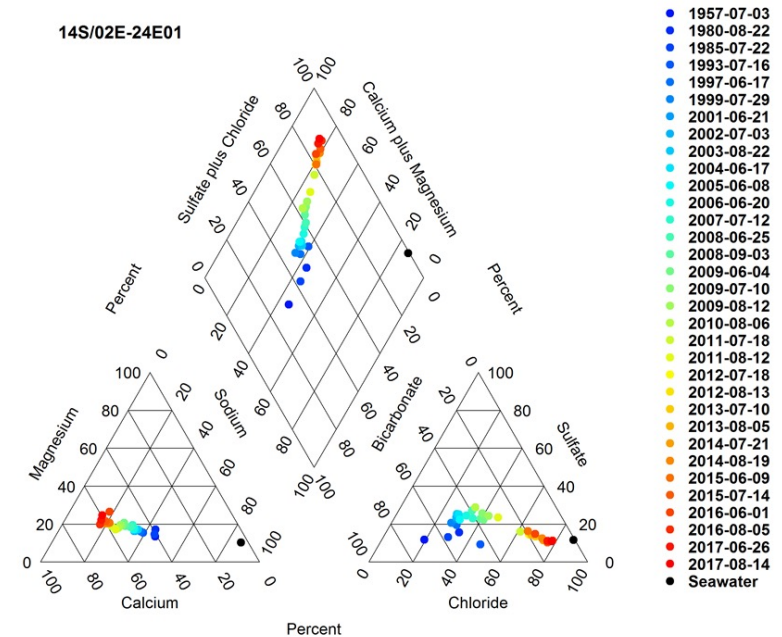
- Ag & Urban wells
- Dedicated monitoring wells
- Analyzed for, Waiver Panel (ELAP #1395)



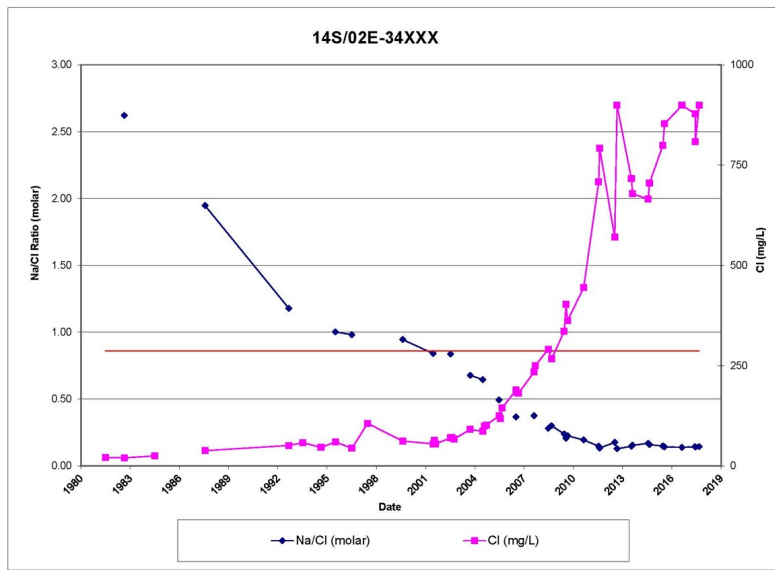
# Seawater Intrusion – Data Analysis



**14S/02E-24E01**

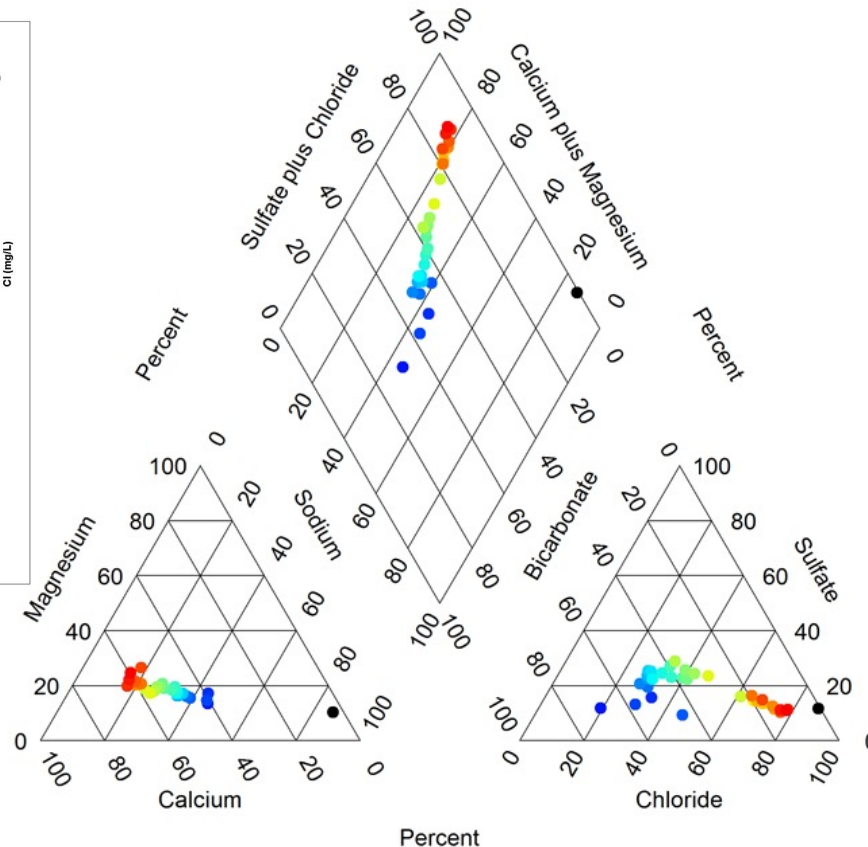
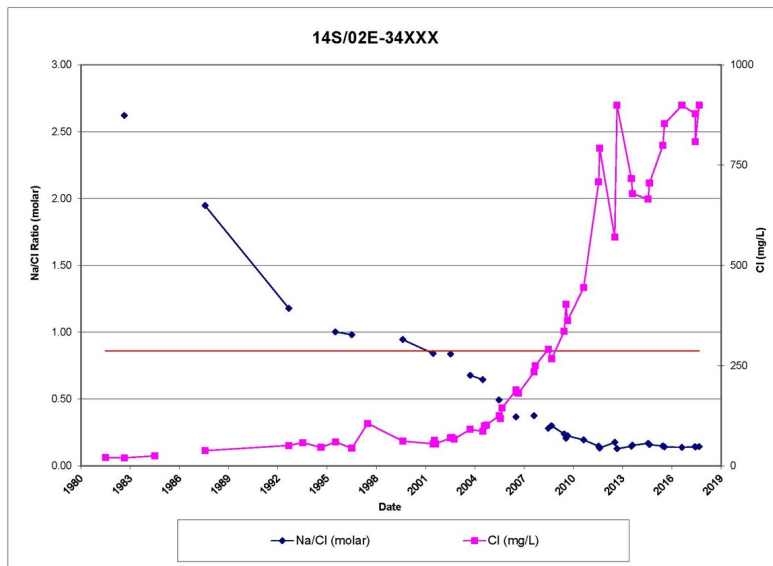


