

FOX CANYON GROUNDWATER MANAGEMENT AGENCY

A STATE OF CALIFORNIA WATER AGENCY



BOARD OF DIRECTORS

Lynn E. Maulhardt, Chair, Director, United Water Conservation District

Charlotte Craven, Vice Chair, Councilperson, City of Camarillo

David Borchard, Farmer, Agricultural Representative

Steve Bennett, Supervisor, County of Ventura

Dr. Michael Kelley, Director, Zone Mutual Water Company

EXECUTIVE OFFICER

Jeff Pratt, P.E.

NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that the Fox Canyon Groundwater Management Agency (FCGMA) will hold an **Operations Committee Meeting** from **3:00 p.m. to 5:00 p.m.** on **Thursday, October 10, 2013** in the **PWA Conference Room 346**, at the Ventura County Government Center, **Third Floor** of the Hall of Administration, at **800 South Victoria Avenue, Ventura, California**.

FCGMA OPERATIONS COMMITTEE MEETING AGENDA

October 10, 2013

Members: Chair Michael Kelley
Co-Chair Supervisor Bennett

- A. **Call to Order**
- B. **Introductions**
- C. **Public Comment** – Audience members may speak about FCGMA-related matters not on today's Agenda.
- D. **Meeting Minutes** – Approve the meeting minutes from the September 12, 2013 FCGMA Operations Committee meeting.
- E. **Discussion of Graphical Concepts and Tools (Including Water Level Trends) for Illustrating Groundwater Information** – Discuss and provide feedback on graphical concepts and tools.
- F. **Adjourn the Operations Committee Meeting** – Adjourn until the next Operations Committee meeting scheduled for November 20, 2013.

NOTICES

The FCGMA Board strives to conduct accessible, orderly, and fair meetings where everyone can be heard on the issues. The Board Chair will conduct the meeting and establish appropriate rules and time limitations for each item. The Board can only act on items designated as Action Items. Action items on the agenda are staff proposals and may be modified by the Board as a result of public comment or Board member input. Additional information about Board meeting procedures is included after the last agenda item.

Administrative Record: Material presented as part of testimony will be made part of the Agency's record, and 10 copies should be left with the Board Clerk. This includes any photographs, slides, charts, diagrams, etc.

ADA Accommodations: Persons who require accommodation for any audio, visual, or other disability in order to review an agenda or to participate in the Board of Directors meeting per the Americans with Disabilities Act (ADA), may request such accommodation in writing addressed to the Clerk of the FCGMA Board, 800 South Victoria Avenue, Location #1610, Ventura, CA 93009-1610, or via telephone by calling (805) 654-2014. Any such request should be made at least 48 hours prior to the meeting so staff can make the necessary arrangements.

Availability of Complete Agenda Package: A copy of the complete agenda package is available for examination at the FCGMA office during regular working hours (8:00 a.m. to 5:00 p.m. Monday through Friday) beginning five days before the Board meeting. Agenda packet contents are also posted on the FCGMA website as soon as possible, and left there for archival retrieval in case reference is needed on previously considered matters. Questions about specific items on the agenda should be directed to the Agency's Executive Officer.

Continuance of Items: The Board will endeavor to consider all matters listed on this agenda. However, time may not allow the Board to hear all matters listed. Matters not heard at this meeting may be carried over to the next Board meeting or to a future Board meeting. Participating individuals or parties will be notified of the rescheduling of their item prior to the meeting. Please contact the FCGMA staff to find out about rescheduled items.

Electronic Information and Updates: Our web site address is www.fcgma.org. Information available online includes the Board's meeting schedule, a list of the Board members and staff, general information, and various Agency forms. If you would like to speak to a staff member, please contact the FCGMA Clerk of the Board at (805) 654-2014.

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MINUTES

Minutes of the Fox Canyon Groundwater Management Agency's (FCGMA) Operations Committee meeting held **Thursday, September 12, 2013** in the PWA Conference Room 346 at the Ventura County Government Center, Hall of Administration, 800 South Victoria Avenue, Ventura California.

- A. Call to Order** – The meeting commenced at 2:07 p.m.
- B. Introductions** – In attendance were: (1) Dr. Michael Kelley, FCGMA Operations Committee Chair; (2) Supervisor Steve Bennett, FCGMA Operations Committee Co-Chair; (3) Gerhardt Hubner, WPD, Deputy Director; (4) Rick Viergutz, WPD, Groundwater Manager; (5) Kathleen Riedel, FCGMA, Groundwater Specialist; (6) Jessica Rivera, FCGMA Interim Clerk of the Board; (7) Tully Clifford, WPD, Director; (8) Robert Eranio, Crestview Mutual Water Company (CMWC) and Chair of the Las Posas Users Group (LPUG); (9) Rick Dierksen, City of Camarillo; and (10) Sam McIntyre, Berylwood Mutual.
- C. Public Comments** – None.
- D. Meeting Minutes**
Chair Kelley made the motion to approve the meeting minutes from the February 7, 2013 Operations Committee meeting, and Co-Chair Bennett seconded the motion.
- E. Summary of Board Directed Follow up on the December 5, 2012 Board Item: Consultant Services for a Field Program to Collect Well and Flowmeter Data**

Mr. Rick Viergutz, WPD, Groundwater Manager, provided a brief presentation on the Consultant Service for a Field Inspection Program to Collect Well and Flowmeter Data. He reported the item was presented to the Board on December 5, 2012 and the Board's direction to staff had been to: (1) have Agency Counsel research the process for a legislation change; (2) have the Las Posas Users Group (LPUG) determine if the Field Program was something that should be done and if it would support being the "lead" to help open the doors for the GMA; and (3) look into other County agencies to determine if the GMA could "piggyback" on their authority. Mr. Viergutz provided a handout detailing the follow-up results to the Board's direction, and provided several options to the Committee for consideration.

After much discussion, the Committee recommended Agency staff: (1) conduct a "dry run" on a small number of well inspections; (2) move forward with seeking the legislation change; (3) proceed with the Request for Proposal (RFP) for consultant services for the field inspection program with the caveat that the consultant only report back on well data and not on non-GMA

related issues; and (4) provide a quick "appeal" process should an owner/operator disagree with inspection results.

F. Adjourn the Operations Committee Meeting

The meeting adjourned at 3:06 p.m.

Submitted by:

Jessica Rivera
FCGMA Interim Clerk of the Board

DRAFT

I. SUBJECT: Discussion of Graphical Concepts and Tools for Illustrating Groundwater Information

II. PURPOSE:

- A. To provide better tools for Board to understand basin conditions.
- B. Obtain direction from the Committee Members regarding further effort to develop graphical tools.

III. BACKGROUND:

- A. Some of the current agency tools.
 - 1. BMO report cards
 - 2. Potentiometric Surface Maps (current sources)
 - 3. Other maps (examples: land use, water quality, pumping patterns
- B. Preparation of potentiometric surface maps
 - 1. Upper and Lower Aquifer Systems
 - 2. Water level data
 - 3. Contouring
 - 4. QA/QC
 - 5. Colorize area between contours
 - 6. Covering multiple years
- C. September 25, 2013 GMA Board Agenda Item No. 5, pulled from agenda and referred to Operations Committee.

IV. PRESENTATION OF GRAPHICS:

- A. Upper Aquifer System
- B. Lower Aquifer System
- C. Water level change maps

V. DISCUSSION:

- A. Overview of Basin Condition
- B. Evaluation of BMO monitoring well locations
- C. Evaluation of BMO groundwater levels.

VI. CONCLUSION:

- A. Requesting feedback
- B. Should the graphical tools presented today be presented to the Board?
- C. What refinements should be made?

Item E - Discussion of Graphical Concepts and Tools for Illustrating Groundwater Information

Kathleen Riedel, P.G., C.E.G.
Groundwater Specialist
Watershed Protection District



Purpose

- Develop tools that can be used to present information that provides your Board with better context to make decisions.
- Obtain direction from the Committee Members regarding further effort to develop graphical tools.

Background

Some of the current Agency tools.

- BMO report cards
- Potentiometric Surface Maps (current sources)
- Other maps (examples: land use, water quality, pumping patterns

Background

Preparation of potentiometric surface maps

- Upper and Lower Aquifer Systems
- Water level data
- Contouring
- QA/QC
- Colorize area between contours
- Covering multiple years

September 25, 2013 GMA Board Agenda Item No. 5,
pulled from agenda and referred to Operations
Committee.

Potentiometric Surface Maps

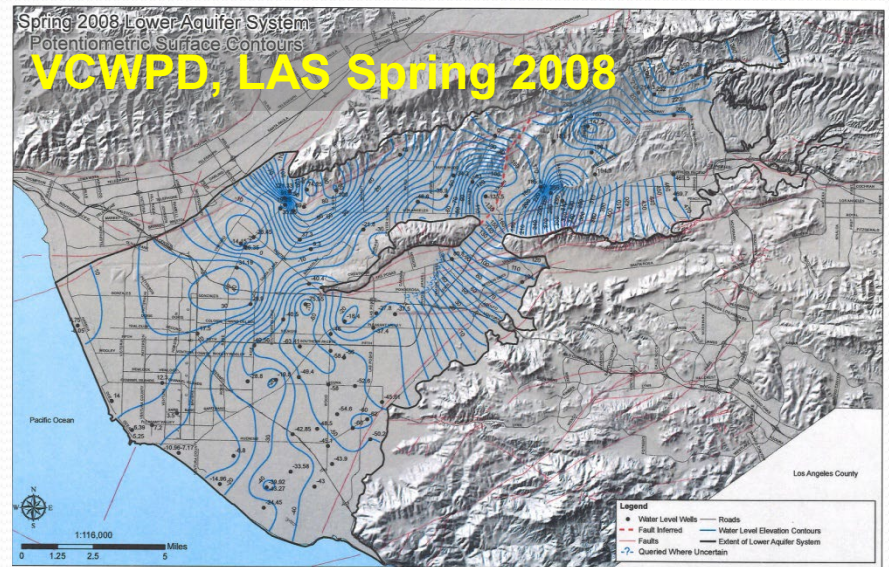
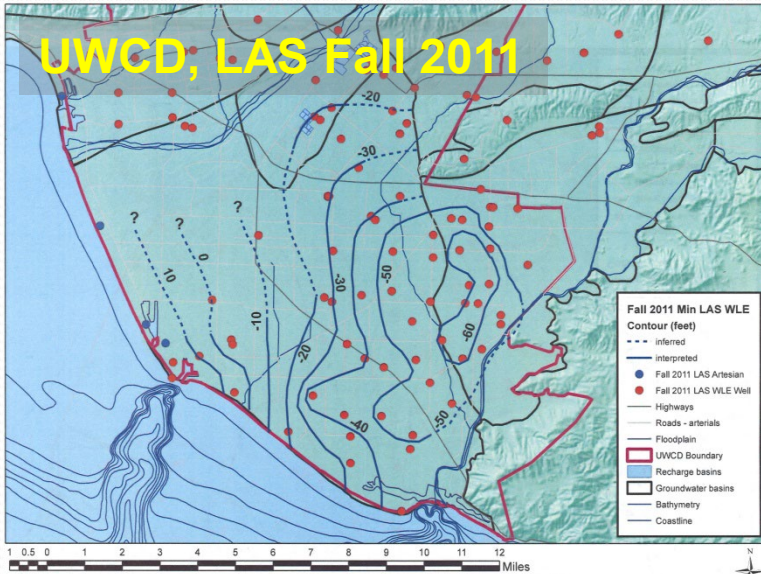
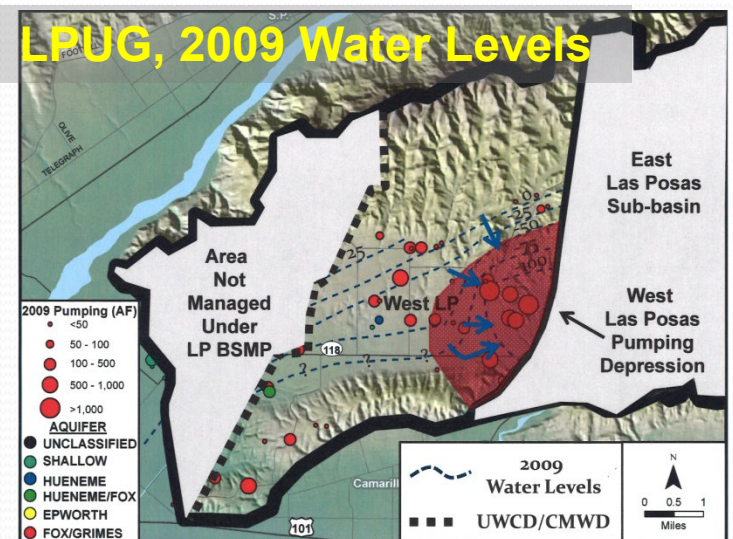
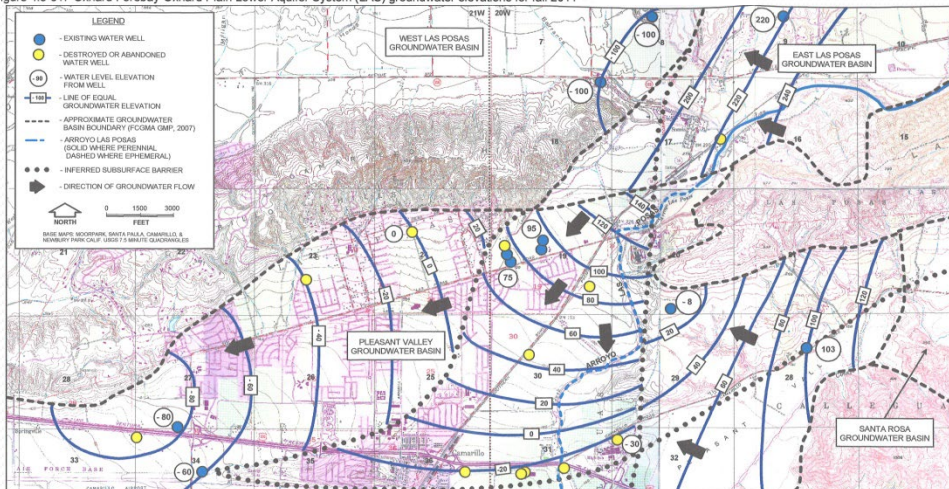
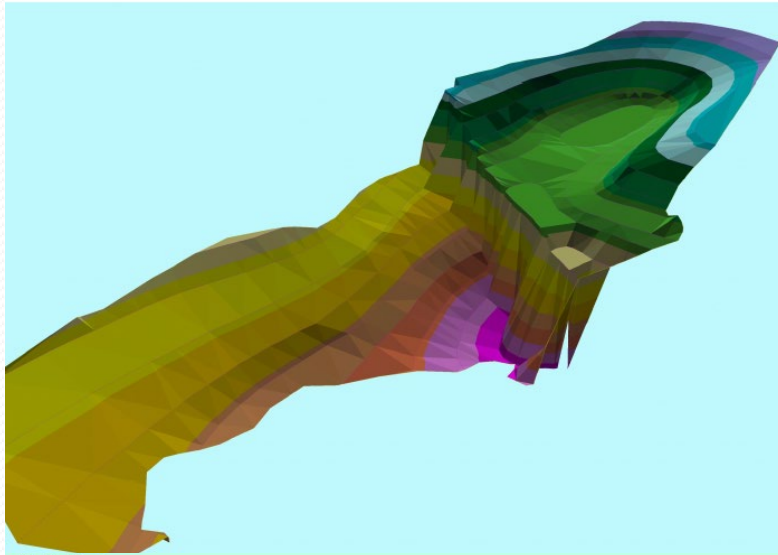


