

**SOQUEL/APTOS GROUNDWATER MANAGEMENT PLAN  
BASIN IMPLEMENTATION GROUP (BIG)  
MEETING MINUTES  
May 21, 2015**

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**1. CALL TO ORDER**

Bruce Jaffe called the meeting to order at 7:04 p.m.

**2. ROLL CALL**

**Voting Committee Members Present:**

Bruce Daniels, Soquel Creek Water District  
Bruce Jaffe, Soquel Creek Water District  
John Benich, Central Water District  
Bob Postle, Central Water District  
Bill Wigginton, Seascape Greens Homeowners Association

**Other Committee Members Present:**

John Leopold, County of Santa Cruz  
Cynthia Mathews, City of Santa Cruz  
Micah Posner, City of Santa Cruz

**Committee Members Absent:**

Tom LaHue, Soquel Creek Water District

**Others Present:**

Ralph Bracamonte, Manager, Central Water District  
John Ricker, Santa Cruz County Water Resources Division Director  
Taj Dufour, Soquel Creek Water District  
Melanie Schumacher, Soquel Creek Water District  
Ron Duncan, Soquel Creek Water District  
Jon Kennedy, Private Well Owner  
Heidi Luckenbach, City of Santa Cruz  
Karen Reese, Executive Assistant/Board Clerk, Soquel Creek Water District

**Others Present:**

Derrik Williams, HydroMetrics WRI  
4 members of the public

**3. APPROVAL OF MINUTES**

**3.1.1 Minutes of January 29, 2015**

MOTION: John Benich; Second; Bill Wigginton: To approve the minutes of January 29, 2015. Motion carried unanimously.
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**3.1.2 Minutes of March 25, 2015**

One minor change was made.

MOTION: Bruce Daniels; Second; Bill Wigginton: To approve the minutes of March 25, 2015 with minor change. Motion carried. Bruce Jaffe abstained.
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4. **ORAL COMMUNICATIONS** *(items not on the Agenda)*

Katherine Sweet asked to speak to Item 5.7 and her request was granted. She talked about the composition of the committee, suggesting that there be three members of private well owners/users.

5. **ADMINISTRATIVE BUSINESS**

5.1 Accept Soquel-Aptos Area Groundwater Management Annual Review and Report (ARR) for Water Year 2014

Derrik Williams, HydroMetrics, WRI presented the Annual Review and Report (ARR) for Water Year 2014 (**Attached as Exhibit A**) and answered questions from the committee. It should be noted that this is the last annual report for the time being as the committee voted to continue the quarterly reports only as the move is made toward forming the Groundwater Sustainability Agency (GSA).

MOTION: Bruce Daniels; Second; Bob Postle: To Accept the Soquel-Aptos Area Groundwater Management Annual Review and Report for Water Year 2014. Motion carried.

5.2 Basin Groundwater Model Update

Derrik William gave a presentation (**Attached as Exhibit B**) on the groundwater model and answered questions from the committee.

5.3 Review and Approve Revised Third Amendment to the Joint Exercise of Powers Agreement (JPA) Amendment #3

Discussion was held. The agreement was signed by Soquel Creek Water District, Central Water District, and the City of Santa Cruz. The County of Santa Cruz is proposing changes, so the JPA will need to go back through the process of approval by each entity.

5.4 Approve Revised Soquel-Aptos Area Groundwater Management Annual Budget FY 2015-16

Discussion was held on the proposed budget for the committee, but voting was deferred until the third amendment to the JPA has been signed and the voting membership has been established.

5.5 Update from Subcommittee on Groundwater Sustainability Agency (GSA) Formation

Ms. Schumacher and Jon Kennedy, the subcommittee chair, reported the subcommittee has met twice and presented a handout summarizing their activities. Extensive discussion was held.

5.6 Update on Soquel-Aptos Area Community Engagement Pertaining to GSA Formation

Marci DuPraw, Managing Senior Mediator and Facilitator with the Center for Collaborative Policy, CSU Sacramento, discussed the current activities provided through the SWRCB-sponsored contract as well as the need for and the process of obtaining community participation in the GSA formation. Two public meetings will be held on June 30, 2015 to gather input from the public. Lengthy discussion of goals and objections was held.

5.7 Selection of Private Well Committee Representatives

Ms. Schumacher reported that 25 applications have been received for the private well owner seats on the committee. Until the 3<sup>rd</sup> JPA has been signed, the committee representation still stands at one private well owner. In the meantime, a letter will be sent to the applicants letting them know their applications have been received and why the process has stalled.

A nominating committee will be formed to review the applications and bring recommendations back to the BIG for selection.

MOTION: Bruce Daniels; Second; John Benich: The BIG chair will appoint a committee to review the applications and bring back a short list to a future meeting. Motion carried.
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6. **INFORMATION ITEMS** – None

7. **MANAGER'S REPORTS**

7.1 Central Water District  
No report

7.2 City of Santa Cruz  
No report

7.3 County of Santa Cruz  
Mr. Ricker reported the County will be recommended additional water use restrictions to the Board of Supervisors at their June 9, 2015 meeting. These include individual metering and reporting for small water systems of 5-199 connections.

7.4 Soquel Creek Water District  
Mr. Dufour reported that since December, the District has not pumped from the two La Selva Beach area wells – Altivo and Seascape – due to Chrome 6.

8. **ADJOURNMENT**

Being no further business, the meeting was adjourned at 10:21 p.m. The next meeting of the BIG will be August 20, 2015.

SUBMITTED BY:

APPROVED BY:

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Karen Reese, Board Clerk

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Ron Duncan, Interim General Manager  
Soquel Creek Water District

# Soquel-Aptos Basin Groundwater Conditions Water Year 2014 Annual Report and Review

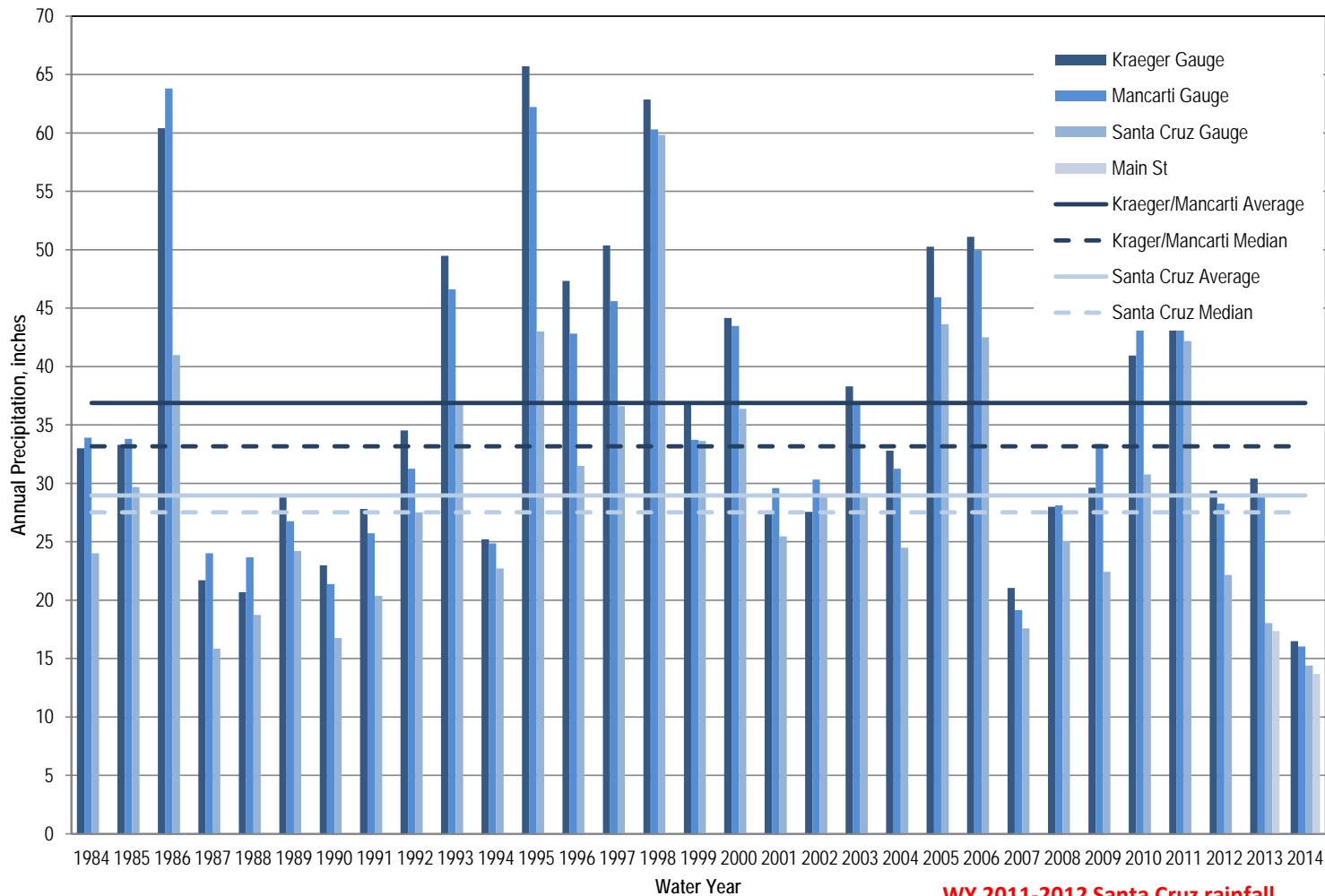
Presented on  
May 21, 2015 to  
Soquel Aptos Basin Implementation Group

# Annual Review and Report

- Part of Groundwater Management Plan implementation
  - Summarizes groundwater conditions
  - Provides a public record of groundwater data
  - Documents the status of groundwater management activities
  - Recommends any amendments to the GMP
- Streamlined, living document
- Not funded for 2015 as we move towards groundwater sustainability planning