# Geochemical Tools – Example of SWI



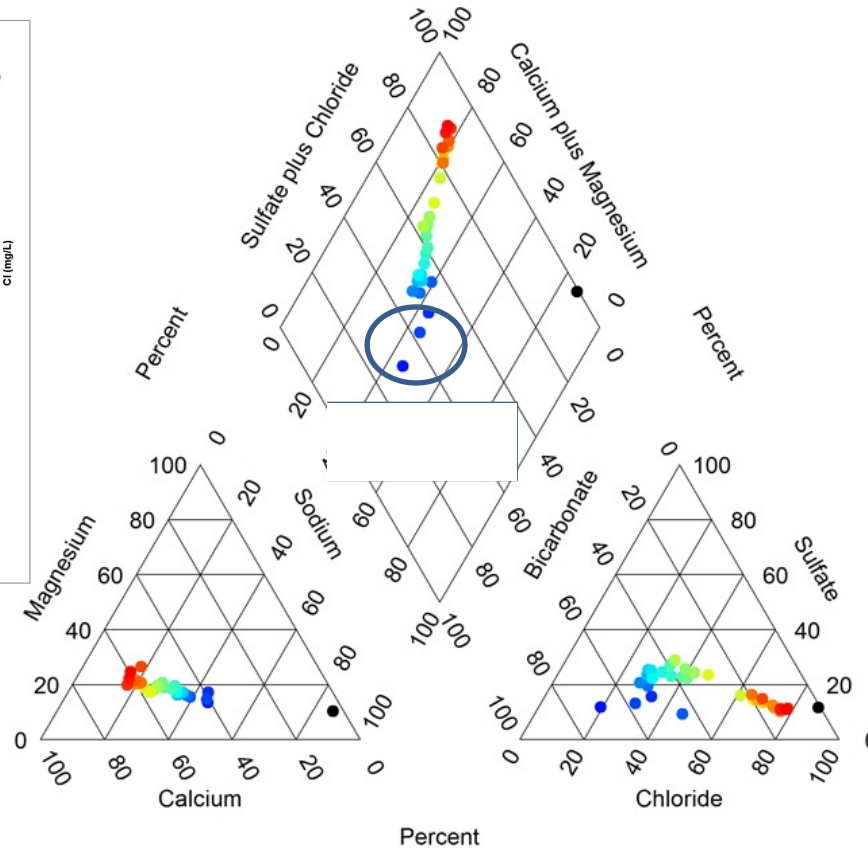
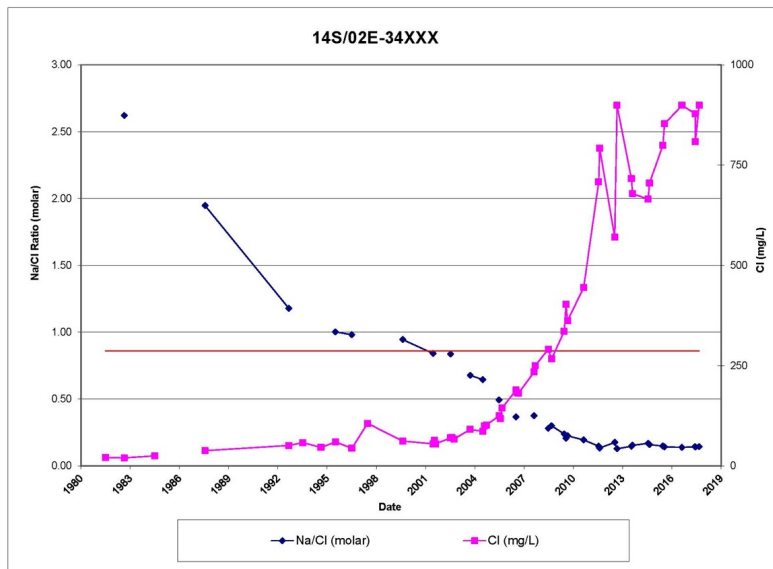