Figure 4.3-31. Oxnard Forebay-Oxnard Plain Lower Aquifer System (LAS) groundwater elevations for fall 2011

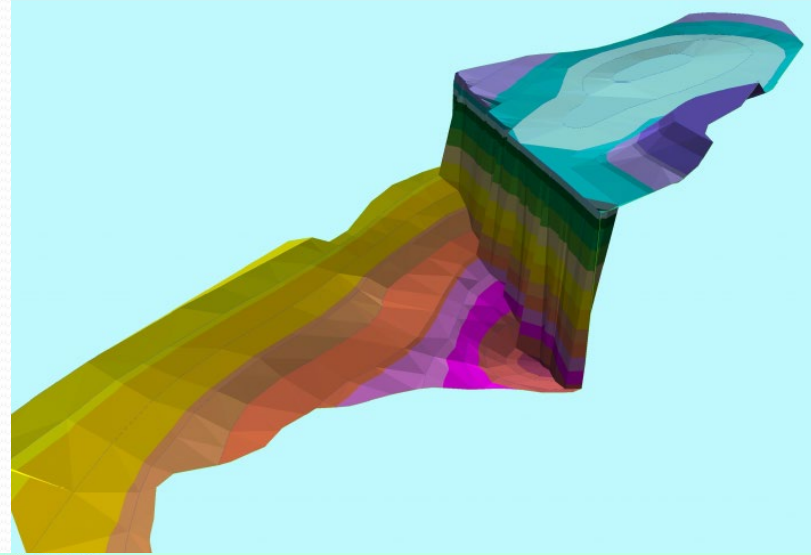


Potentiometric Surface Illustrated

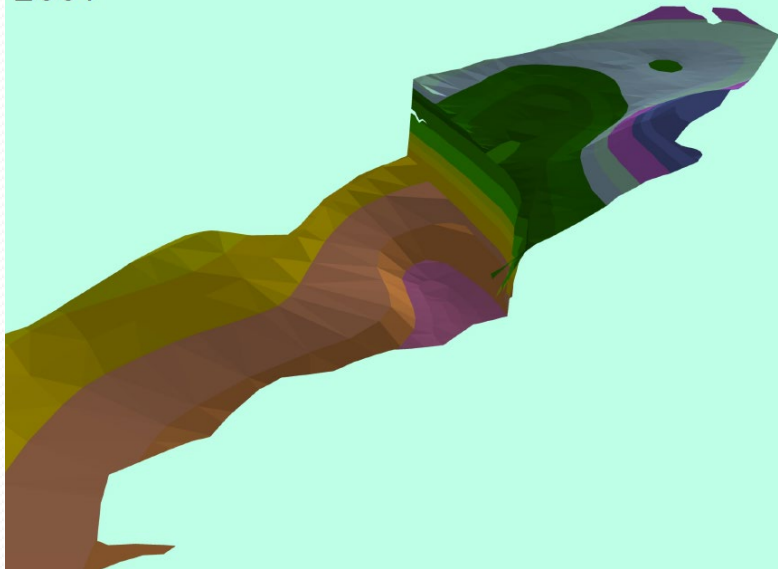
1985



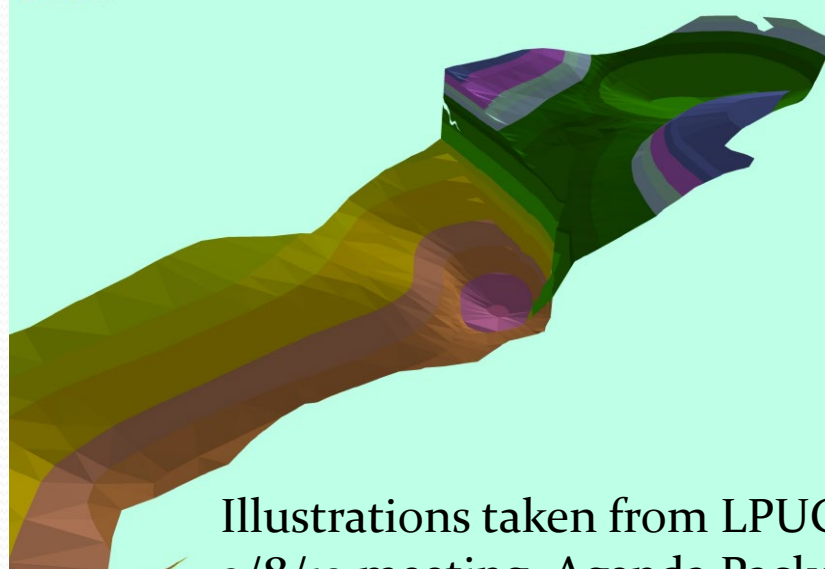
1998



2007

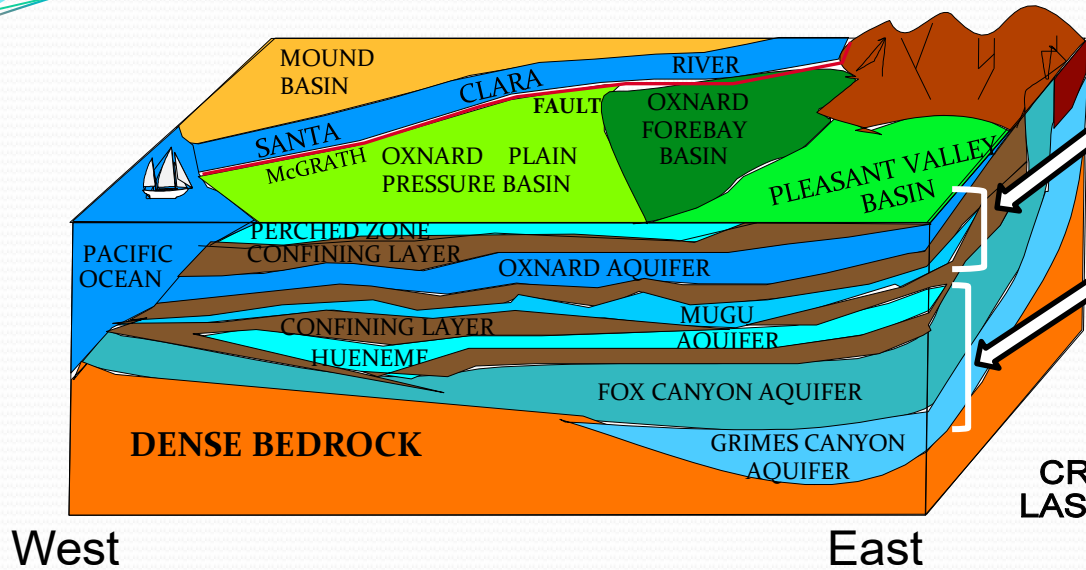


2011



Illustrations taken from LPUG
2/8/12 meeting Agenda Packet

PRINCIPAL AQUIFERS

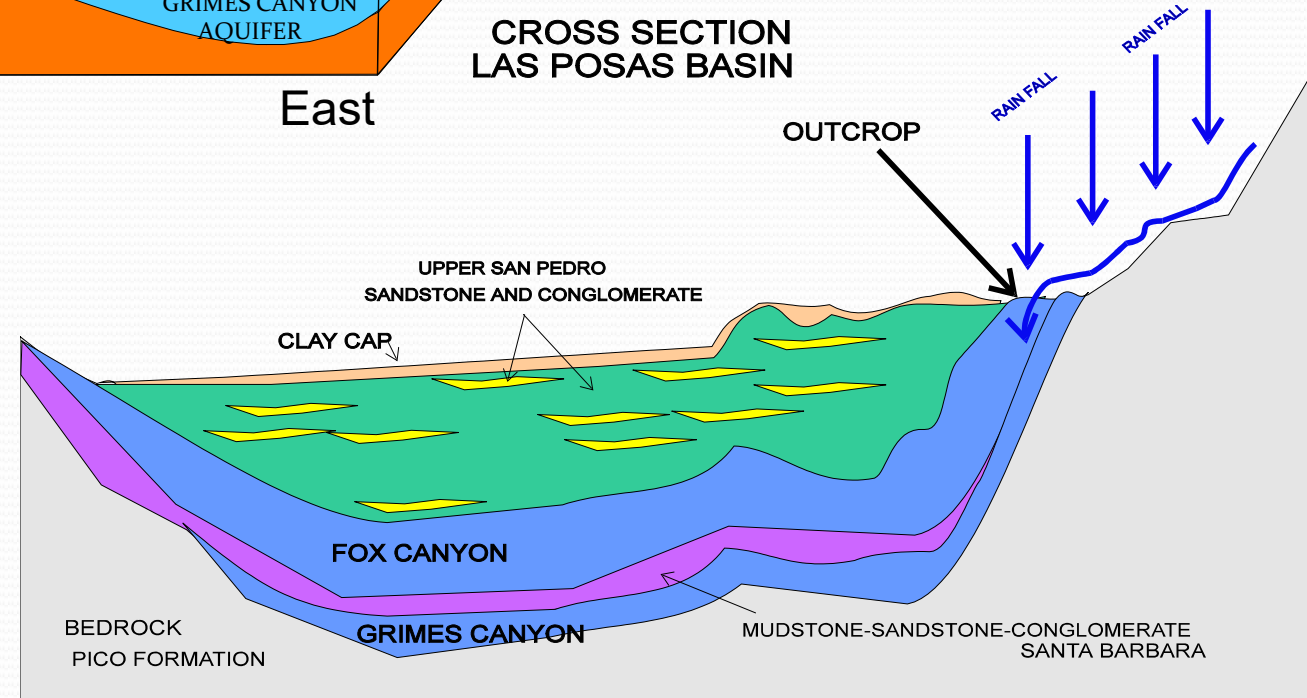


Aquifer Systems:

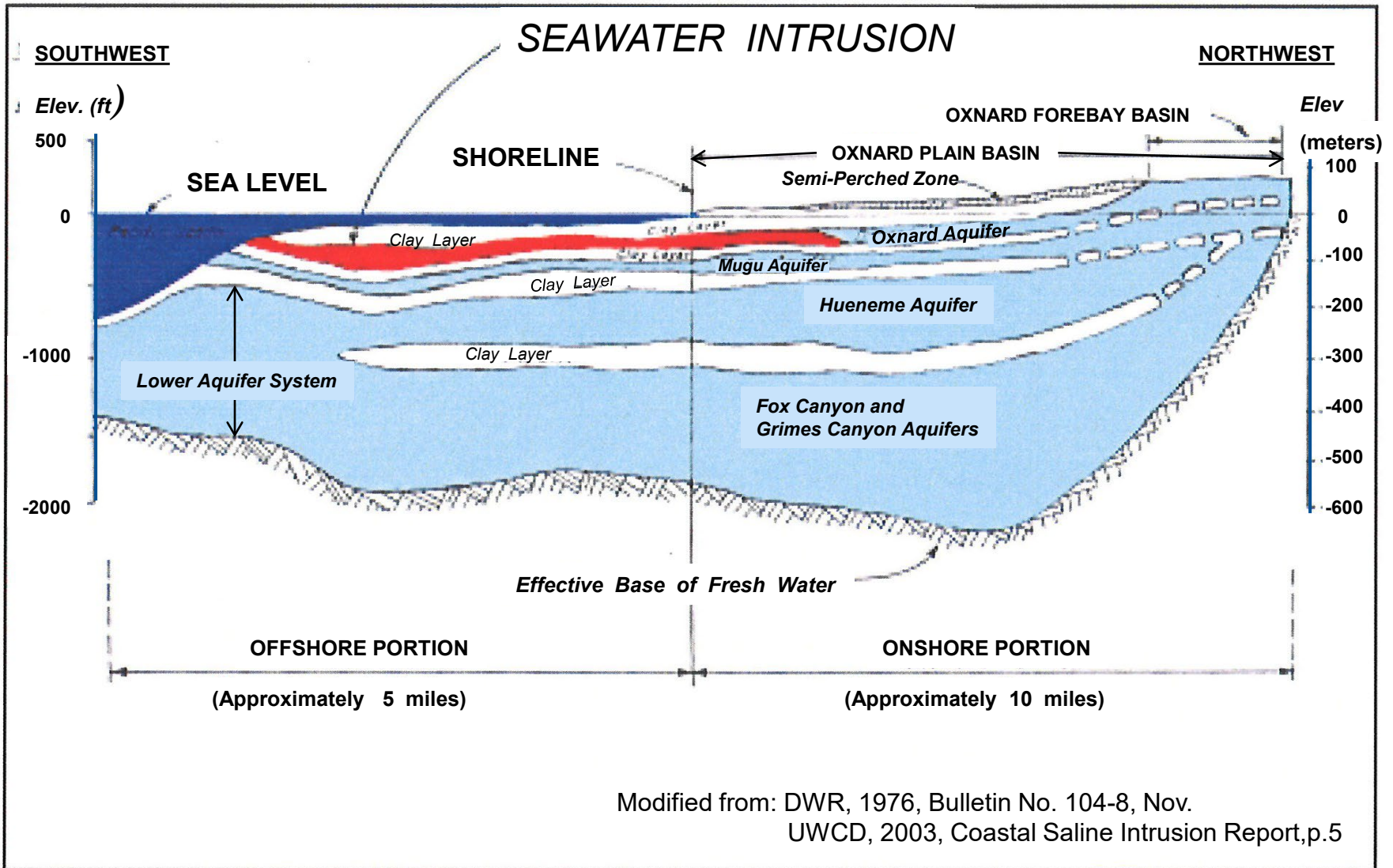
UAS - Perched Zone
 Oxnard Aquifer
 Mugu Aquifer

LAS - Hueneme Aquifer
 Fox Canyon Aquifer
 Grimes Canyon Aquifer

CROSS SECTION LAS POSAS BASIN

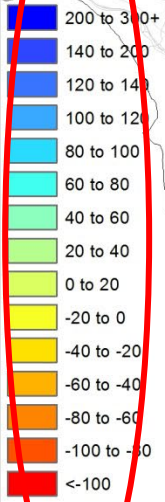


DEPICTION OF THE NORTH LAS POSAS BASIN. CROSS SECTION- NORTHEAST TO SOUTHWEST AT APPROXIMATELY GRIMES CANYON



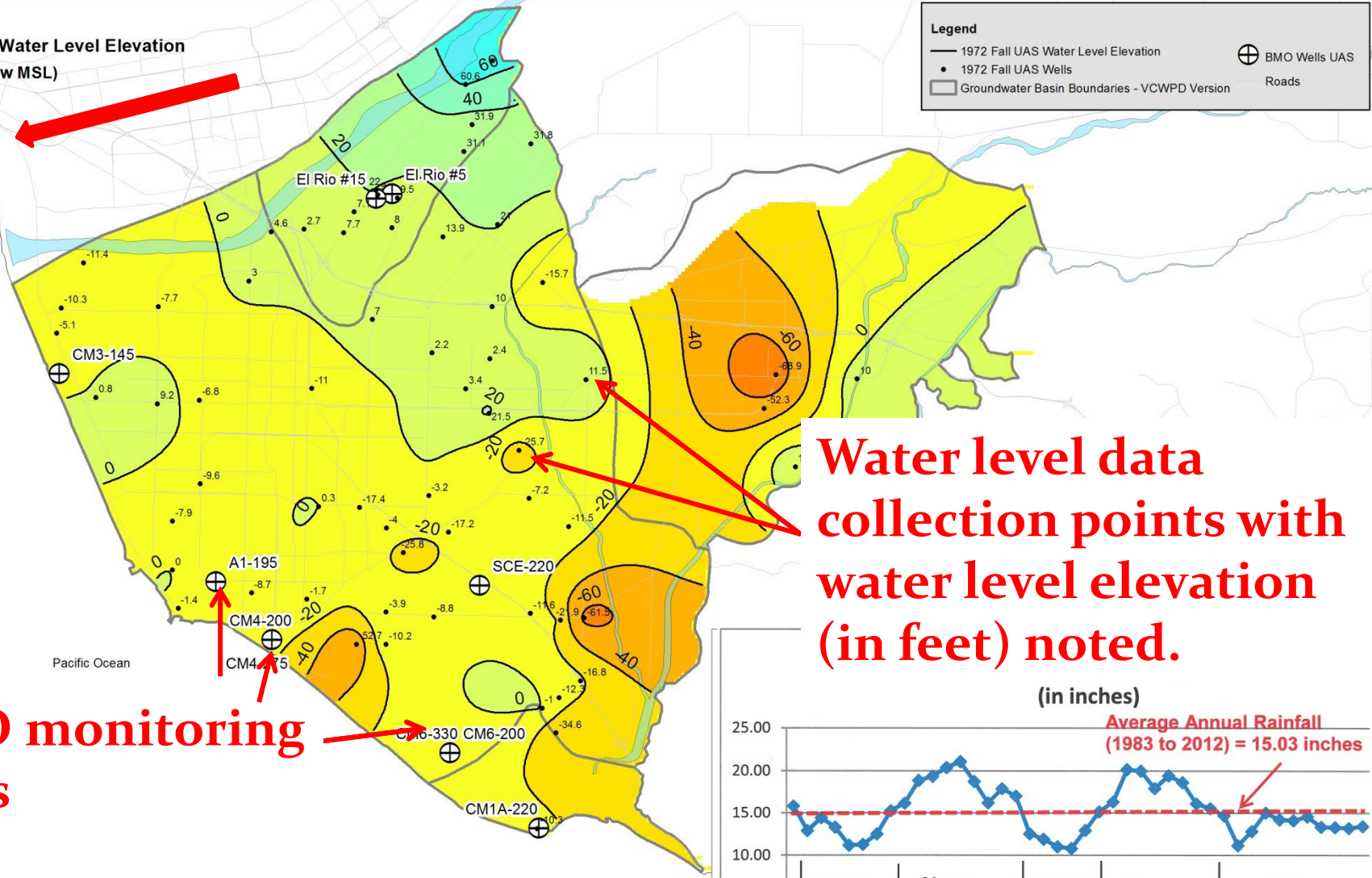
Simplified cross section of the aquifers of the Oxnard Plain; saltwater intrusion also exists in the Mugu, Hueneme and Fox Canyon aquifers, not illustrated in this schematic

Legend
1972 Fall UAS Water Level Elevation
 (feet above/below MSL)



Legend

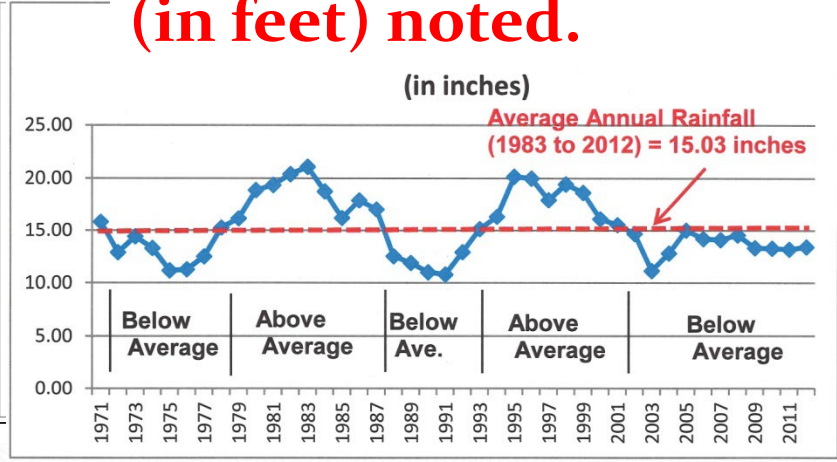
- 1972 Fall UAS Water Level Elevation
- 1972 Fall UAS Wells
- ⊕ BMO Wells UAS
- Groundwater Basin Boundaries - VCWPD Version
- Roads



Water level data collection points with water level elevation (in feet) noted.

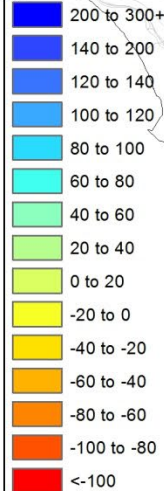
BMO monitoring wells

Fall 1972 Upper Aquifer System Potentiometric Surface Map

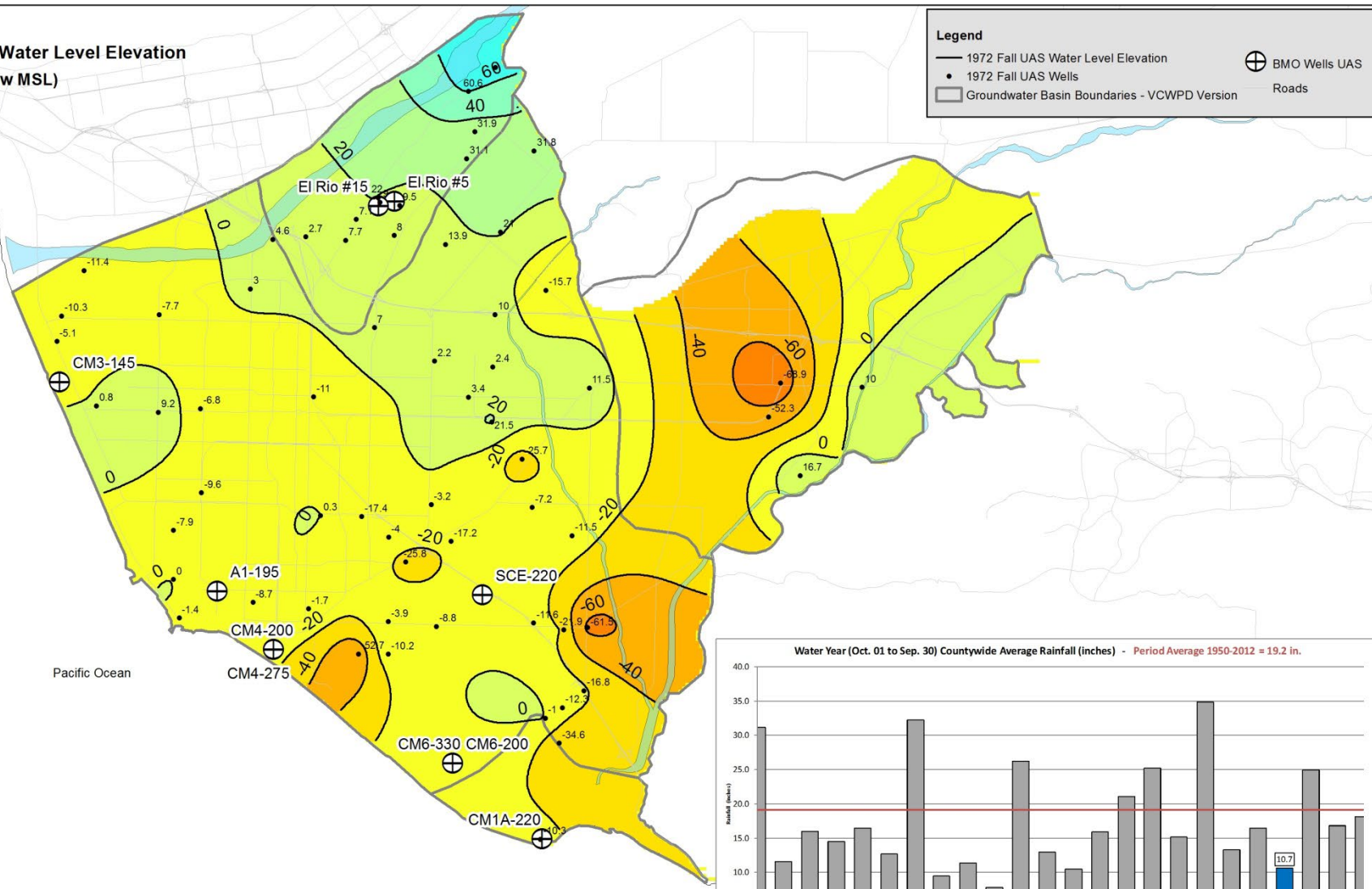
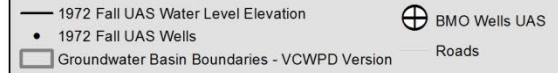