# Basin Conditions Overview

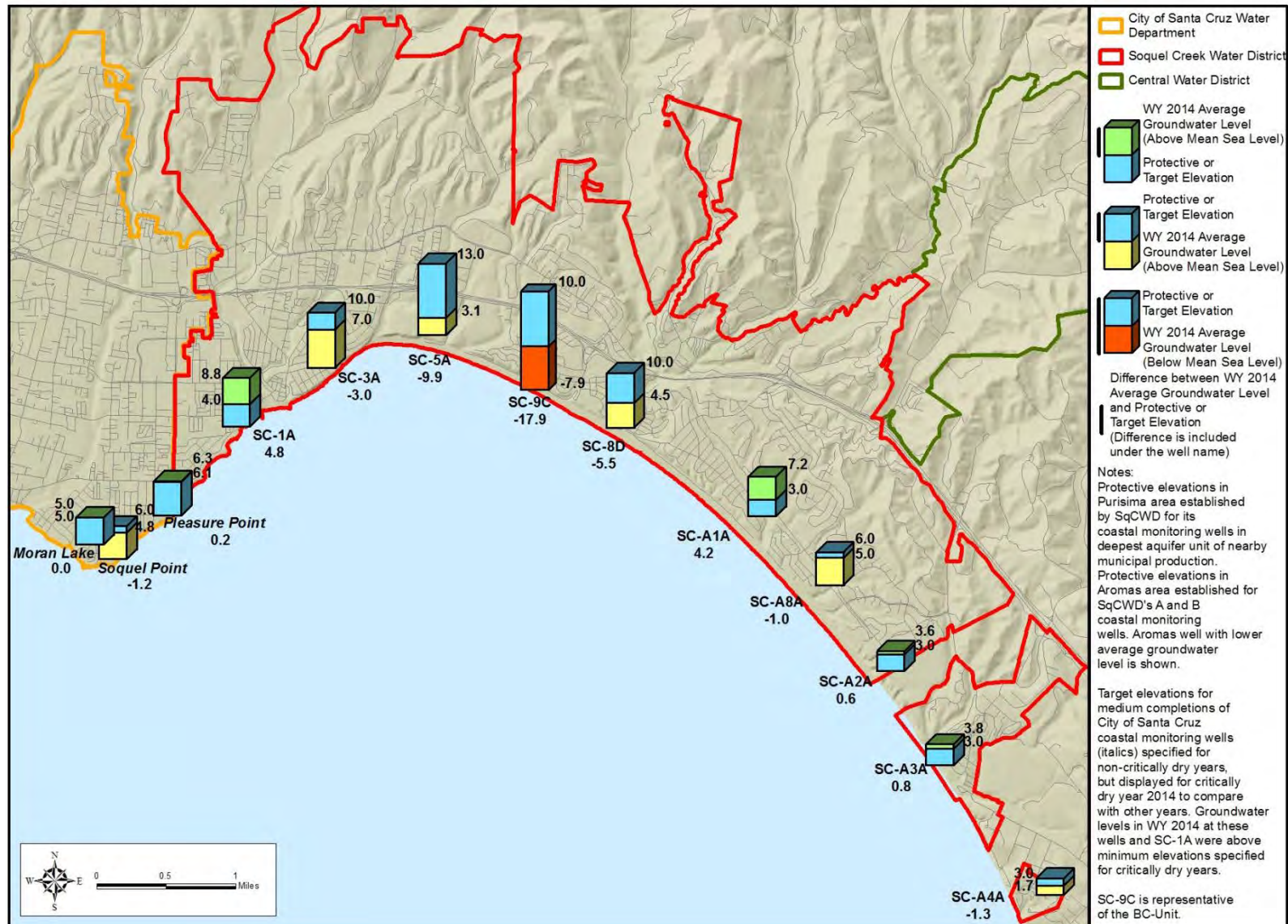
# Driest Year Since 1984



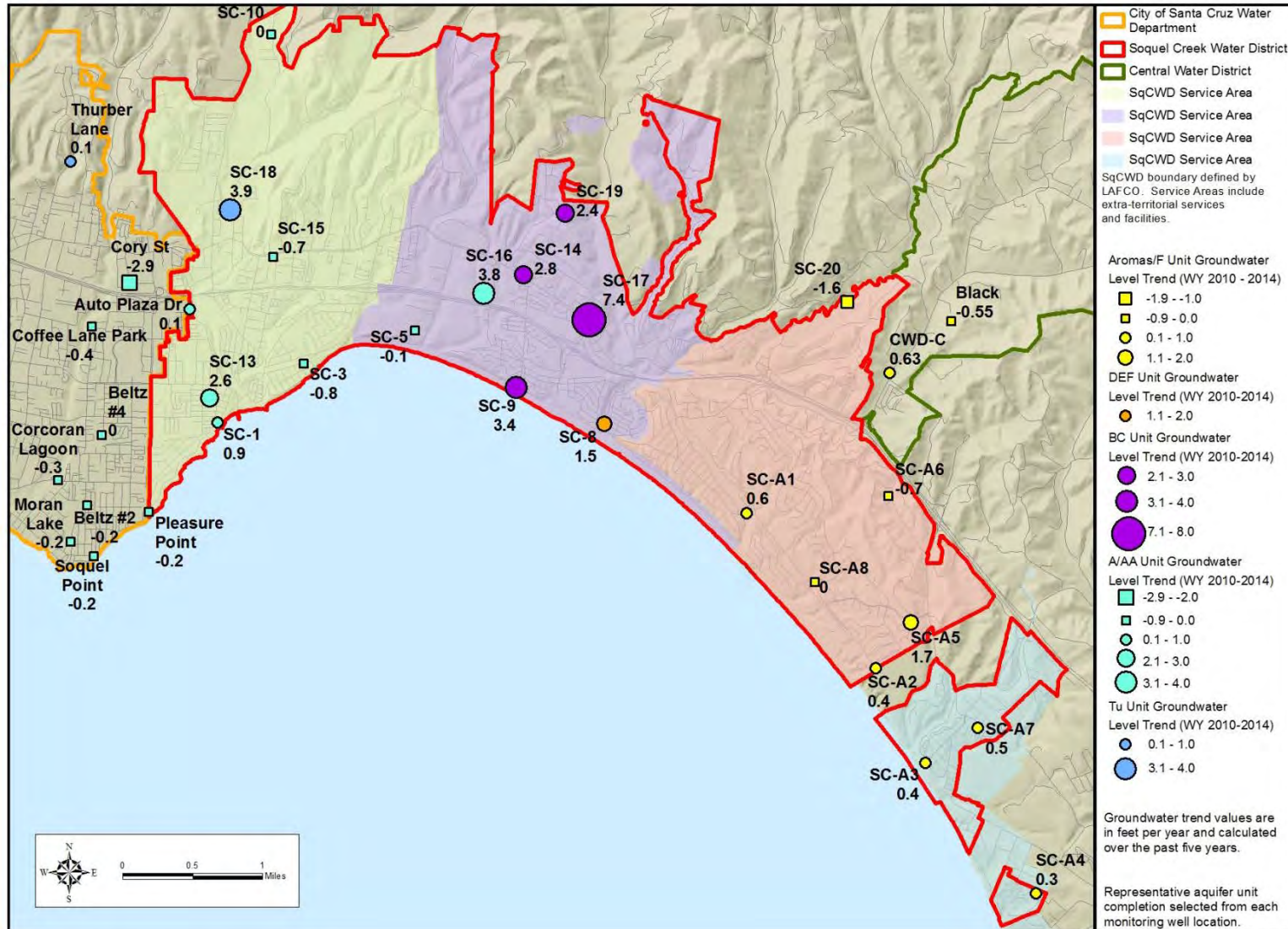
WY 2011-2012 Santa Cruz rainfall  
estimated based on De Laveaga Stn



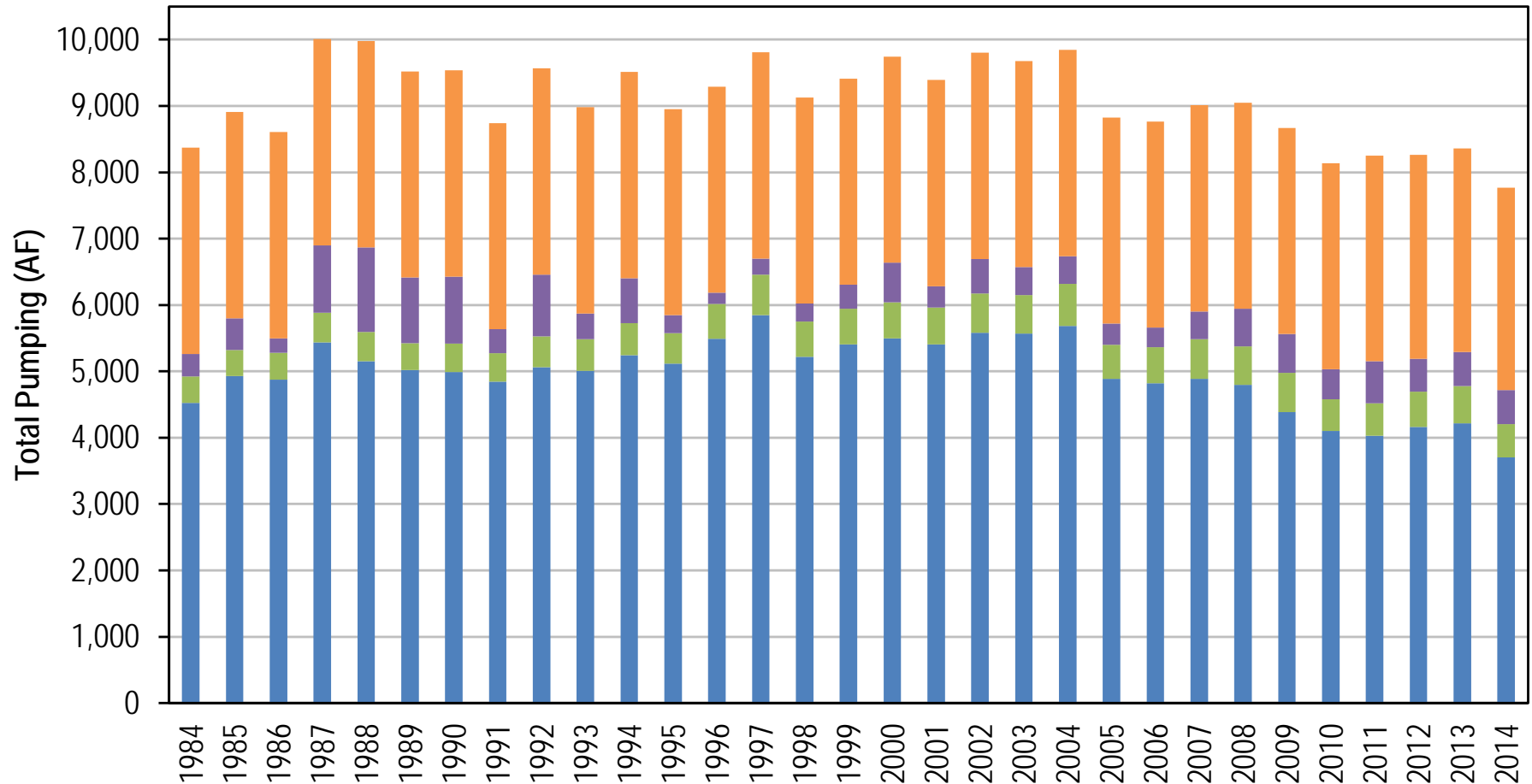
# Groundwater Levels vs. Protective Elevations