# Geochemical Tools – Example of SWI



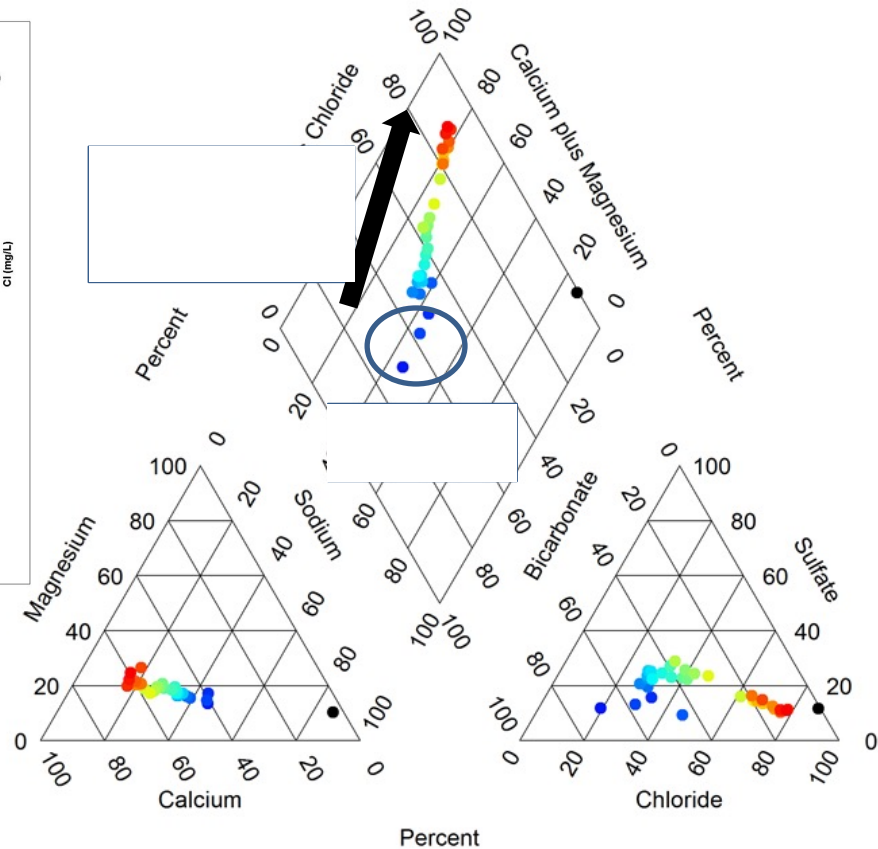
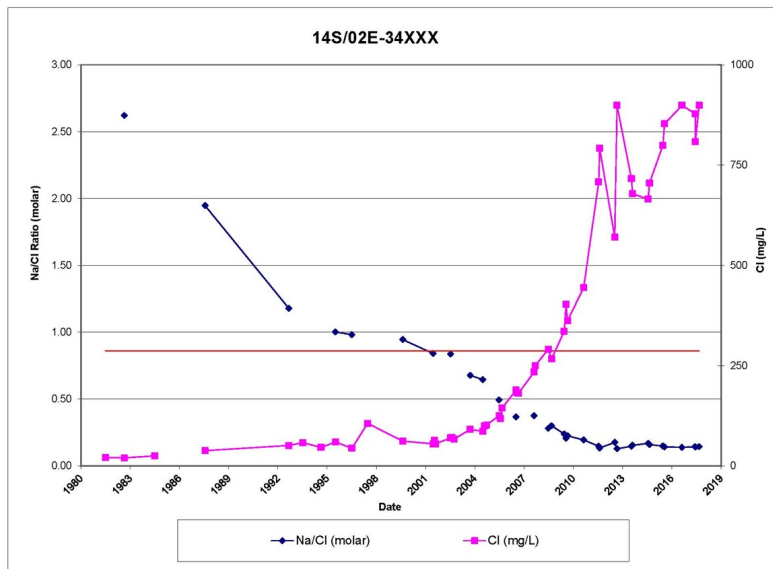
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- 1980-08-22
- 1985-07-22
- 1993-07-16
- 1997-06-17
- 1999-07-29
- 2001-06-21
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- 2003-08-22
- 2004-06-17
- 2005-06-08
- 2006-06-20
- 2007-07-12
- 2008-06-25
- 2008-09-03
- 2009-06-04
- 2009-07-10
- 2009-08-12
- 2010-08-06
- 2011-07-18
- 2011-08-12
- 2012-07-18
- 2012-08-13
- 2013-07-10
- 2013-08-05
- 2014-07-21
- 2014-08-19
- 2015-06-09
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- 2017-06-26
- 2017-08-14
- Seawater