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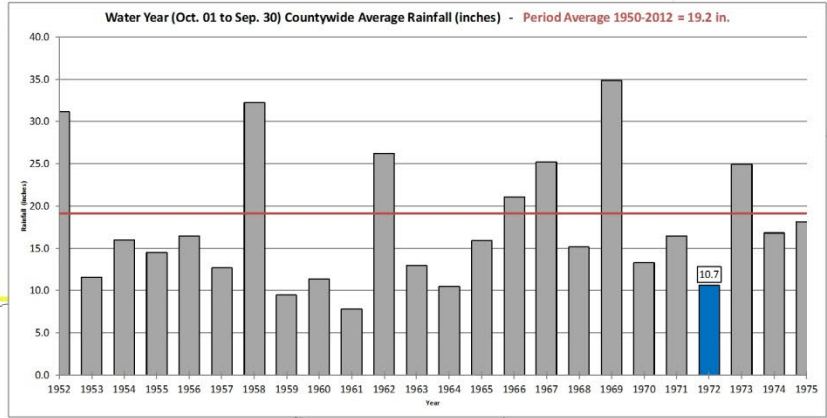
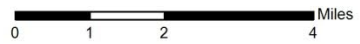
1972 Fall UAS Water Level Elevation (feet above/below MSL)



Legend

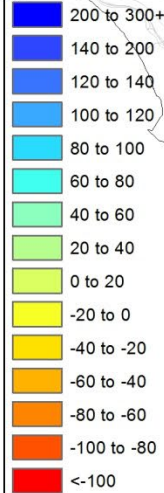


Fall 1972 Upper Aquifer System Potentiometric Surface Map

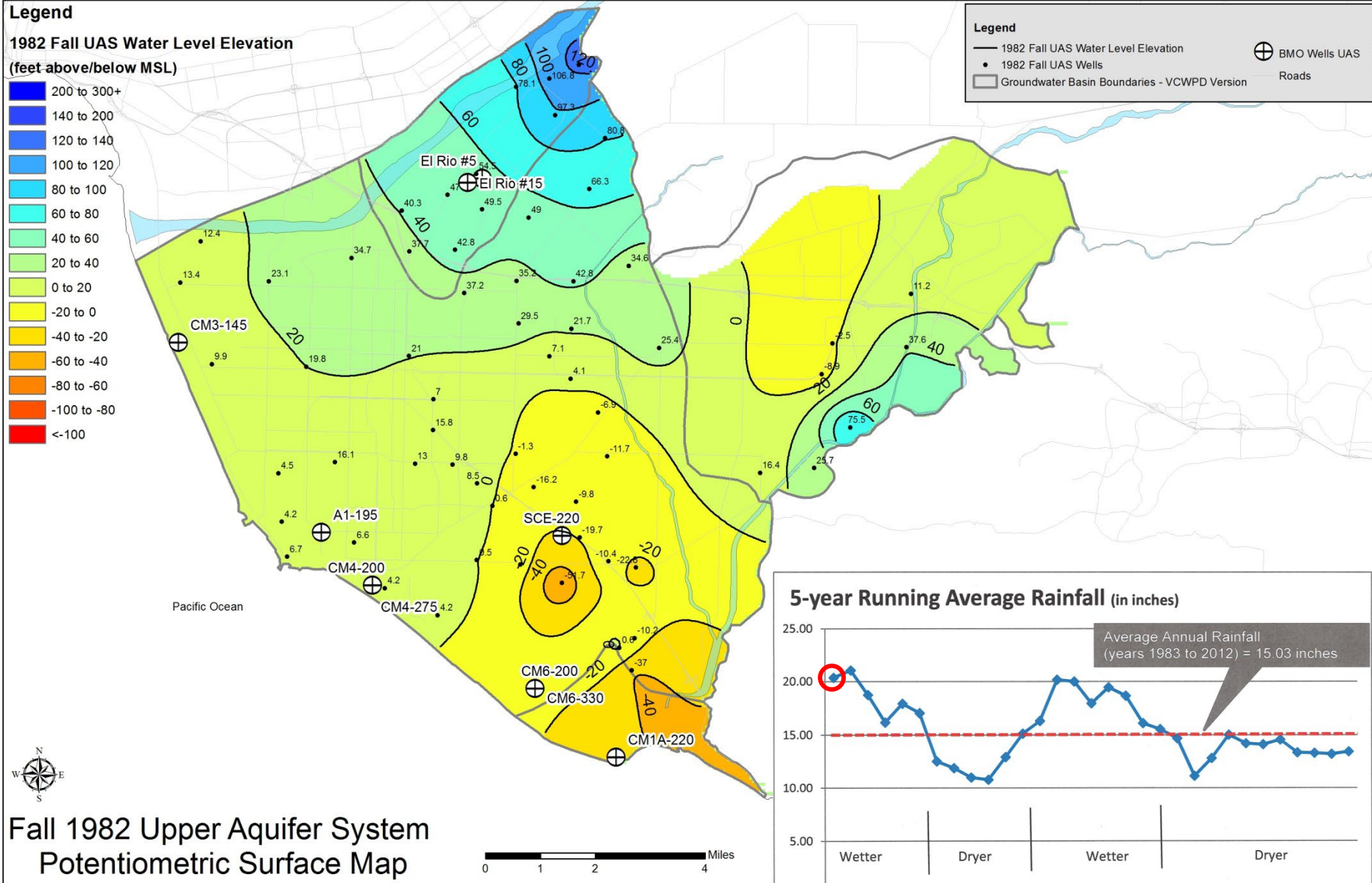
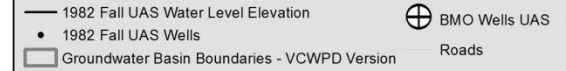


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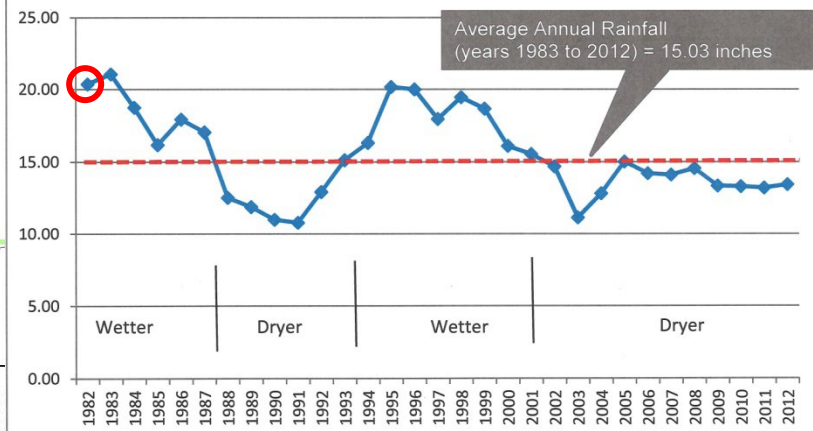
1982 Fall UAS Water Level Elevation (feet above/below MSL)



Legend



5-year Running Average Rainfall (in inches)

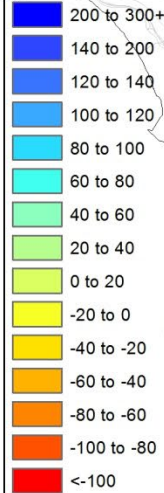


Fall 1982 Upper Aquifer System Potentiometric Surface Map

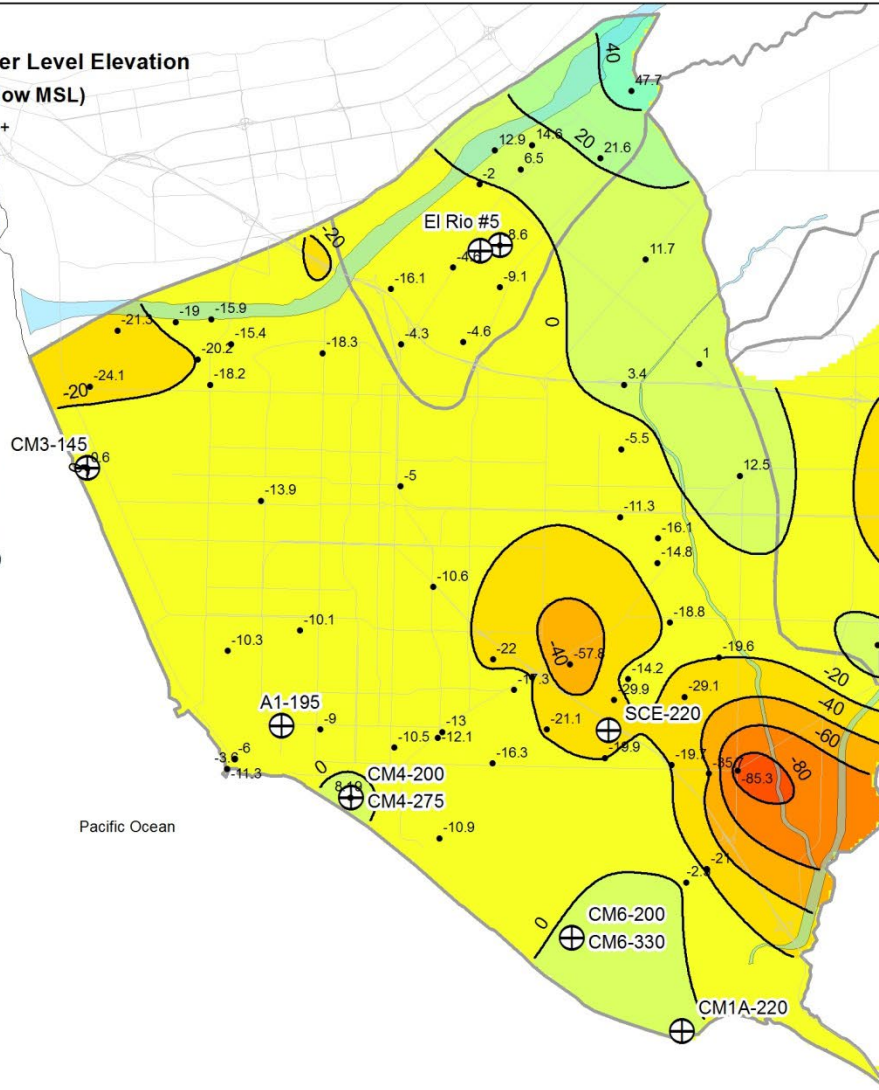
Legend

1989 Fall Water Level Elevation

(feet above/below MSL)

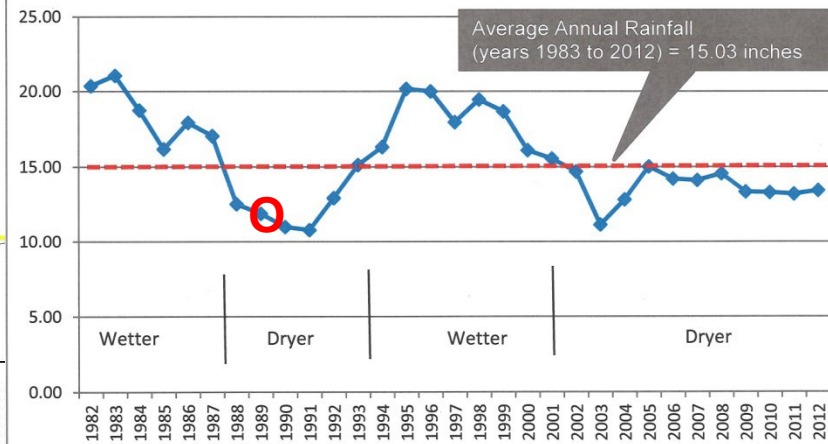


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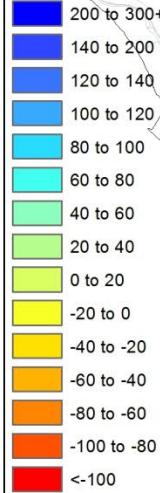
Fall 1989 Upper Aquifer System Potentiometric Surface Map

5-year Running Average Rainfall (in inches)