# Groundwater Level Trends WY 2009-2013

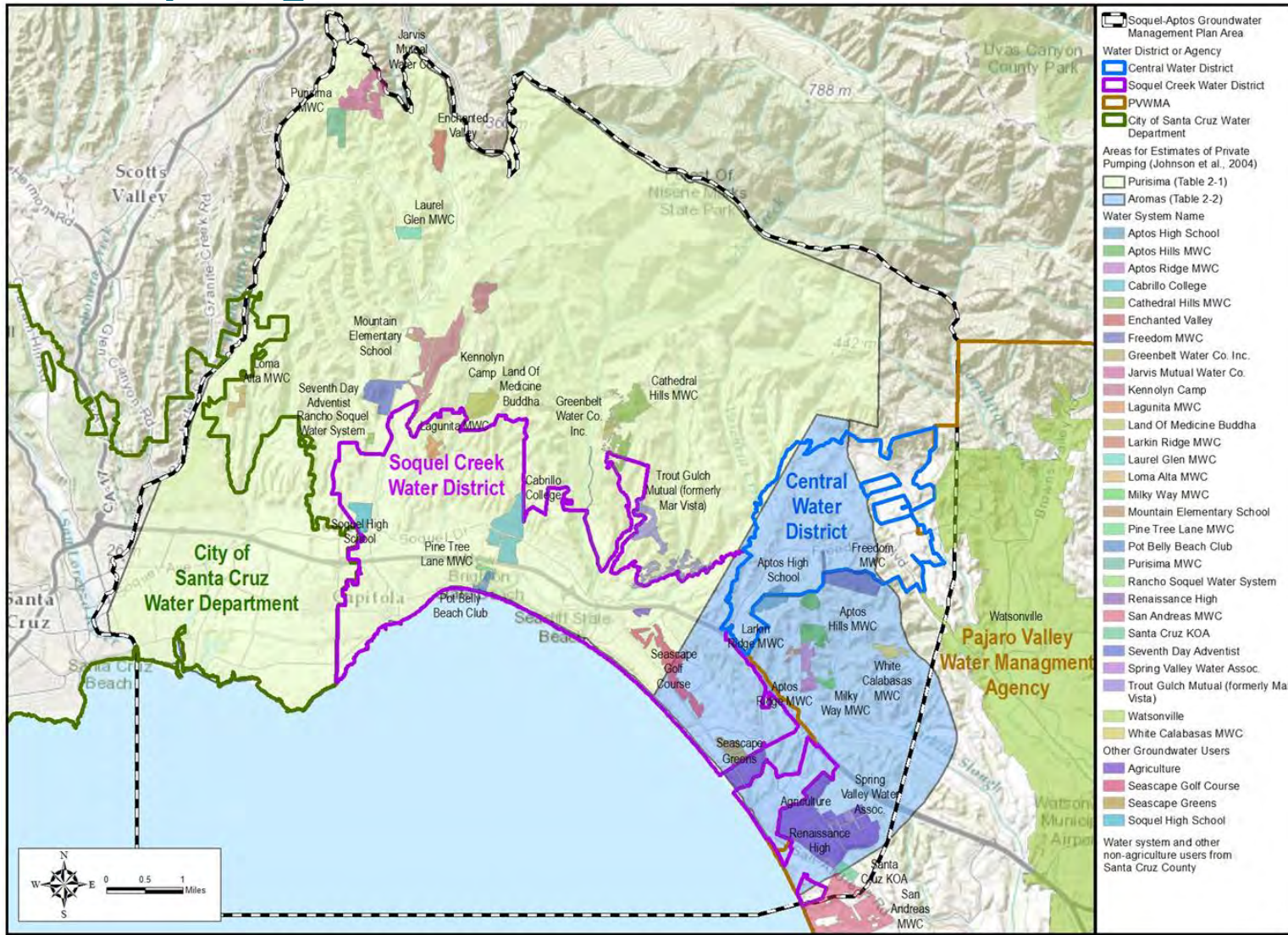


# Lowest Pumping Since 1984





# Study Areas for Non-Water Agency Pumping



# Sub-Basin Coastal Conditions

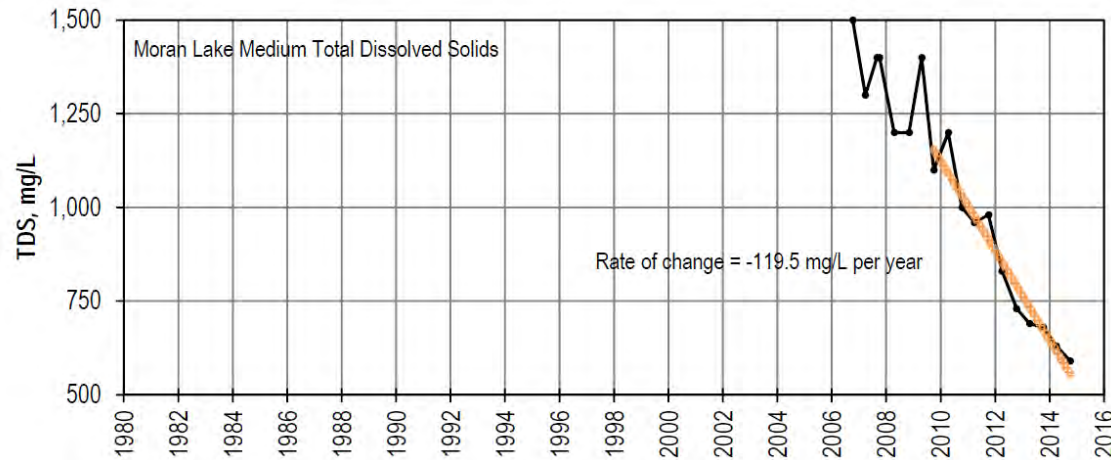
# Western Purisima Coastal Monitoring



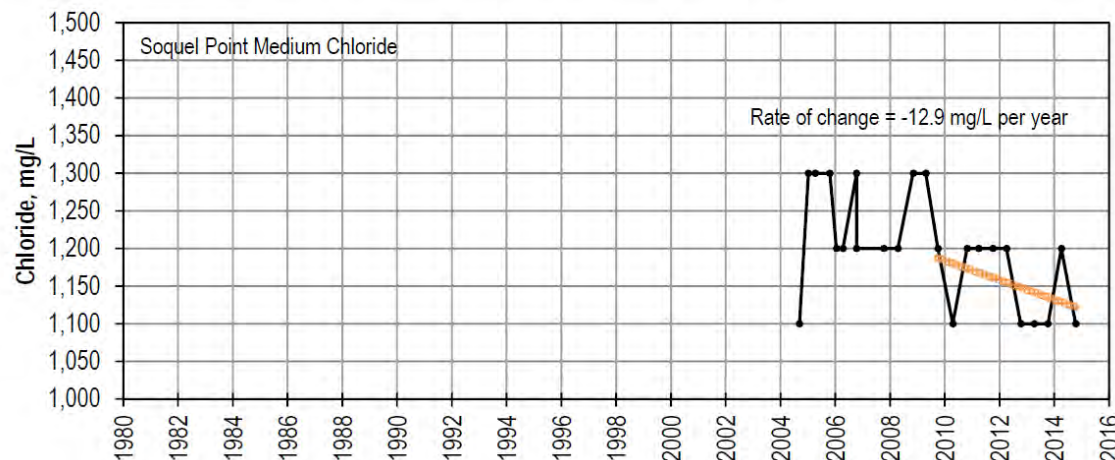


# X-Seawater Intrusion in City Monitoring Wells

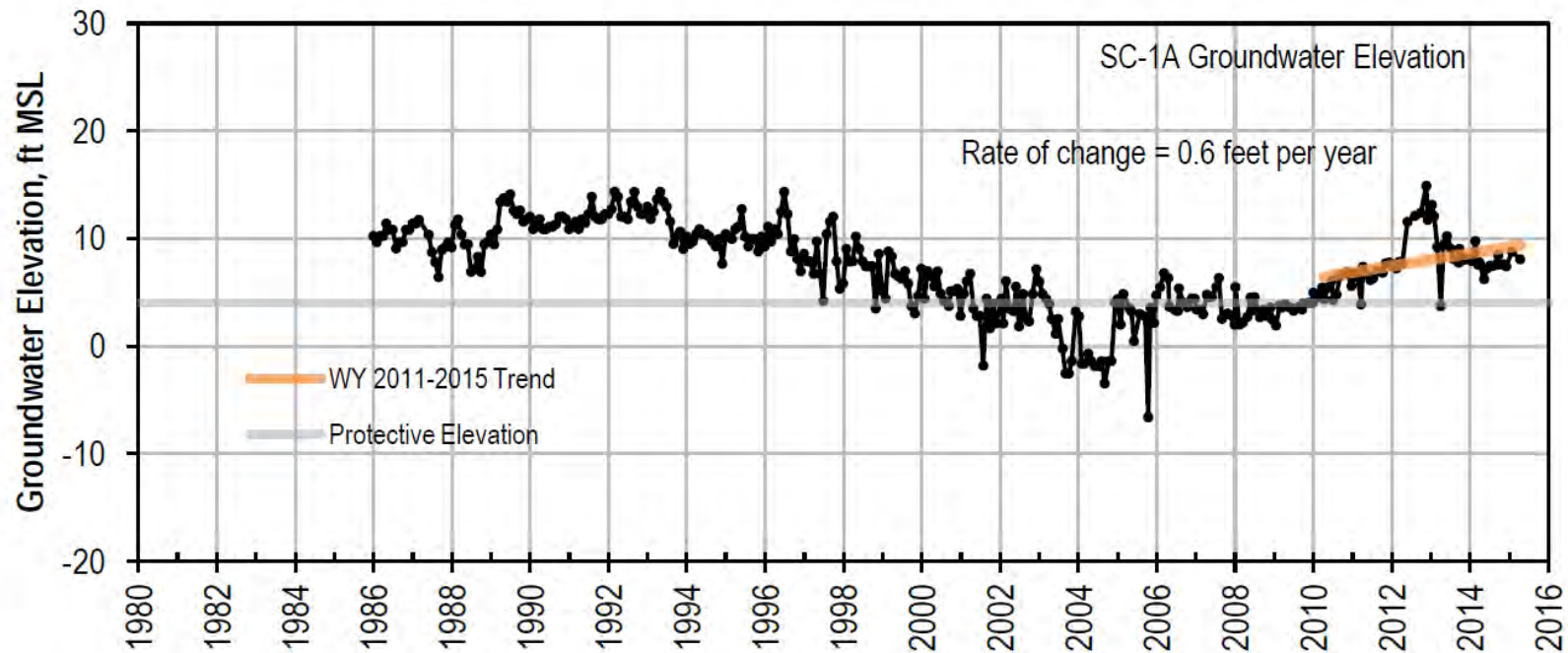
## Moran Lake



## Soquel Point



# SC-1A Groundwater are Flat, but Above Protective Elevations



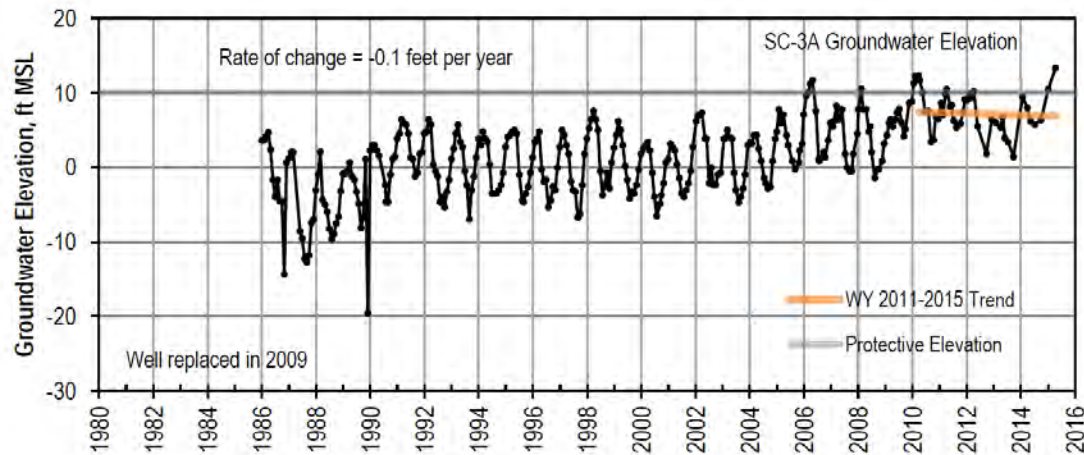
Includes data  
through spring 2015

Garnet Well 2014 pumping was  