# Geochemical Tools – Example of SWI



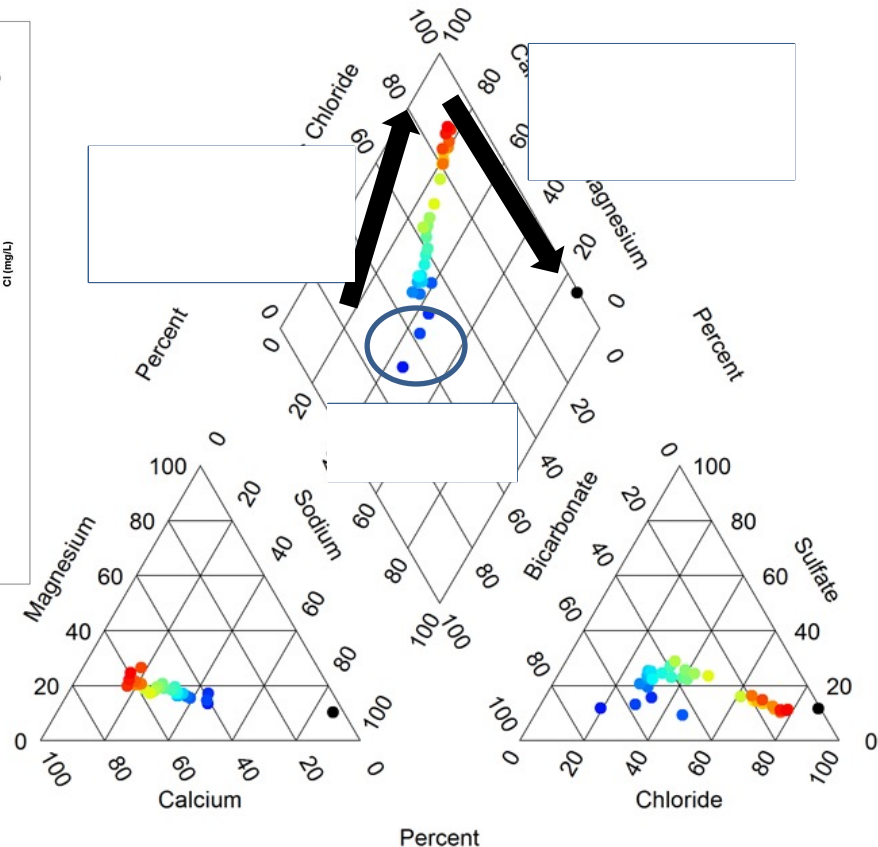
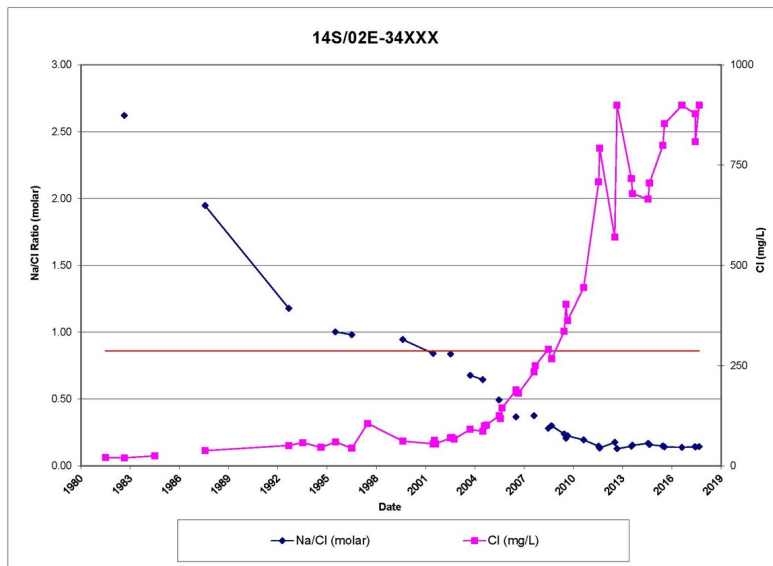
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- 2003-08-22
- 2004-06-17
- 2005-06-08
- 2006-06-20
- 2007-07-12
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- 2014-08-19
- 2015-06-09
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- 2017-08-14
- Seawater

# Geochemical Tools – Example of SWI





# Geochemical Tools – Example of SWI



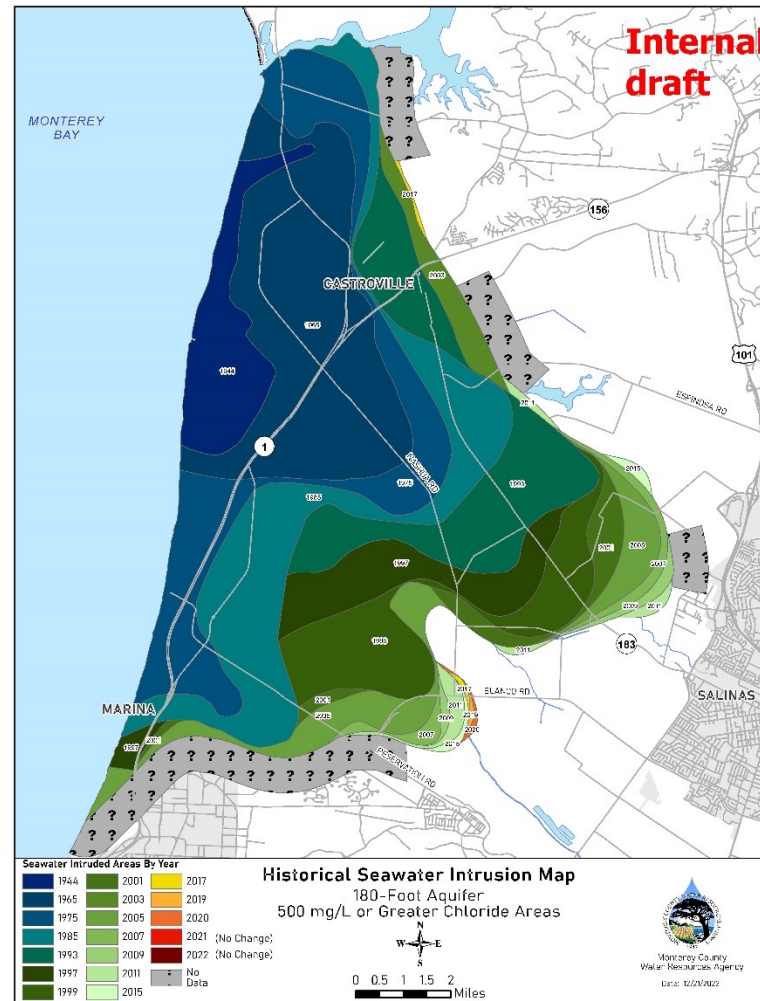
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- 2013-08-05
- 2014-07-21
- 2014-08-19
- 2015-06-09
- 2015-07-14
- 2016-06-01
- 2016-08-05
- 2017-06-26
- 2017-08-14
- Seawater