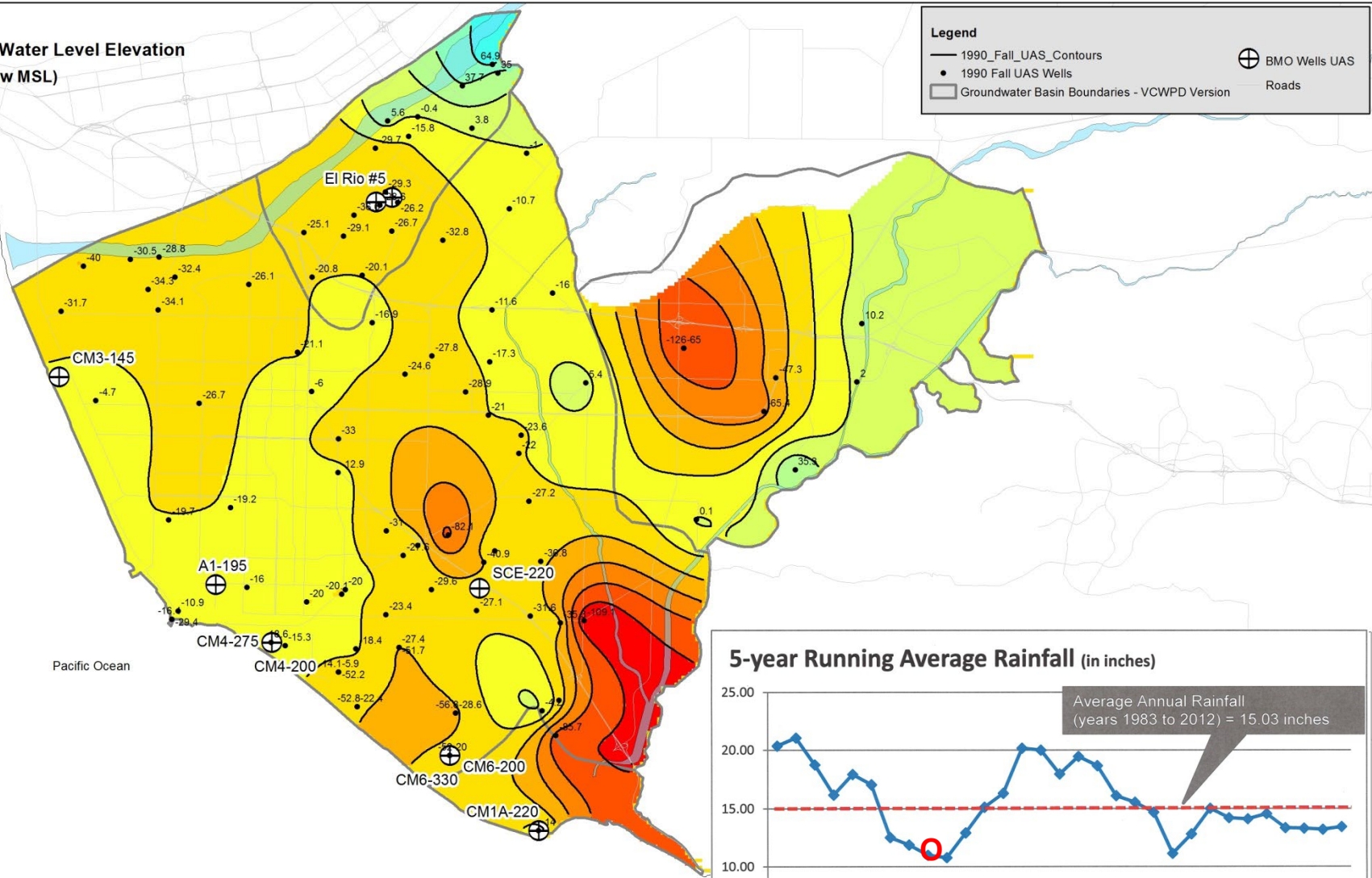
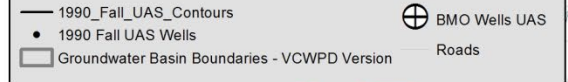


Legend

**1990 Fall UAS Water Level Elevation
(feet above/below MSL)**

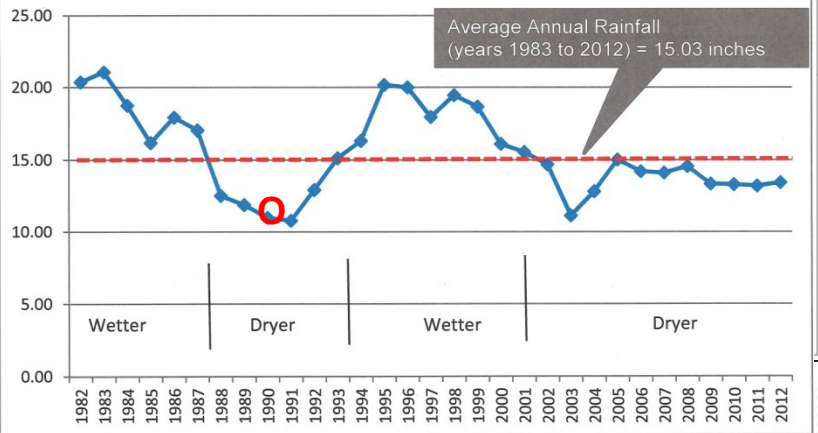


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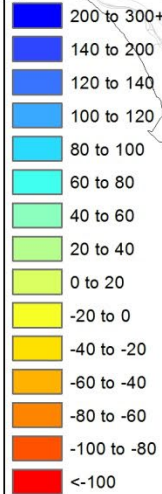
**Fall 1990 Upper Aquifer System
Potentiometric Surface Map**

5-year Running Average Rainfall (in inches)

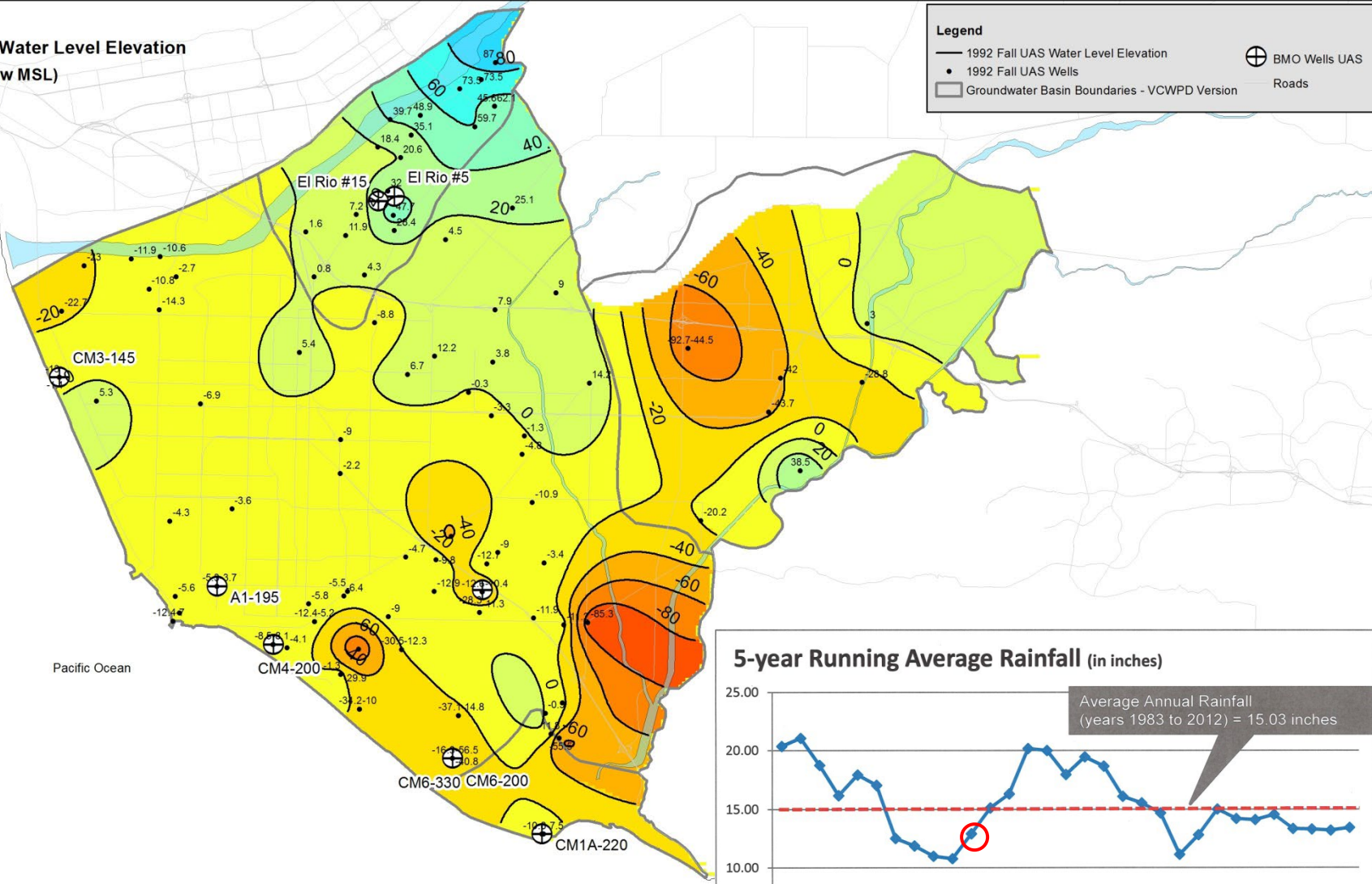
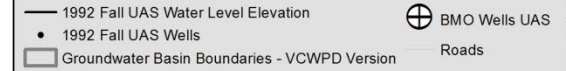


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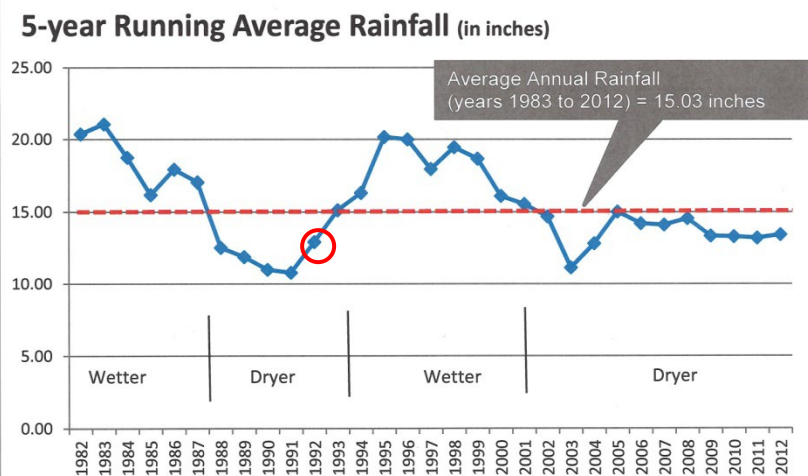
1992 Fall UAS Water Level Elevation (feet above/below MSL)



Legend

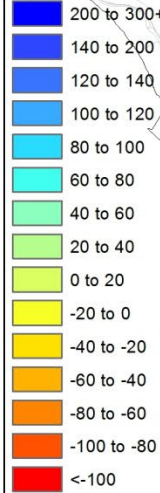


Fall 1992 Upper Aquifer System Potentiometric Surface Map

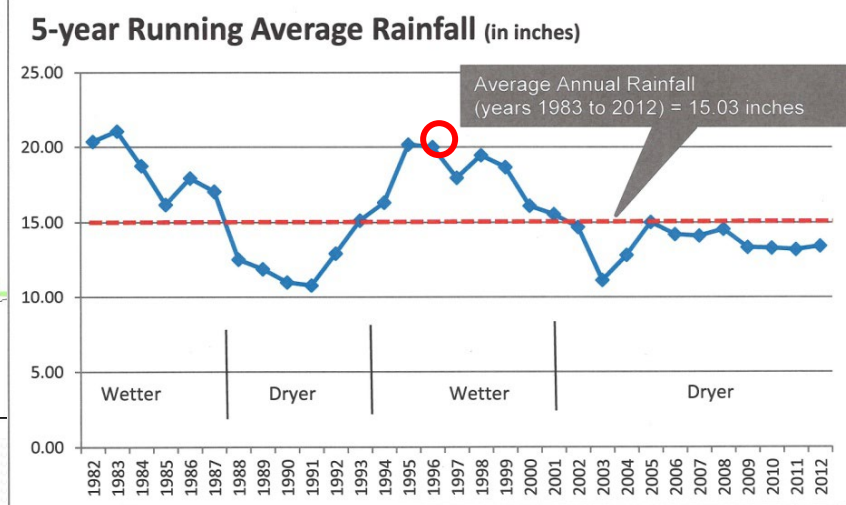
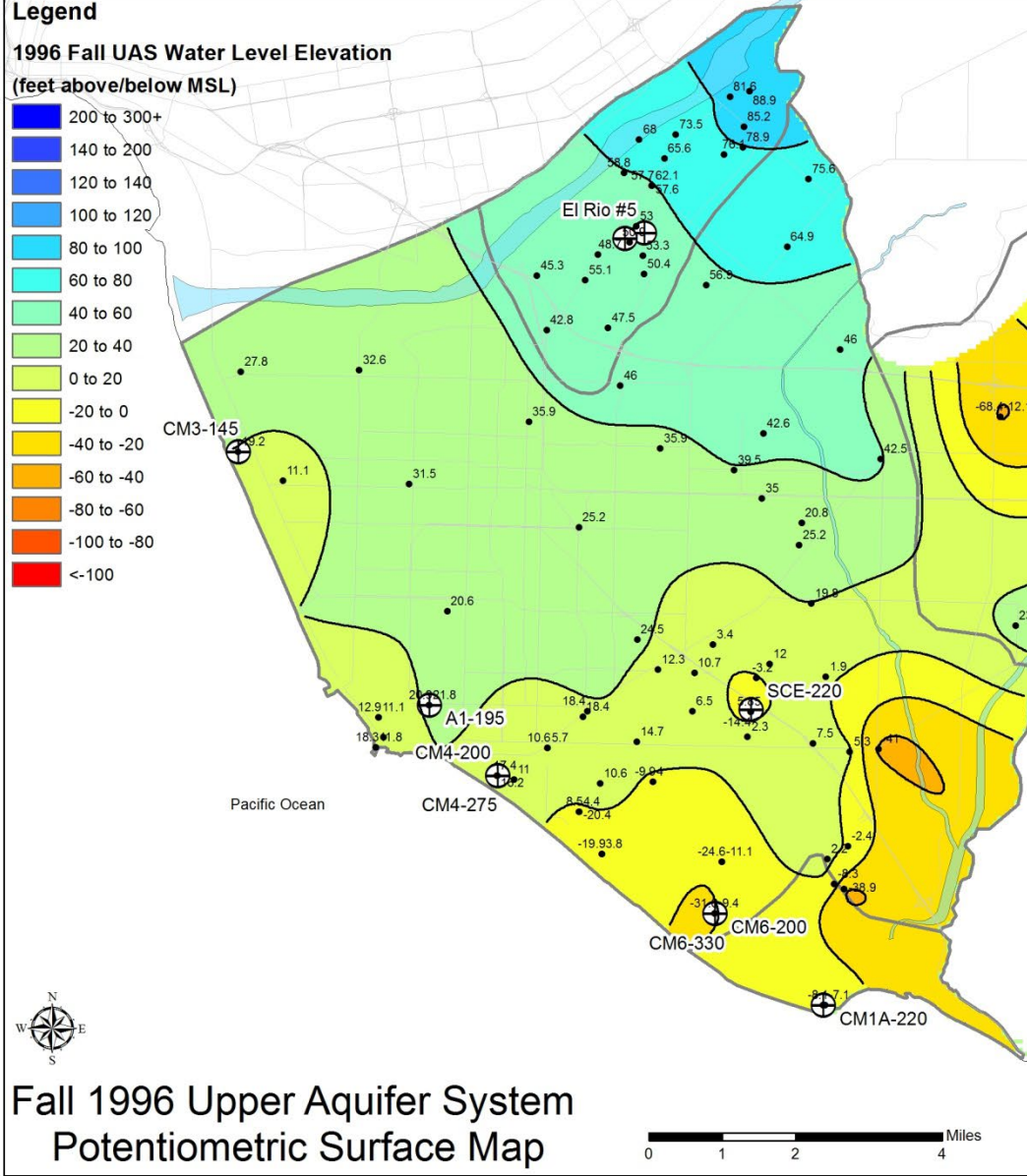
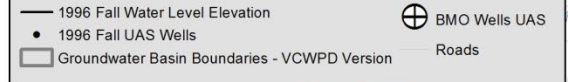