greater than 2012 or 2013

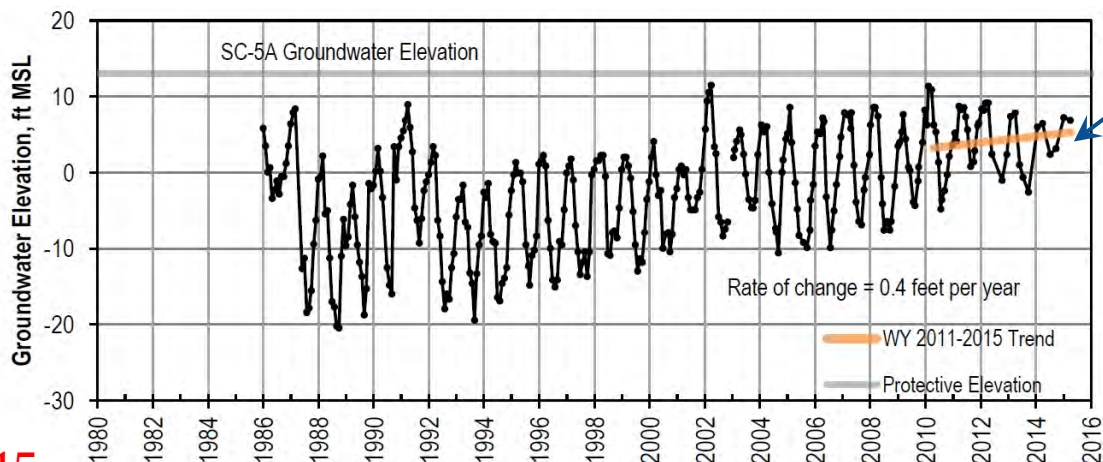


# Flat Trends in Other A Unit Wells (Below Protective Elevations)

SC-3A

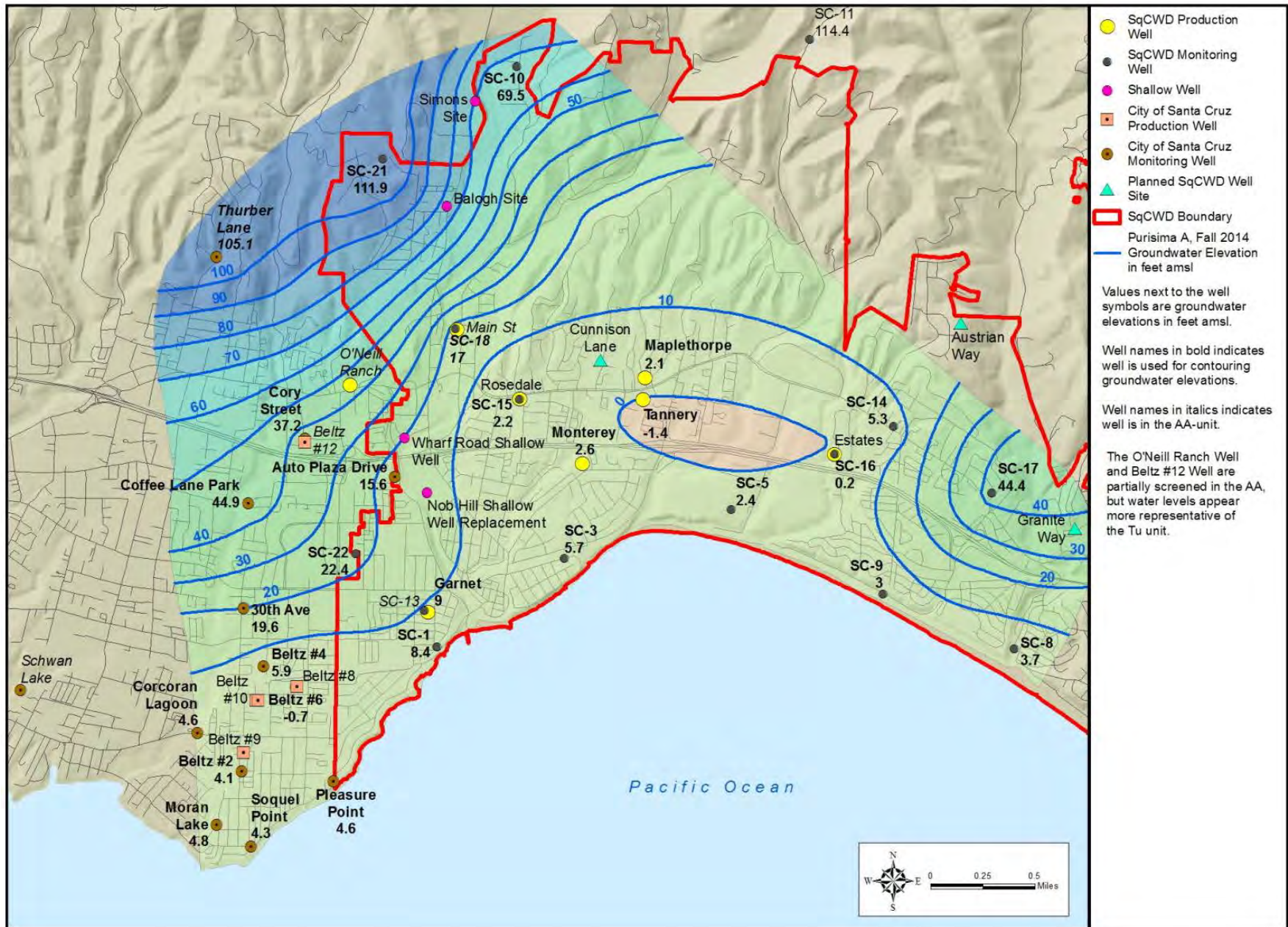


SC-5A



2014 Water  
Levels > 0

Includes data  
through spring 2015



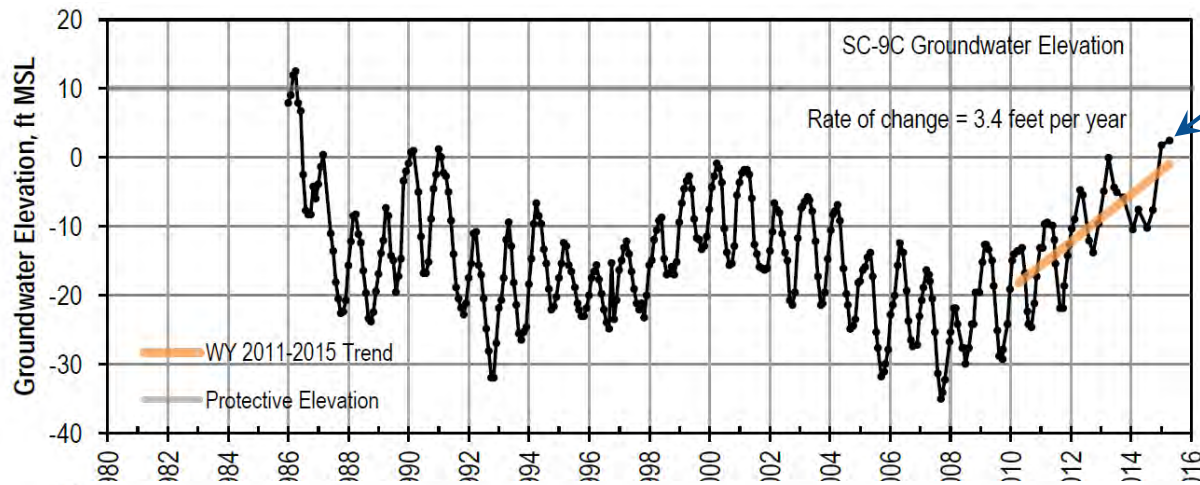


# Central Purisima Coastal Monitoring



# Continuing Rise in BC Unit Wells (below protective elevations)

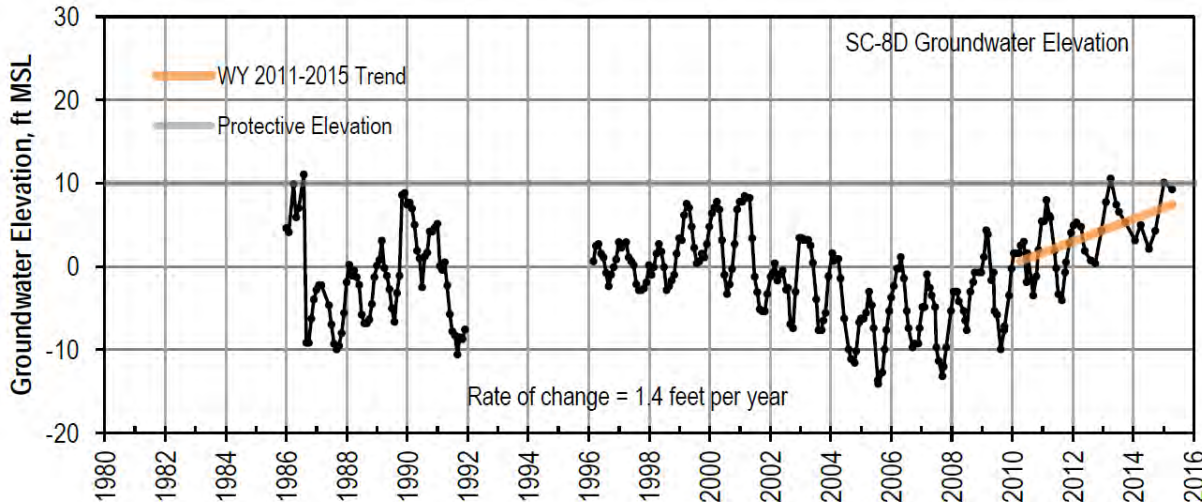
SC-9C



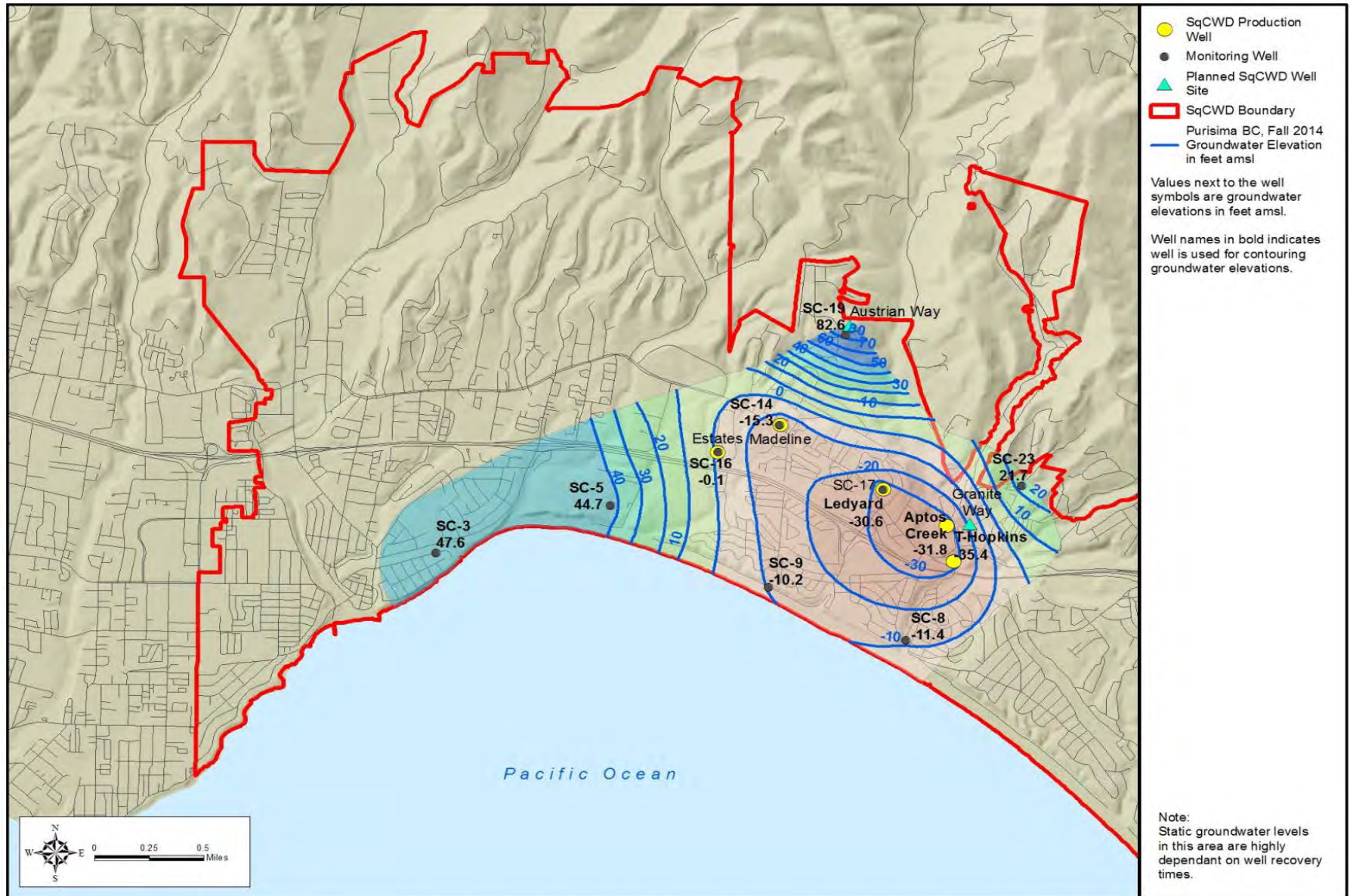
2014 Water  
Levels > 0

Includes data  
through spring  
2015

SC-8D





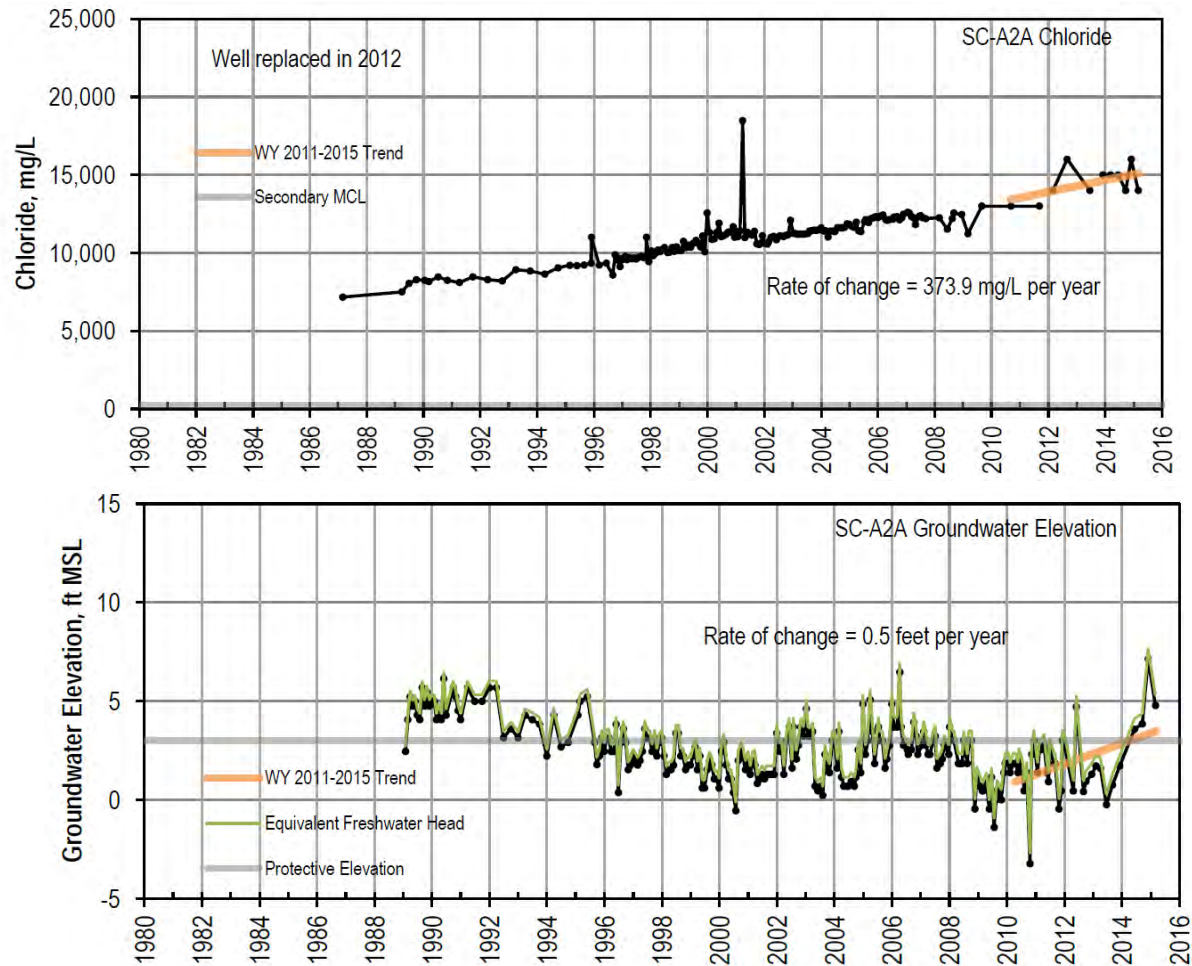