# Seawater Intrusion – Data Analysis

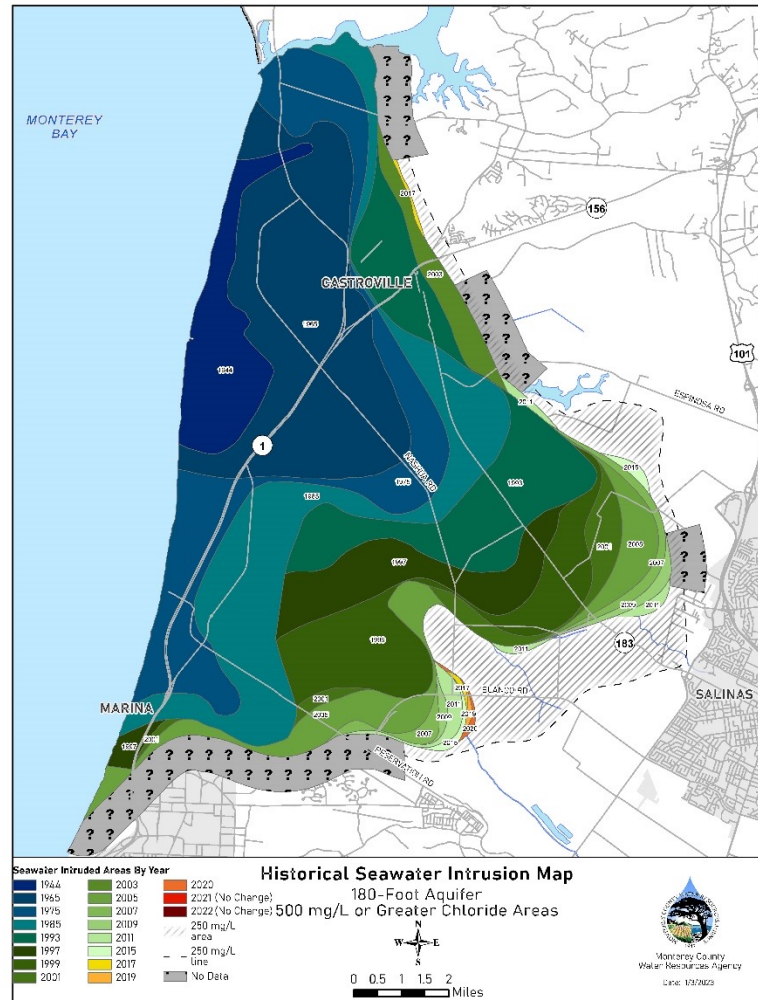
- Data Development Process
  - Water Quality
  - Well Construction
  - Well Pumping Data
  - Groundwater Level Contours