Legend

**1996 Fall UAS Water Level Elevation
(feet above/below MSL)**



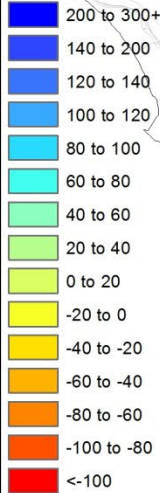
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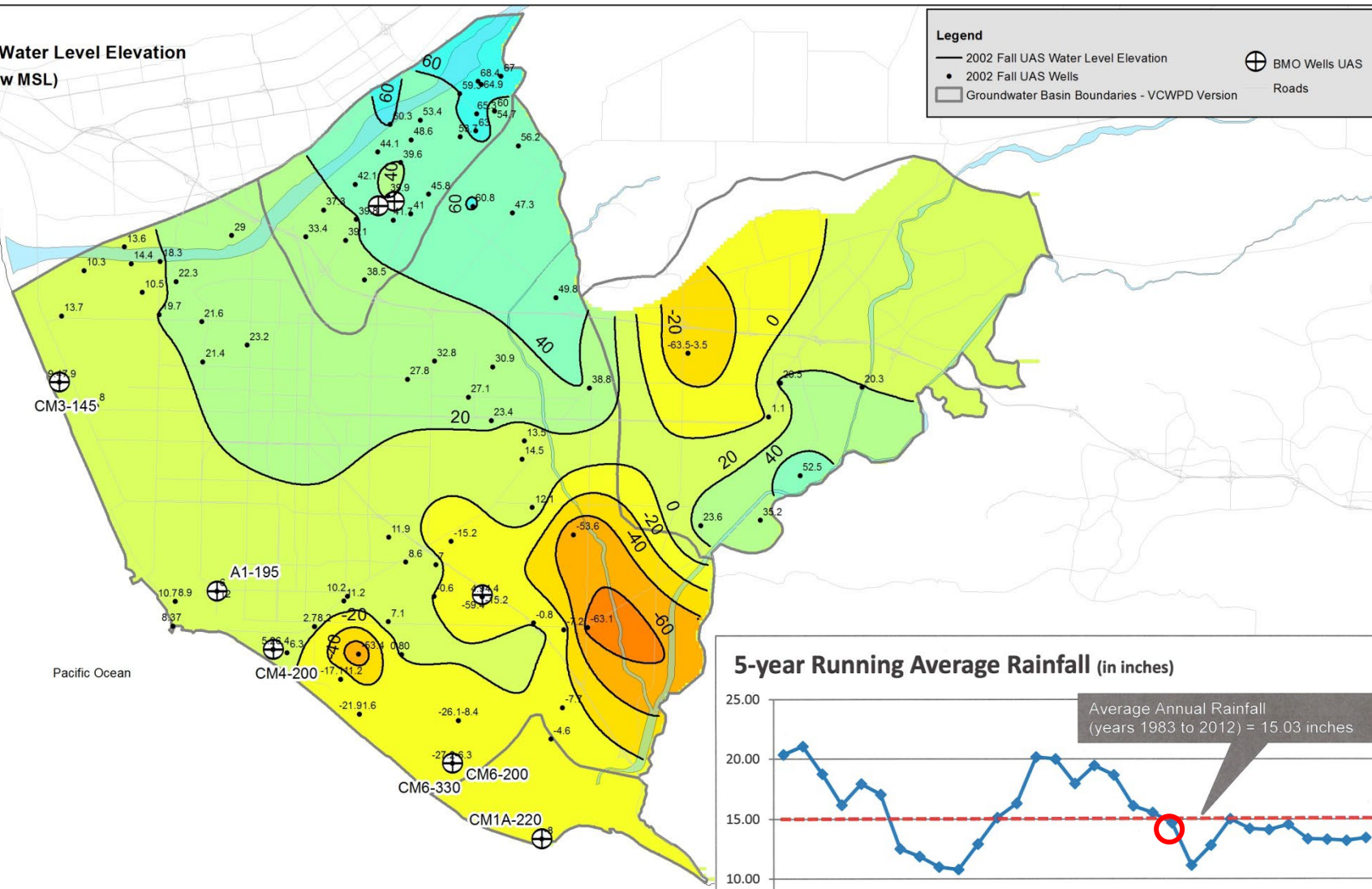
**Fall 1996 Upper Aquifer System
Potentiometric Surface Map**

Legend

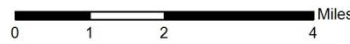
**2002 Fall UAS Water Level Elevation
(feet above/below MSL)**



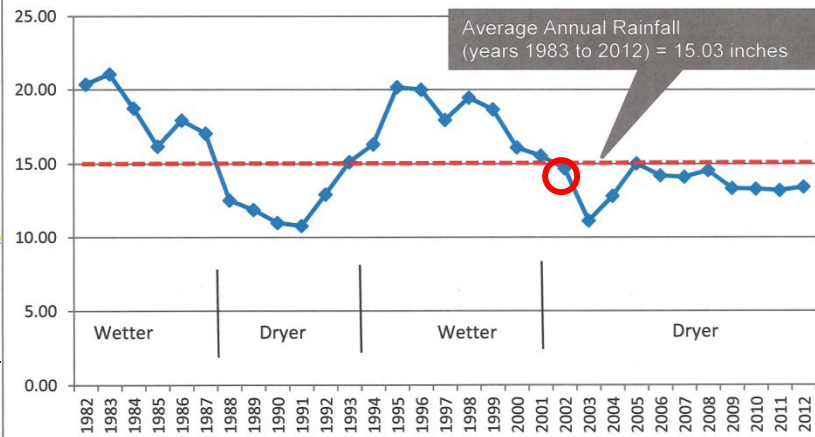
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**Fall 2002 Upper Aquifer System
Potentiometric Surface Map**



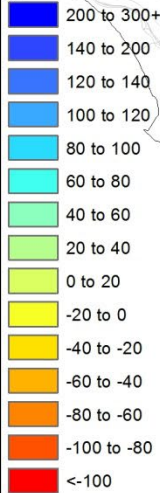
5-year Running Average Rainfall (in inches)



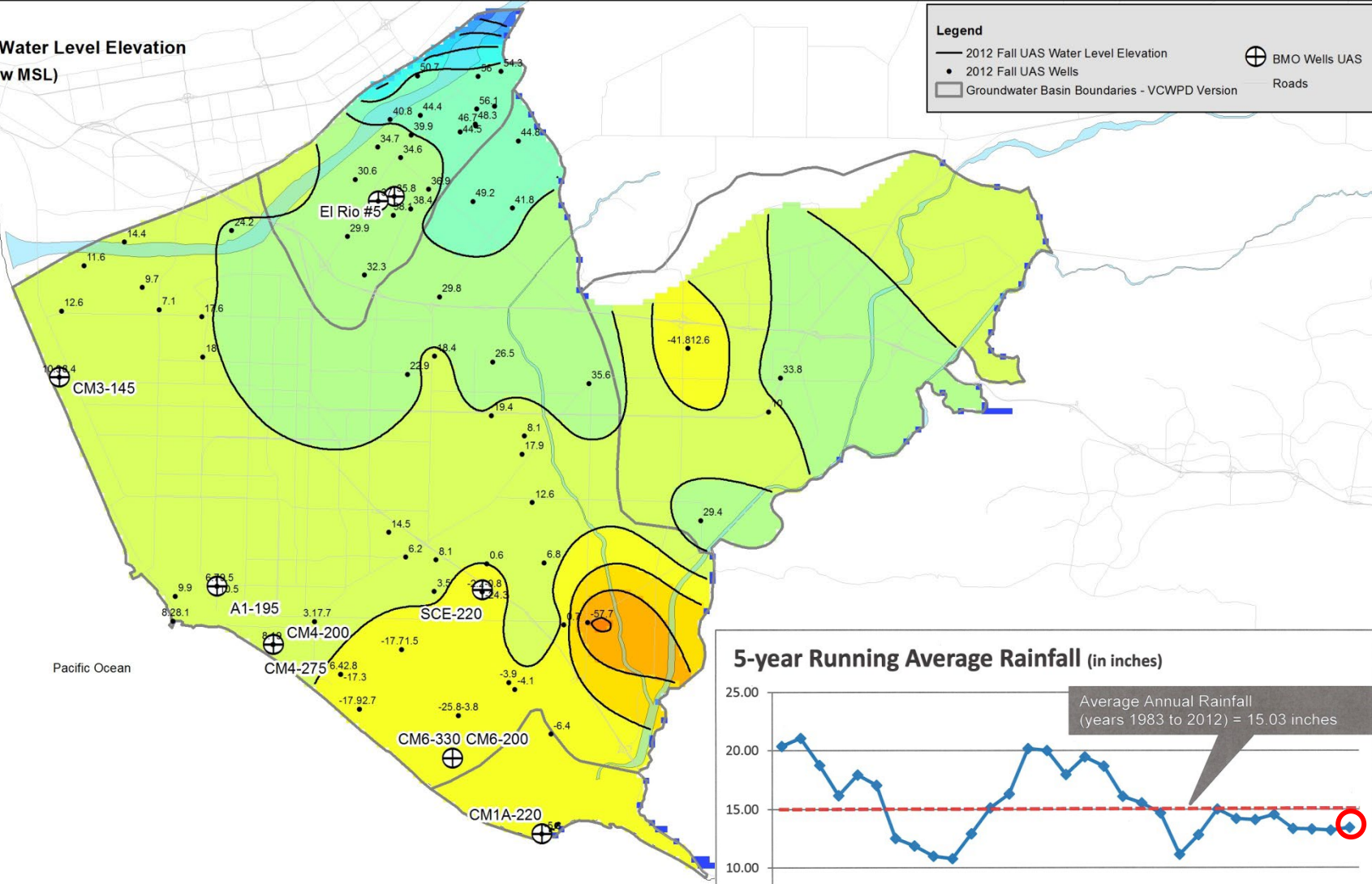
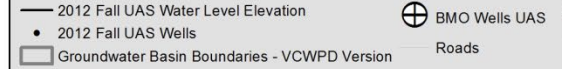
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2012 Fall UAS Water Level Elevation

(feet above/below MSL)