# Aromas Coastal Monitoring



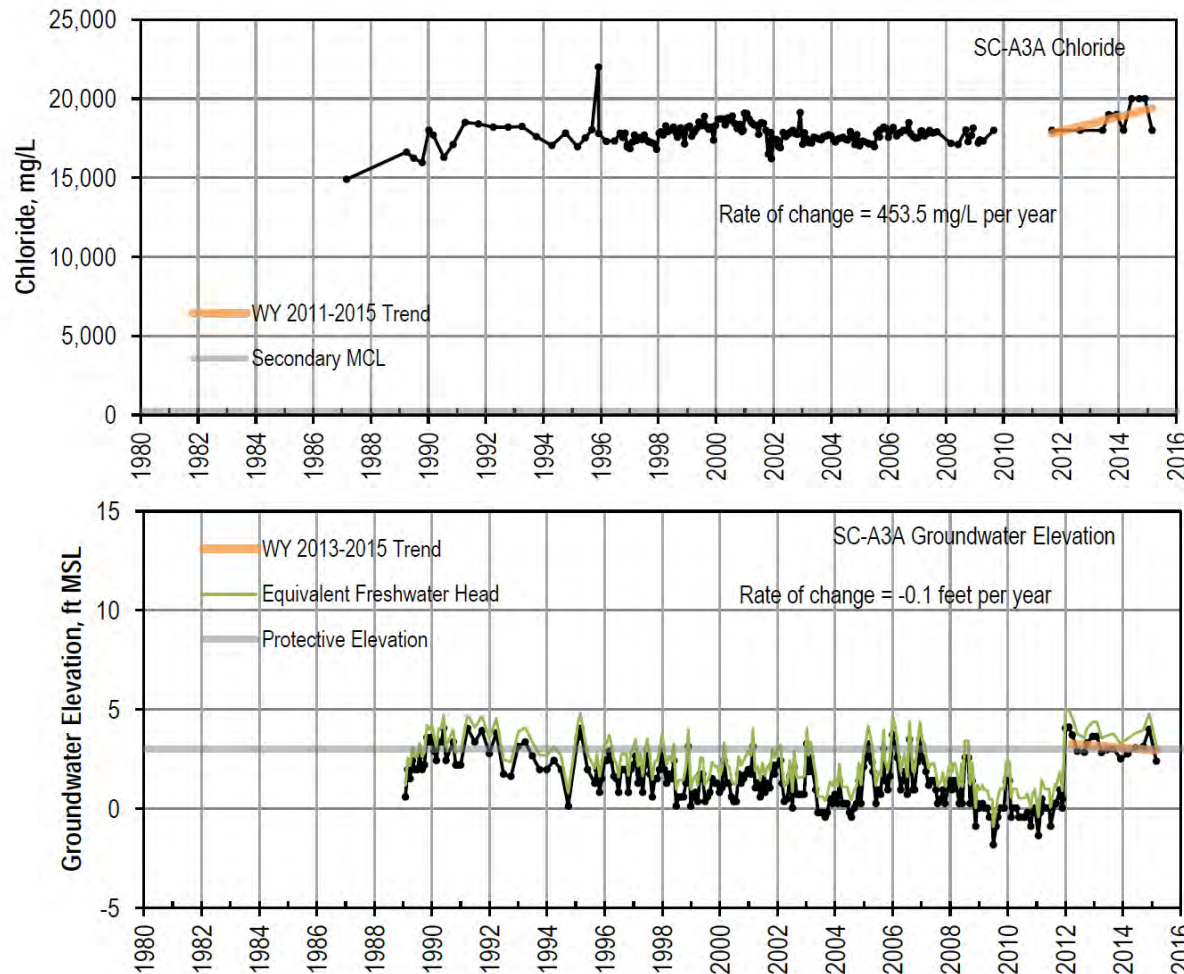


# Seawater Intrusion Advancing at SC-A2



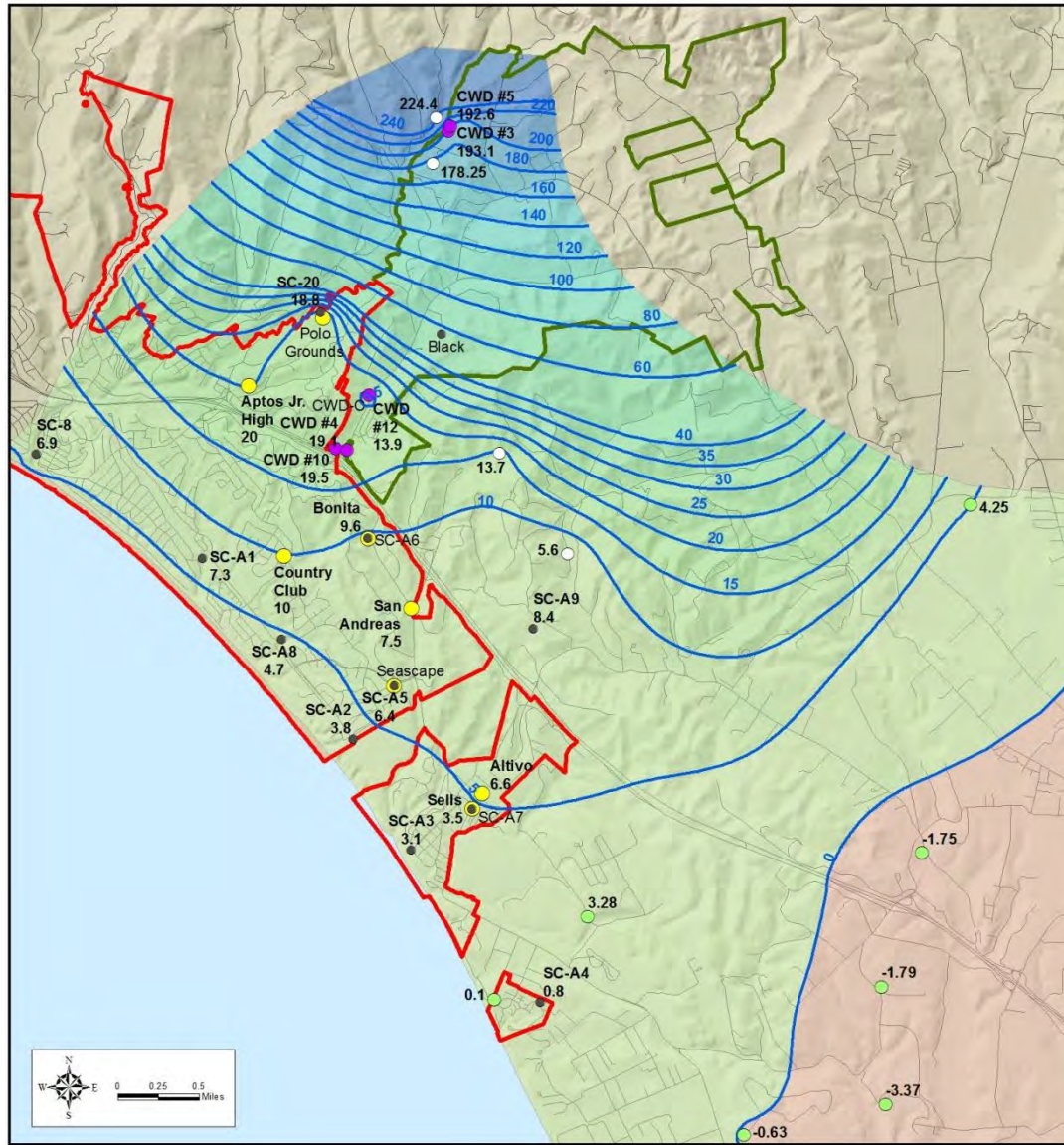
Includes data  
through spring  
2015

# Chloride Levels Continue to Increase in Well SC-A3A



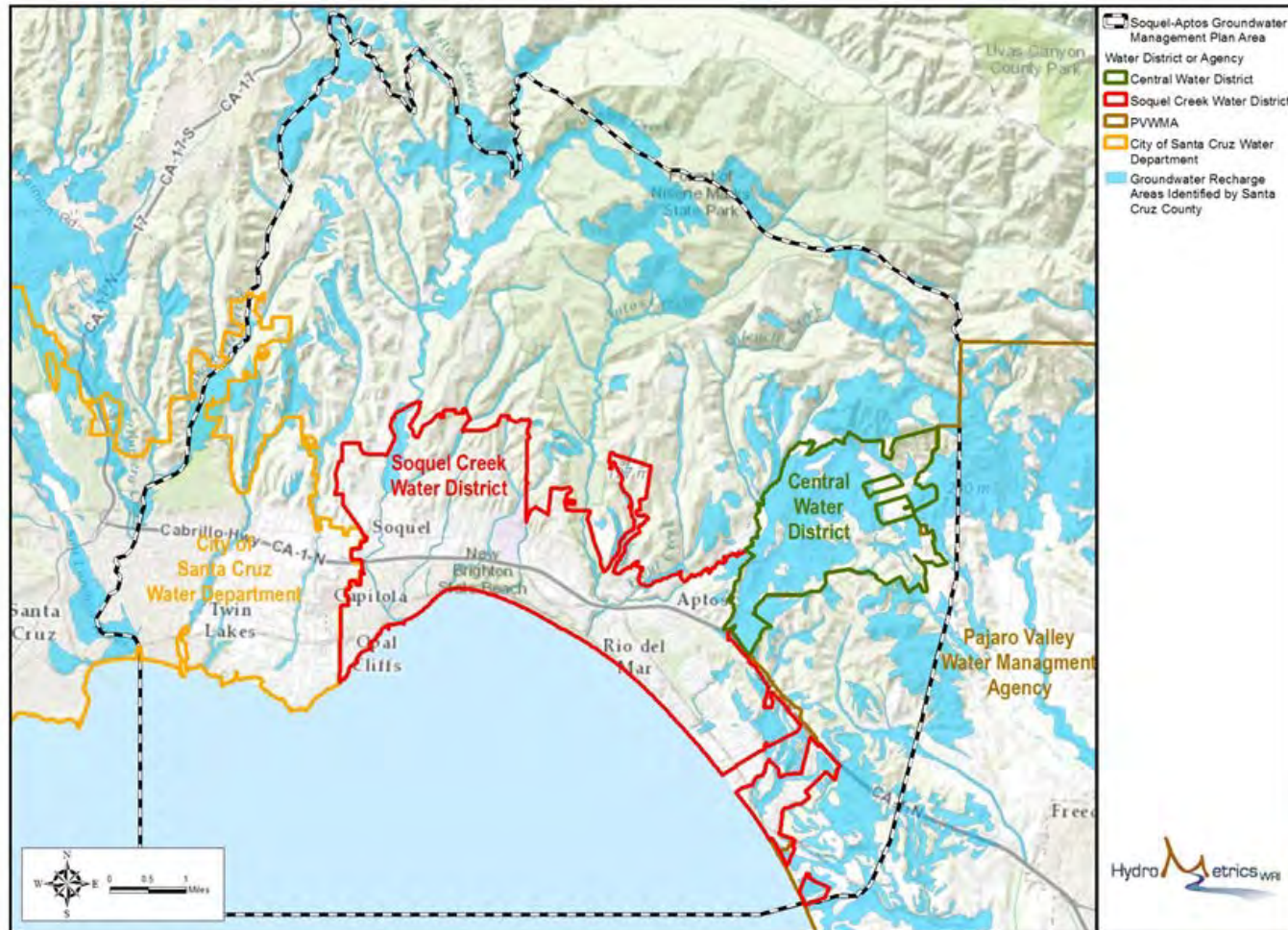
Includes data  
through spring  
2015





# Accomplishments and Future Directions

# Recharge Zone Mapping



# Accomplishments

- New monitoring wells (Larkin Valley tank site, Quail run road)
- Replacement monitoring wells at Nob Hill site
- Completed CWD groundwater management study
- Commenced PVWMA groundwater model update

# Accomplishments

- Both the City of Santa Cruz and Soquel Creek Water District initiated alternative supply studies
- Successful and substantial water use reductions due to community outreach
- County conducted studies of potential water transfers
- Properly destroyed abandoned monitoring wells



# 2015-2016 Priorities

1. Secure Supplemental Supply
2. Monitor Tu Unit
3. Use Groundwater Level Logger Data in Groundwater Management
4. Monitor Effects of 4th Consecutive Dry Year
5. Facilitate Formation of a Groundwater Sustainability Agency
6. Develop Groundwater Model, using ARR data
7. Undertake Geophysics Study to Locate Seawater Interface