# 2022 180-Foot Aquifer 500 mg/L Chloride Areas

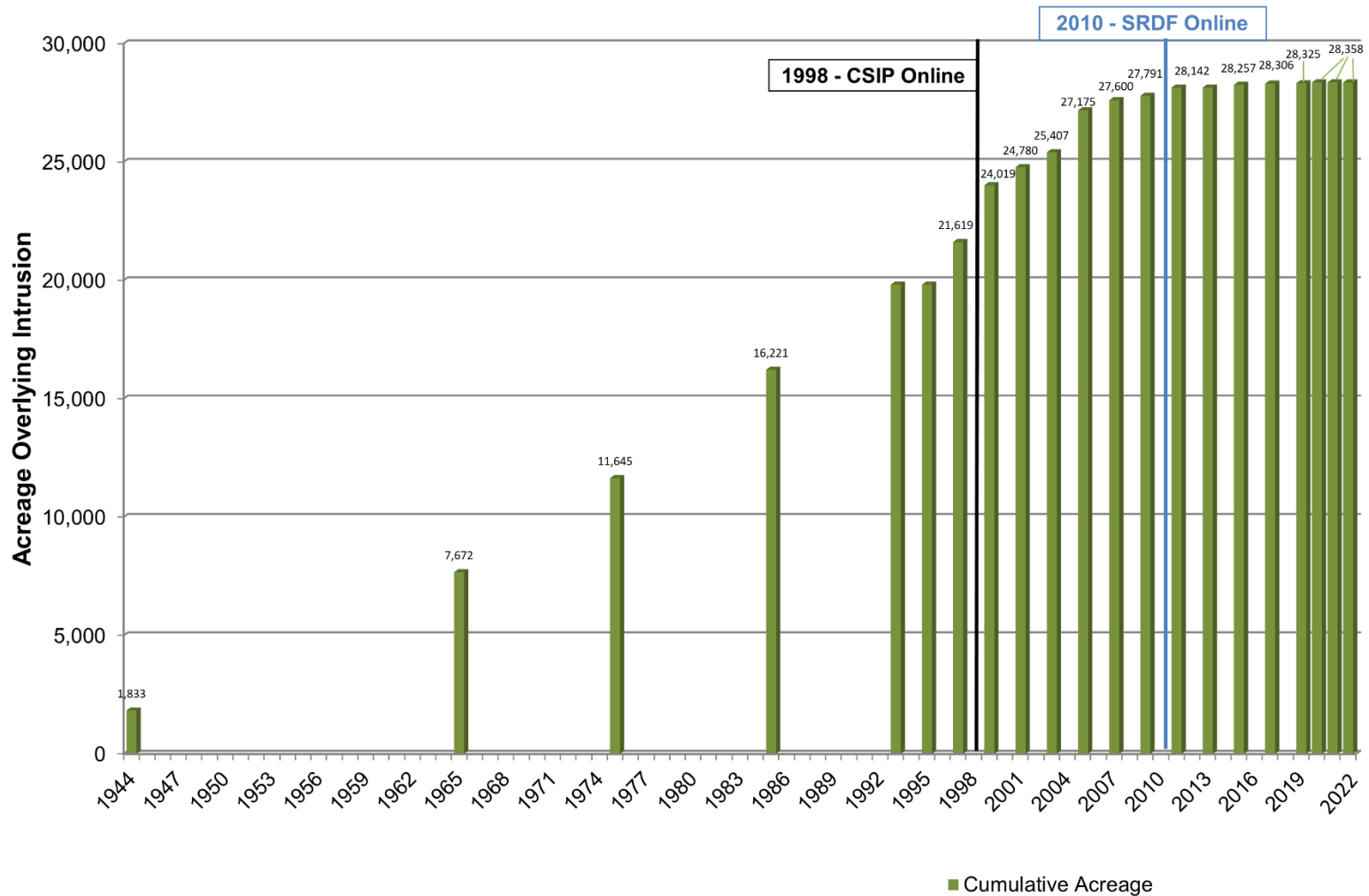




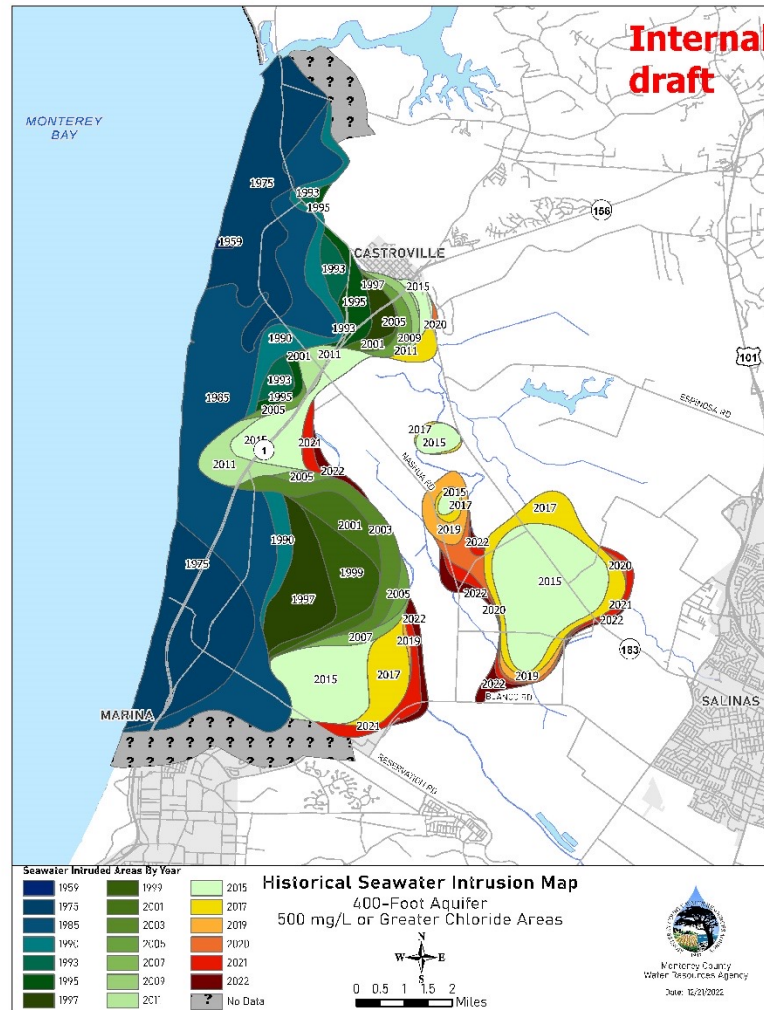
# 2022 180-Foot Aquifer 250 mg/L & 500 mg/L Chloride Areas