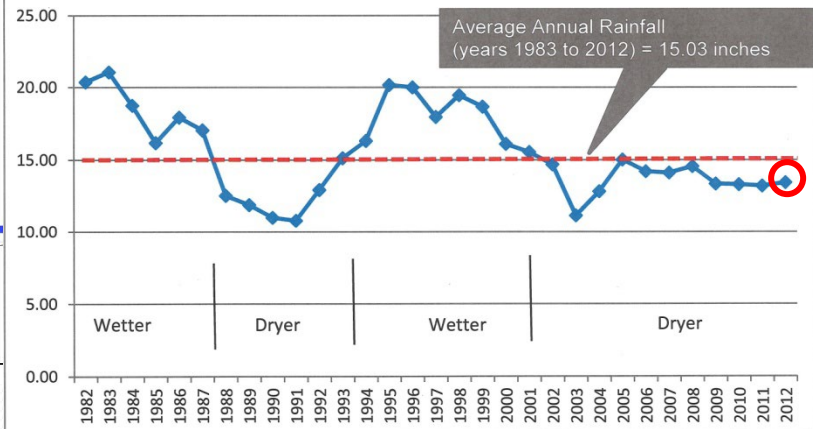


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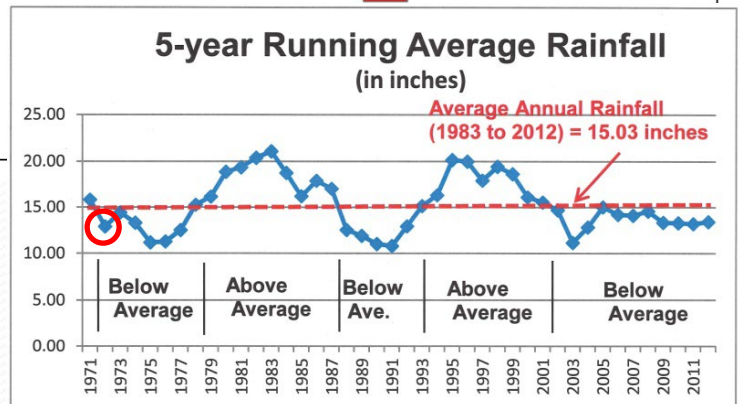
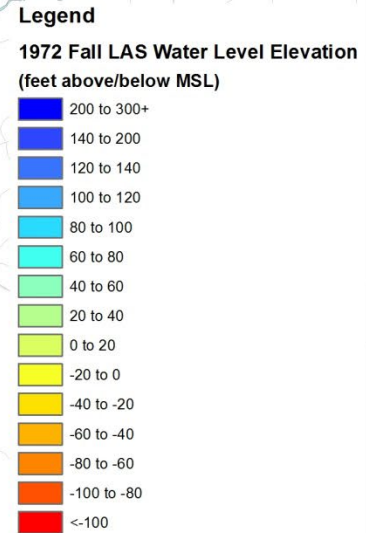
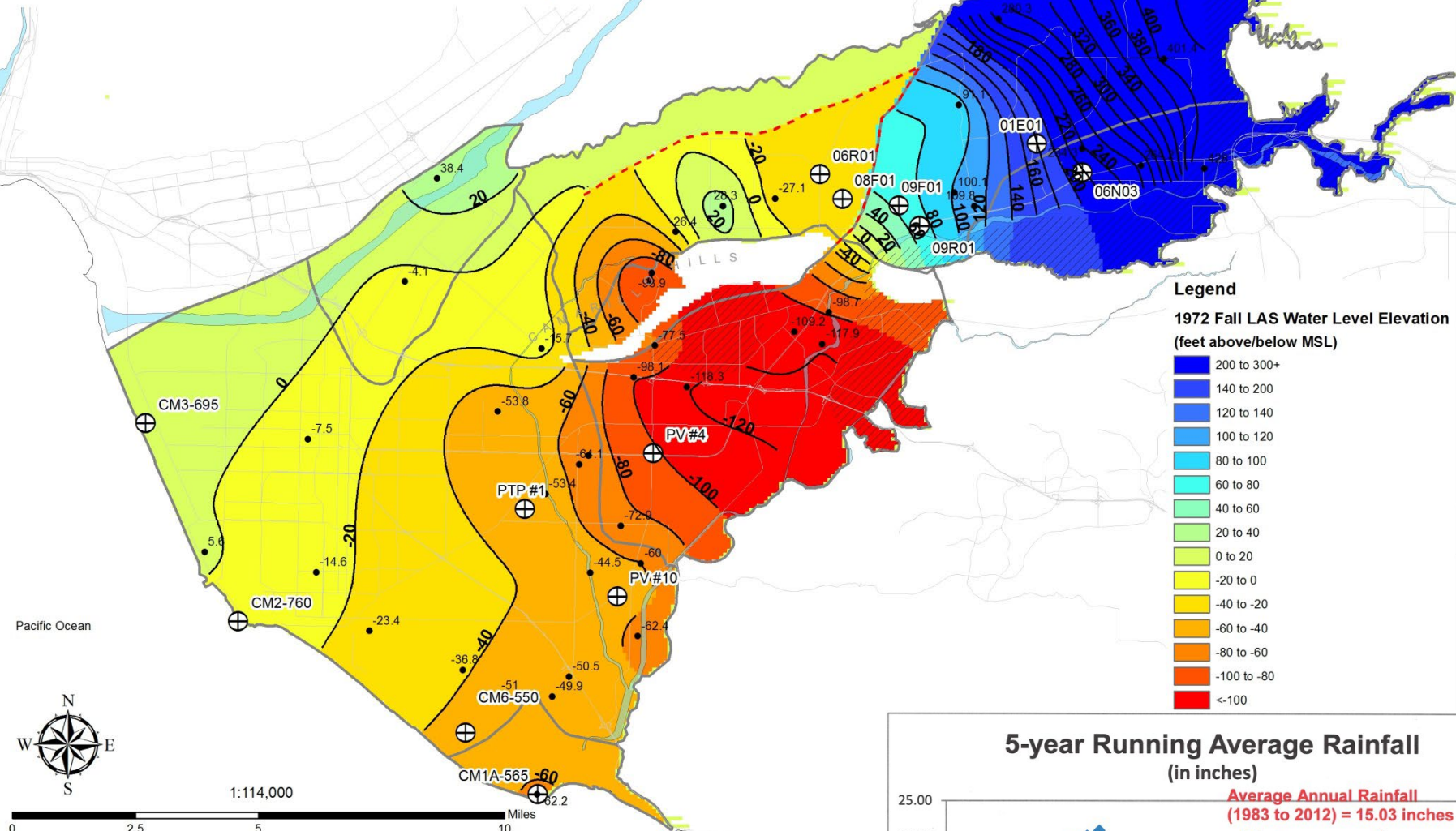


Fall 2012 Upper Aquifer System Potentiometric Surface Map

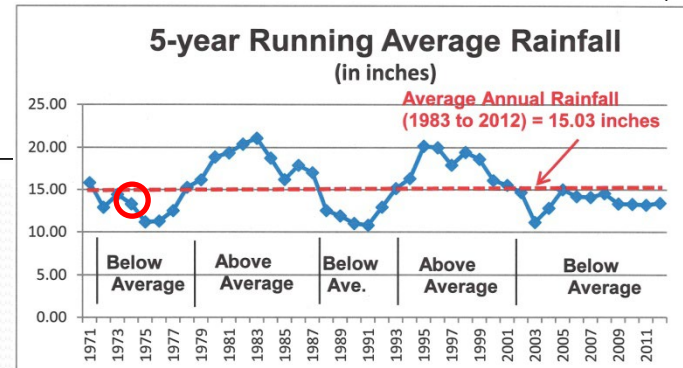
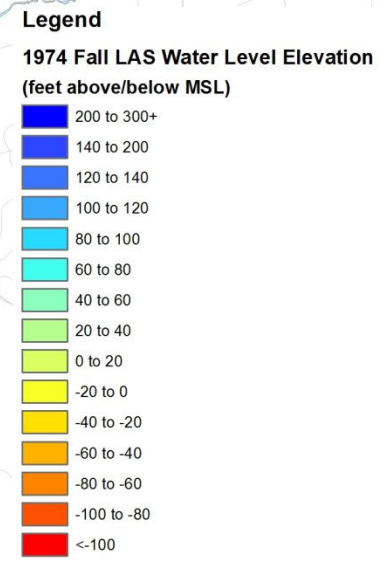
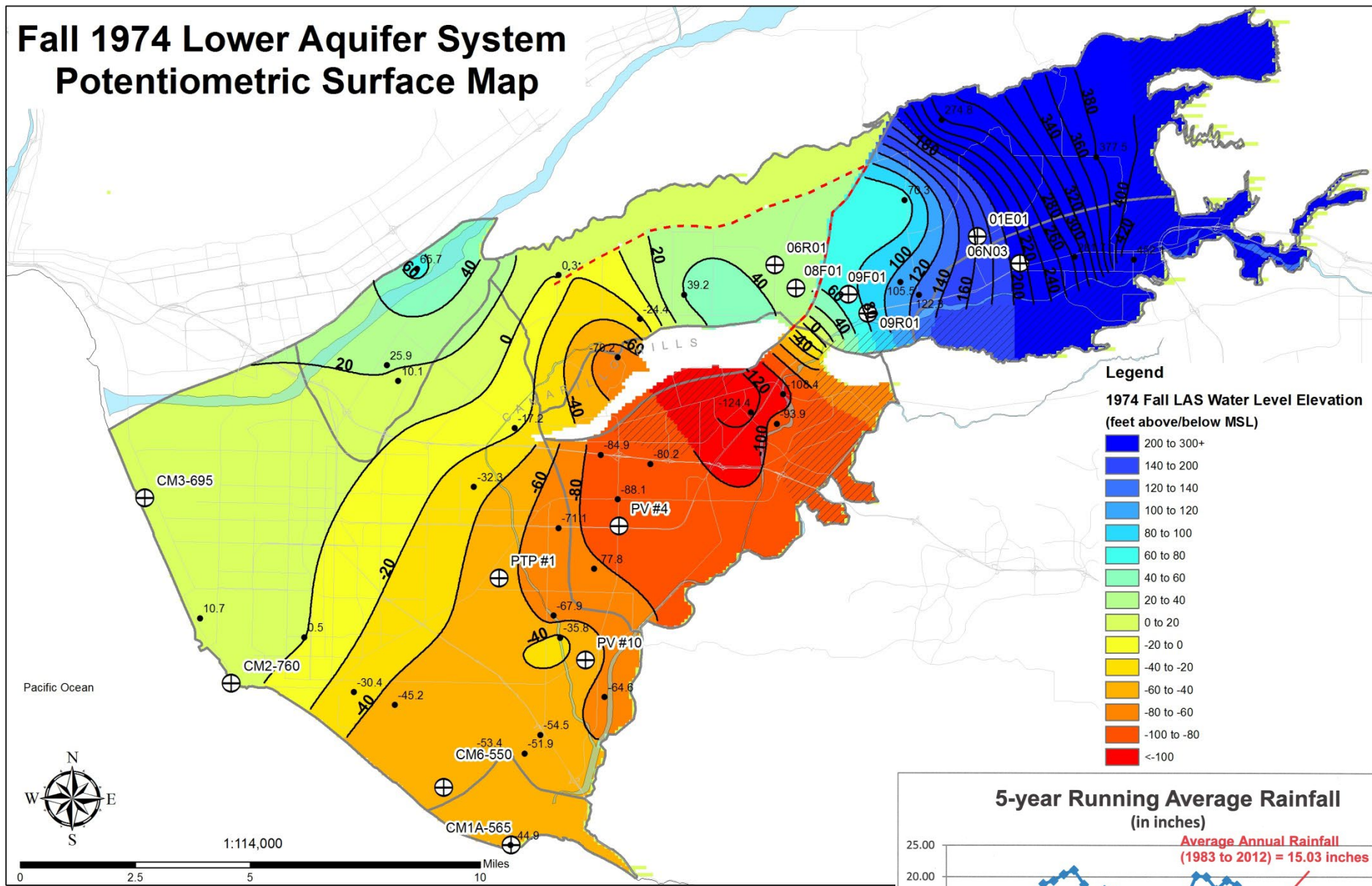
5-year Running Average Rainfall (in inches)