# Discussion

# Soquel-Aptos Basin Groundwater Model Update

May 21, 2015

Soquel Aptos Basin Implementation Group

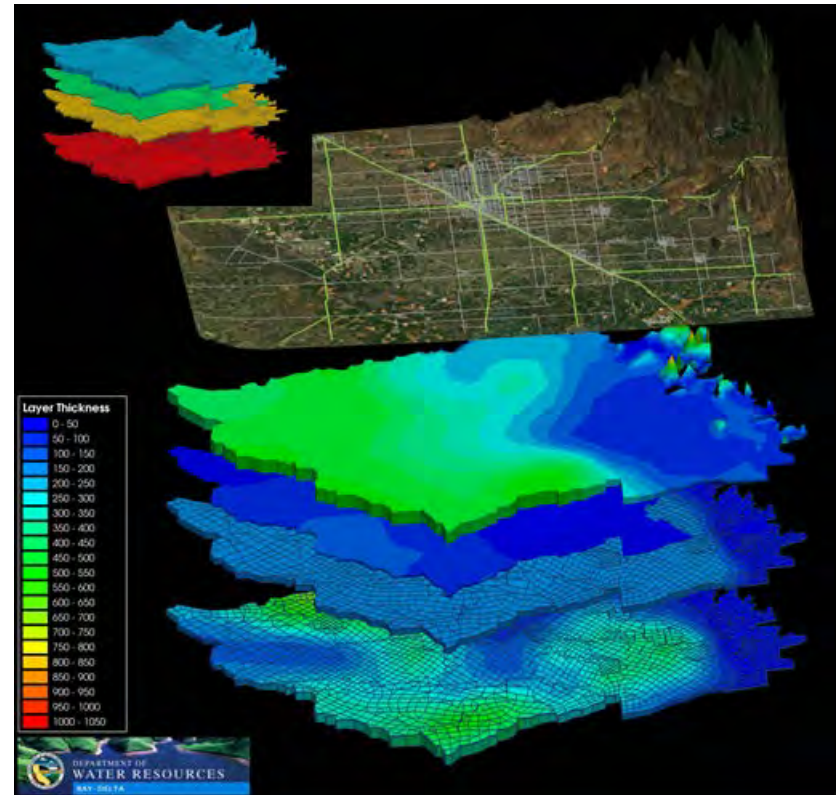


# Outline

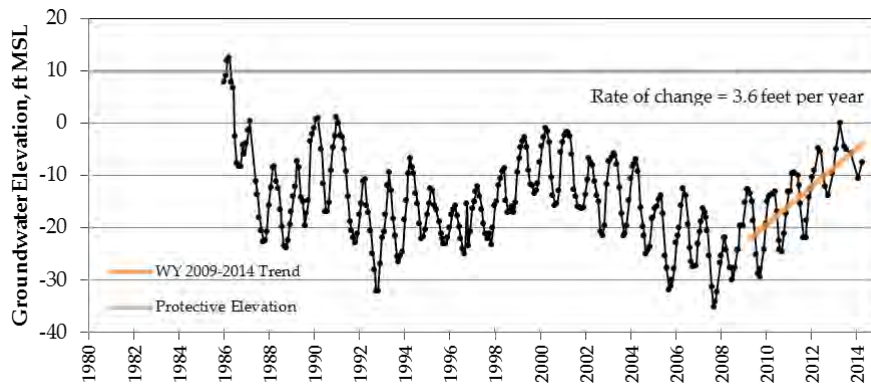
- Model purpose and overview
- Schedule
- Progress and ongoing work
- Technical Advisory Group
- Upcoming deliverables

# Model Benefits and Purpose - General

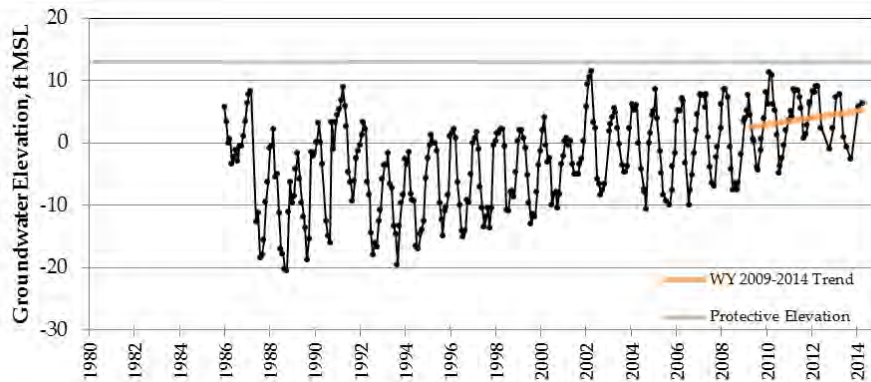
- Demonstrates and predicts effects of pumping on basin-wide water levels
- Predicts effects of pumping on stream flows
- Provide a tool for integrated groundwater management by all entities



# Model Benefits and Purpose - Specific



SC-9C



SC-5A

- Provide best estimates of recovery times
- Provide estimates of recovery times for various pumping rates
- Provide best estimates of post-recovery yield
- Provide best estimates of Aromas area intrusion rates

# Model Schedule

- Two year schedule, completed in FY 2015/2016
- Six tasks
  - Task 1: Scoping is complete
  - Task 2: Model construction is ongoing
  - Task 3: Develop water balance has started
  - Task 4: Calibrate model
  - Task 5: Run model simulations
  - Task 6: Reporting

# Progress and Ongoing Work

- Model grid
- Surface water model setup
- Model layering
- Estimating non-municipal water use