## Acreage Overlying the 500 mg/L Chloride Contour 180-Foot Aquifer

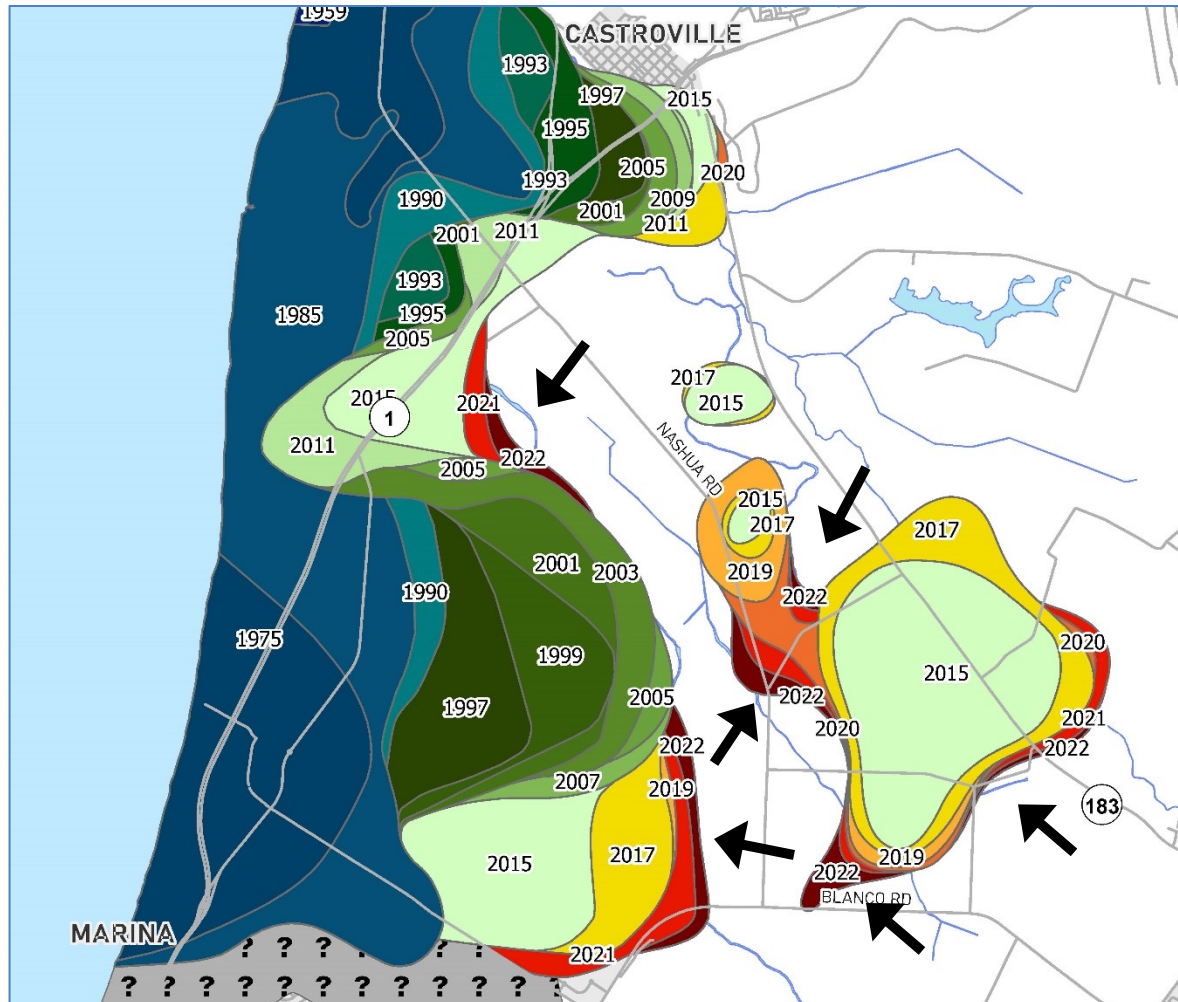


# 2022 400-Foot Aquifer 500 mg/L Chloride Areas

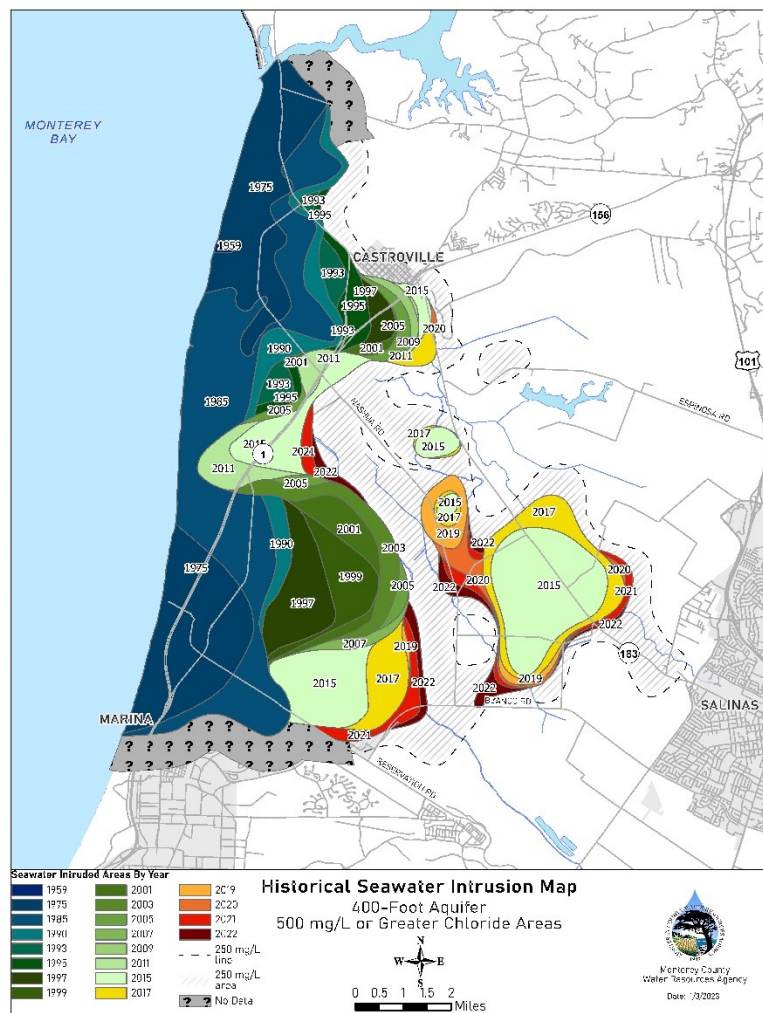




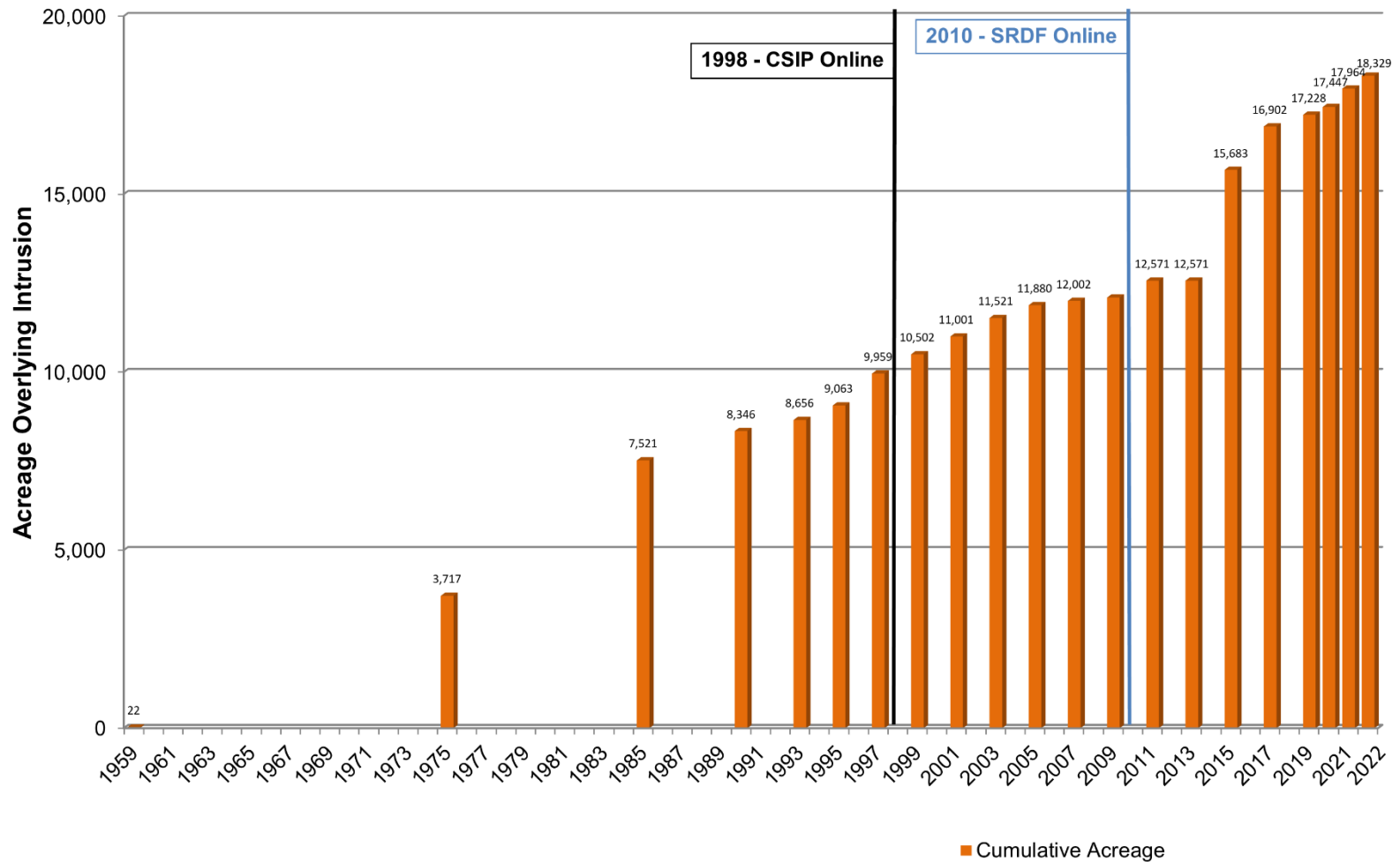
# 2022 400-Foot Aquifer 500 mg/L Chloride Areas



# 2022 400-Foot Aquifer 250 mg/L & 500 mg/L Chloride Areas



## Acreage Overlying the 500 mg/L Chloride Contour 400-Foot Aquifer







# Conclusion

## 180-Ft Aquifer Contours

- No Advancement from 2021 Contours

## 400-Ft Aquifer Contours

- Some Lateral Advancement – Middle and Southern Lobe
- Expansion of the Large CI “Island” Continues
- Expansion at the “Arm” connecting Middle and Large Islands