## Extent of Active Cells

Identify watersheds

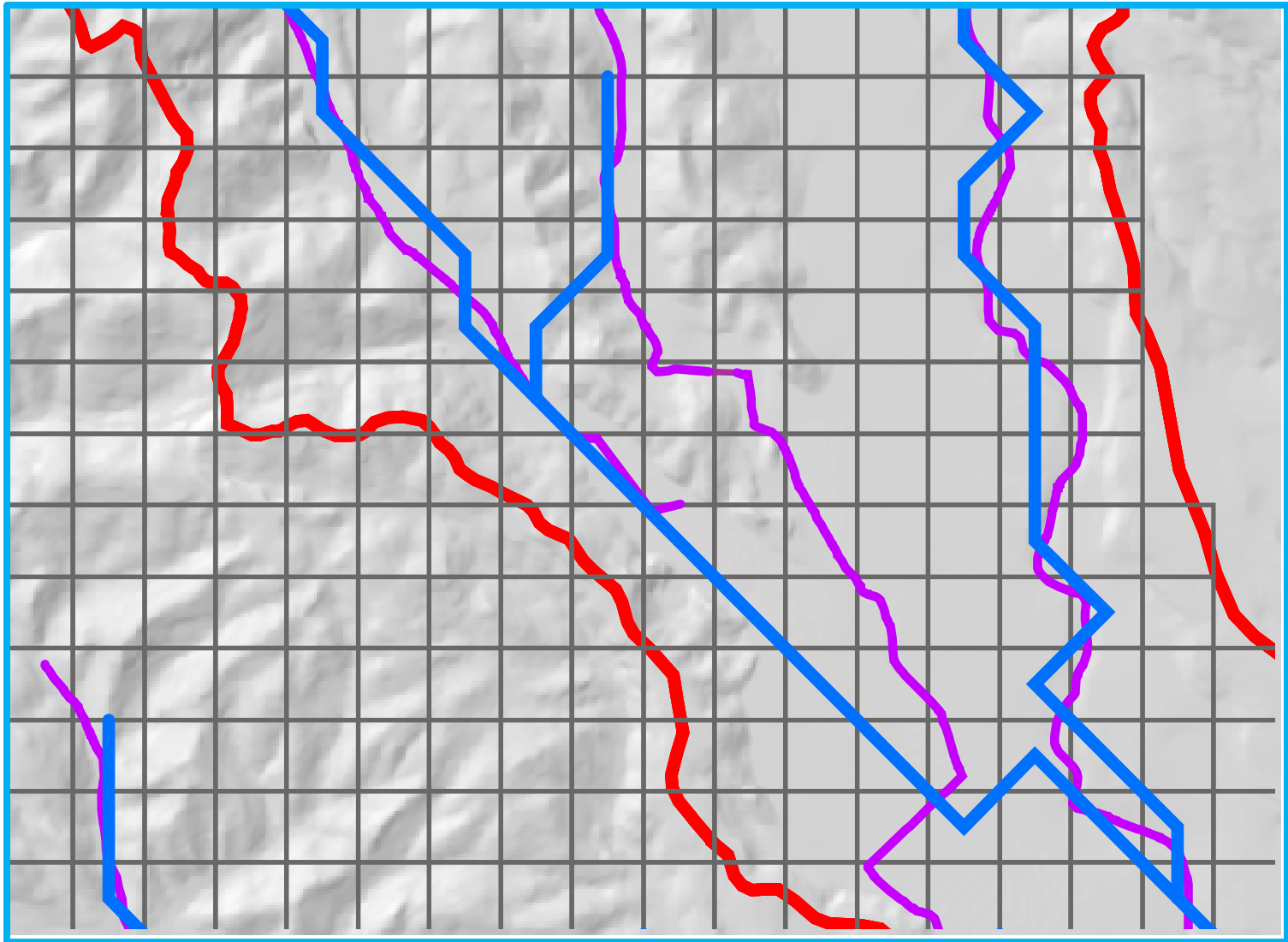
Develop grid

Map DEM to grid

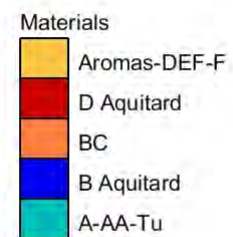
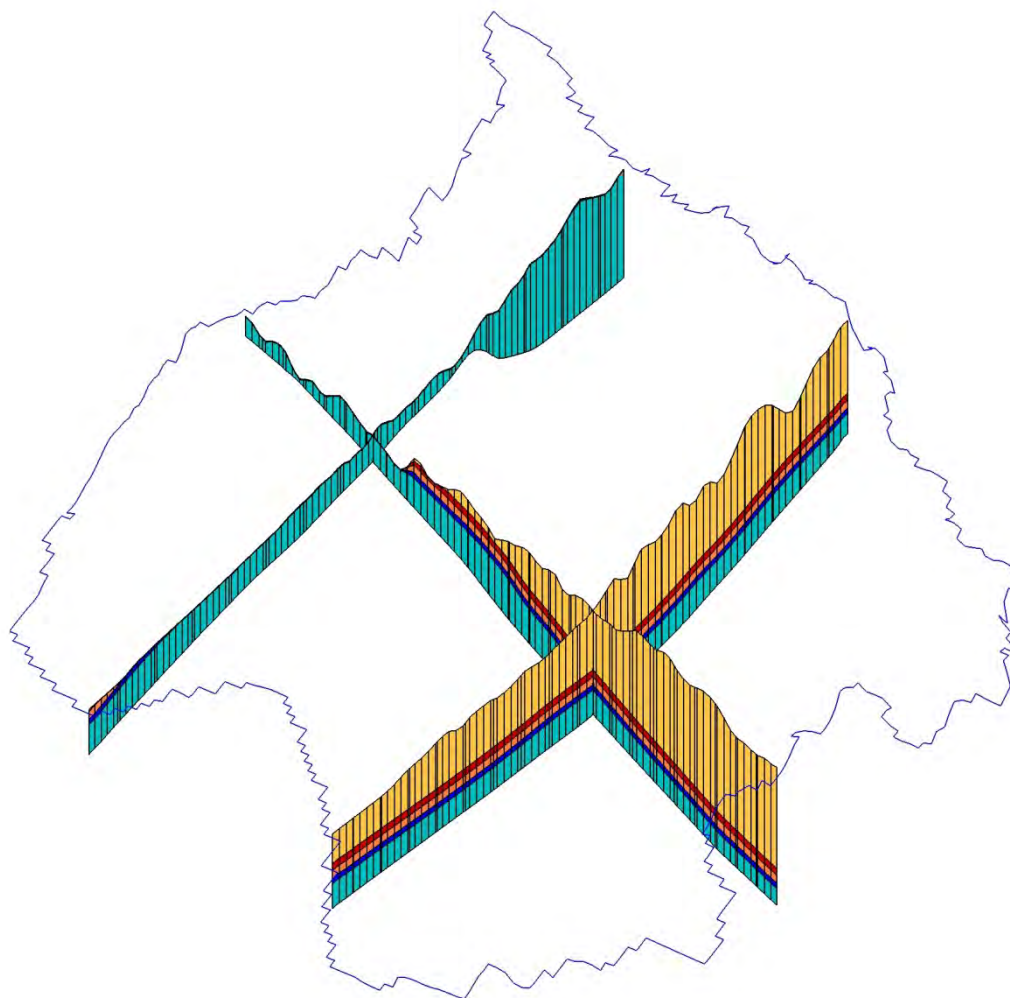
Map streams

Adjust streams









U.S. Survey Feet  
0 5000

# Estimating Non-Municipal Water Use

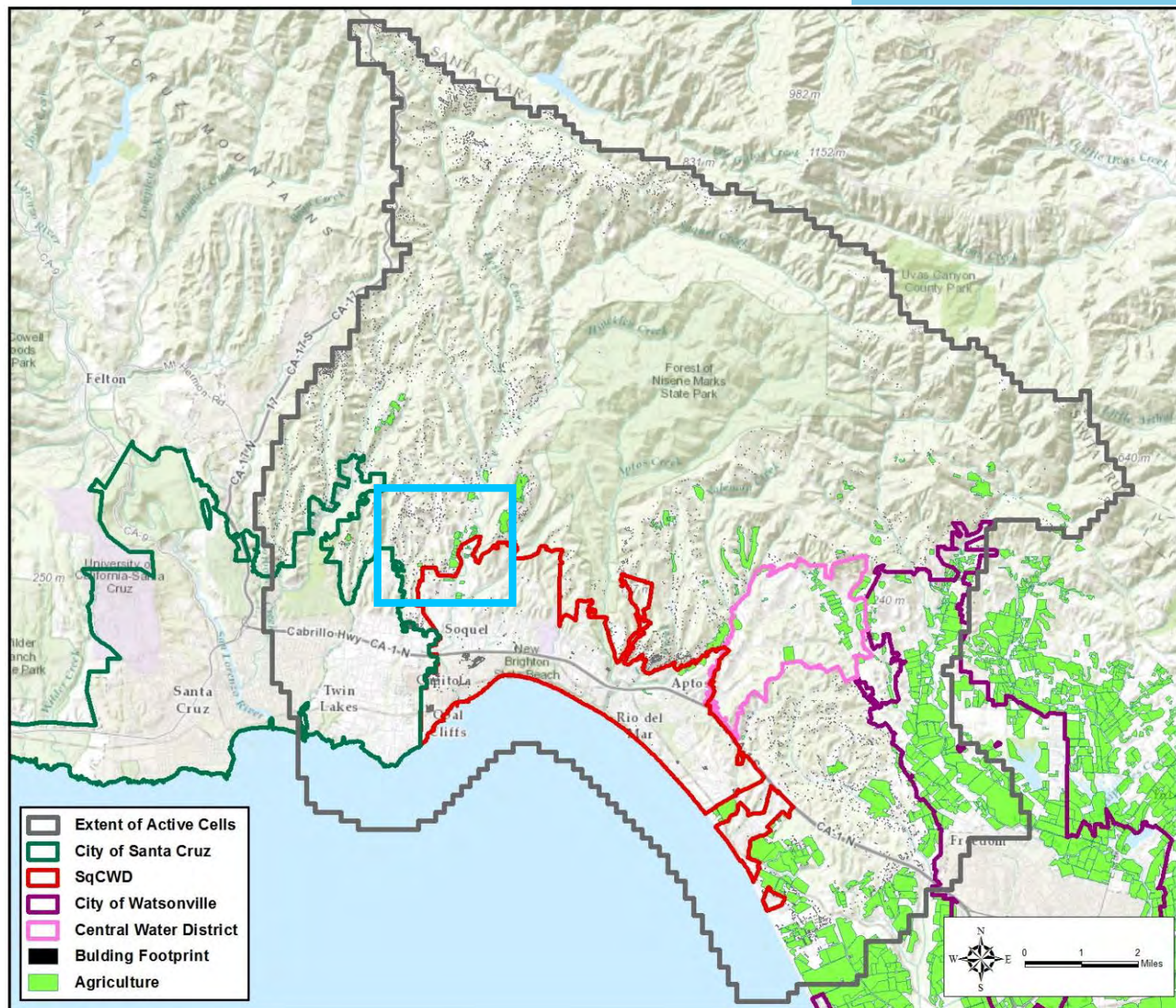
- Agricultural crop water use
  - $ET = (ET_o) \times (\text{crop factor})$
  - Crop water use factors derived from PVWMA model
  - Reference evapotranspiration ( $ET_o$ ) provided by USGS

# Estimating Non-Municipal Water Use

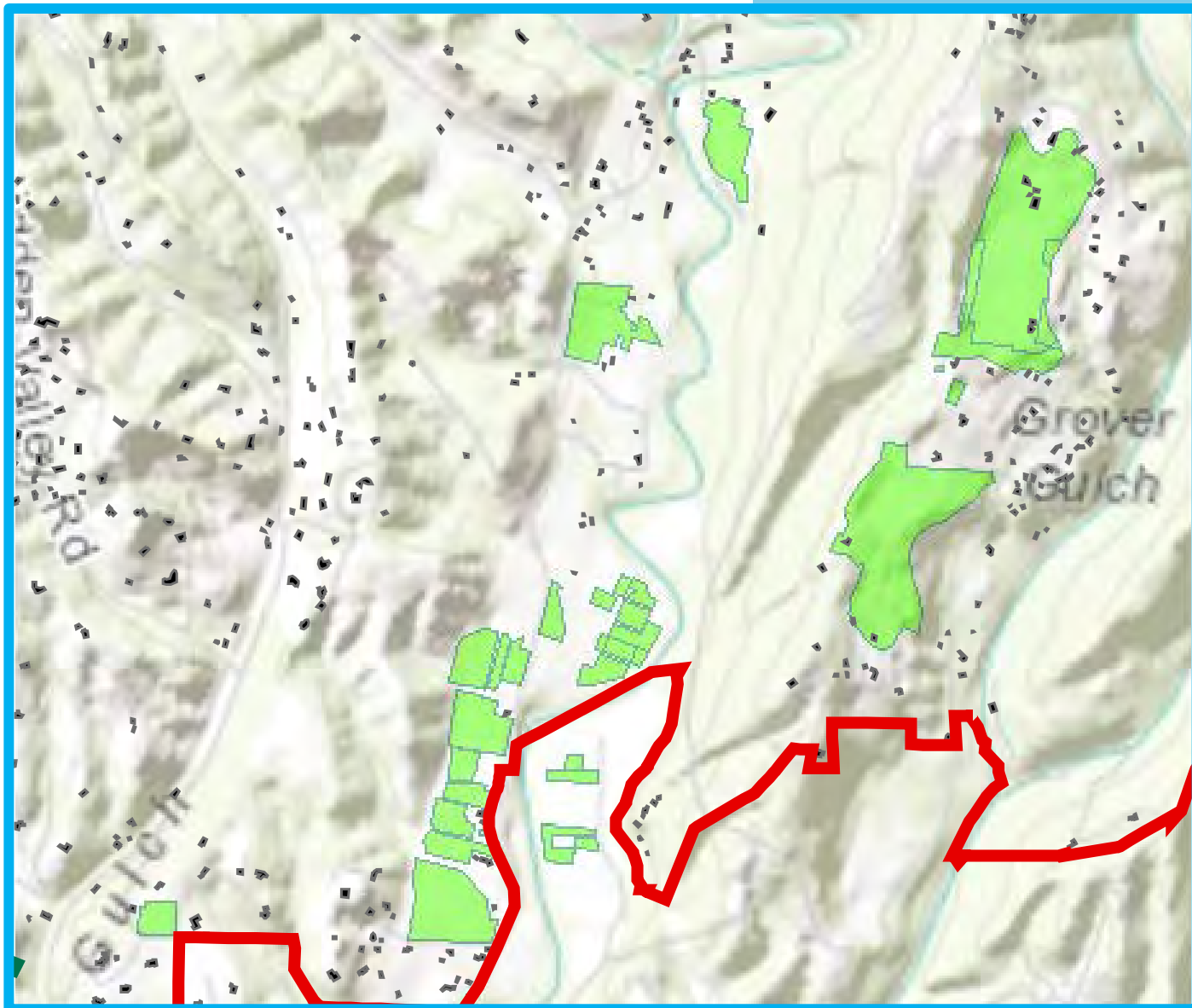
- Private well water use
  - Building footprints provided by Santa Cruz County
  - Identify dwellings outside water district boundaries (SqCWD, CWD, City, Watsonville)
  - Use only primary dwellings
  - Assign a fixed acre-foot per dwelling rate

# Estimating Non-Municipal Water Use

- Small water systems
  - Use recorded water use data where available
  - Use same rate applied to private dwellings where no water use data are available







# Model Technical Advisory Group

- Convene soon
  - Dr. Andy Fisher
  - Dr. Bruce Daniels
  - Brian Lockwood
  
  - ... Surface water expert
  - ... Additional groundwater modeler

# Upcoming Deliverables

- PRMS input data memorandum – July
- MODFLOW input data memorandum - August



# Questions