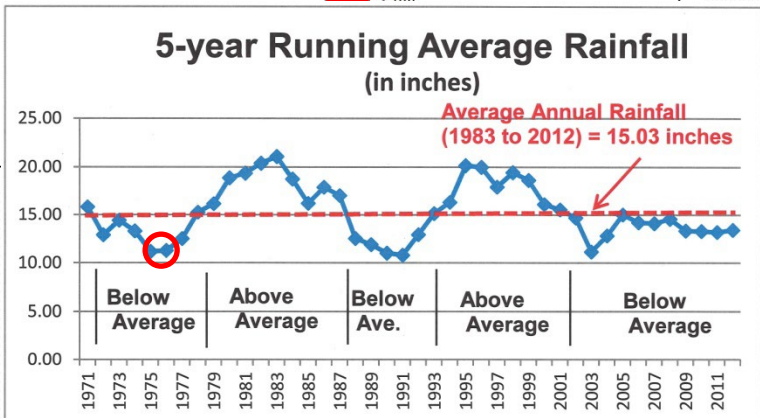
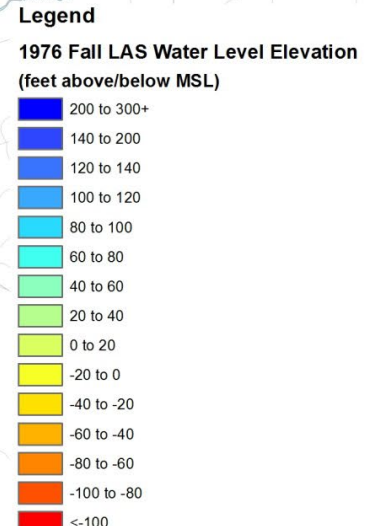
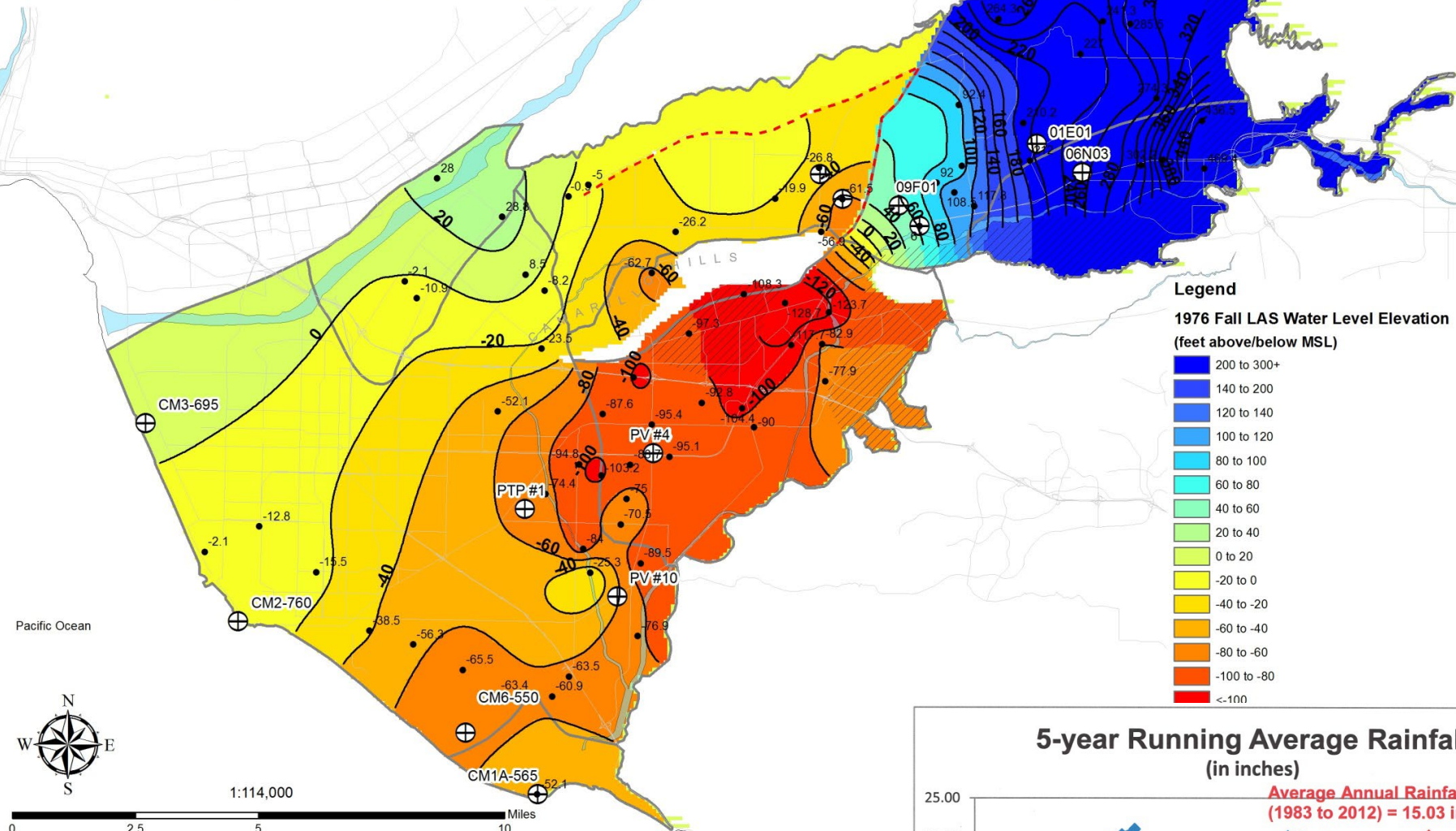
Fall 1972 Lower Aquifer System Potentiometric Surface Map



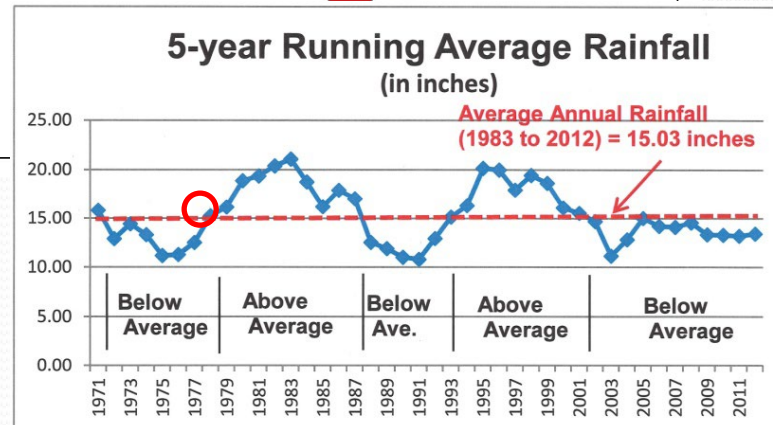
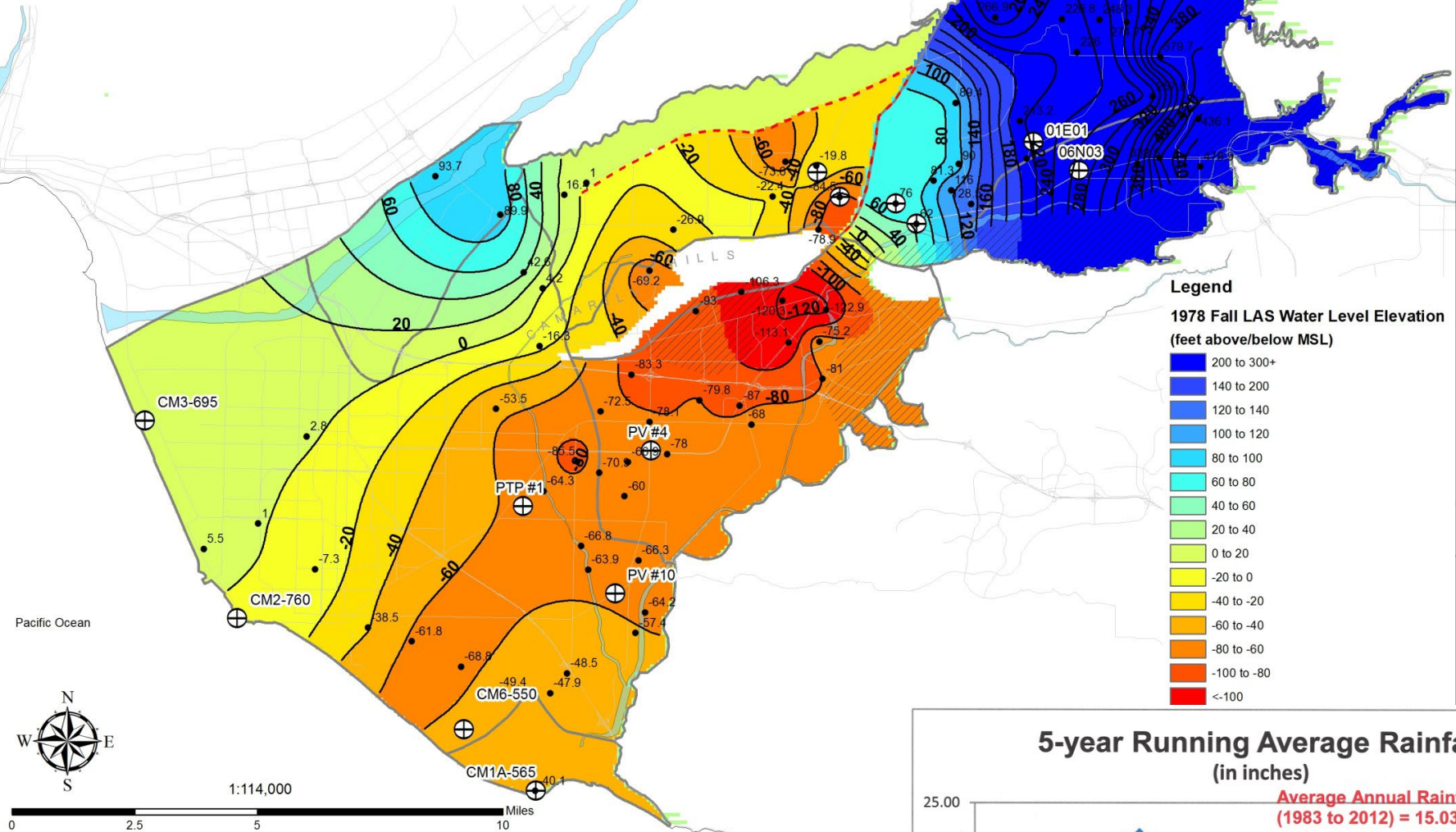
Fall 1974 Lower Aquifer System Potentiometric Surface Map



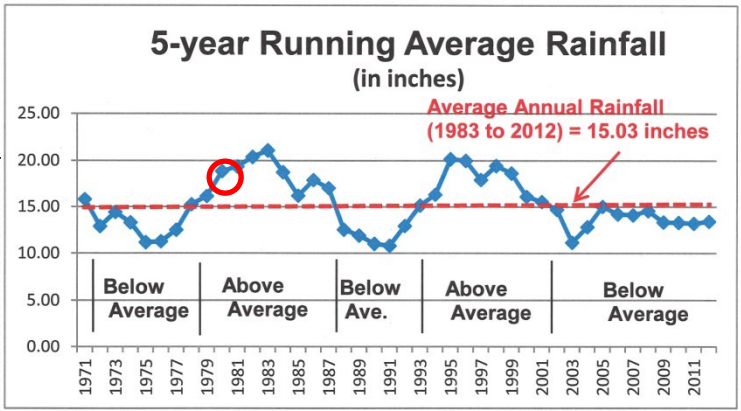
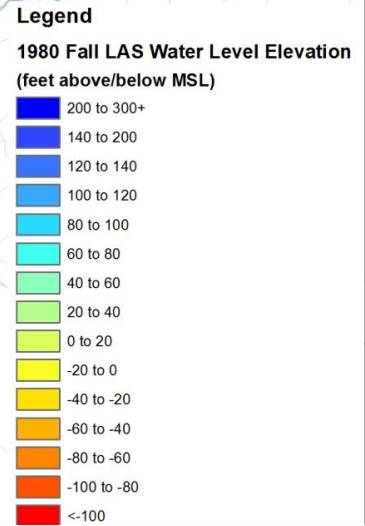
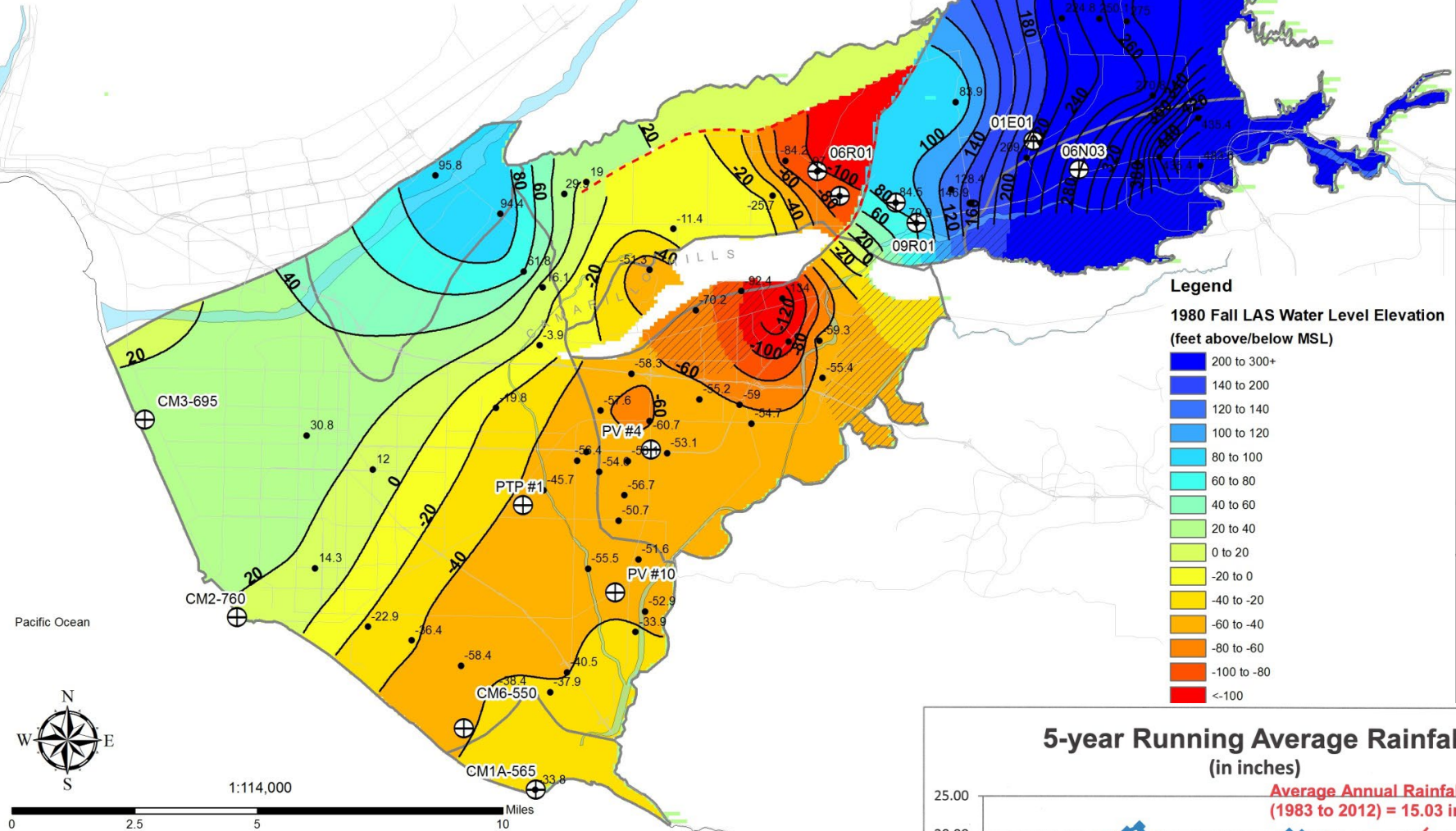
Fall 1976 Lower Aquifer System Potentiometric Surface Map



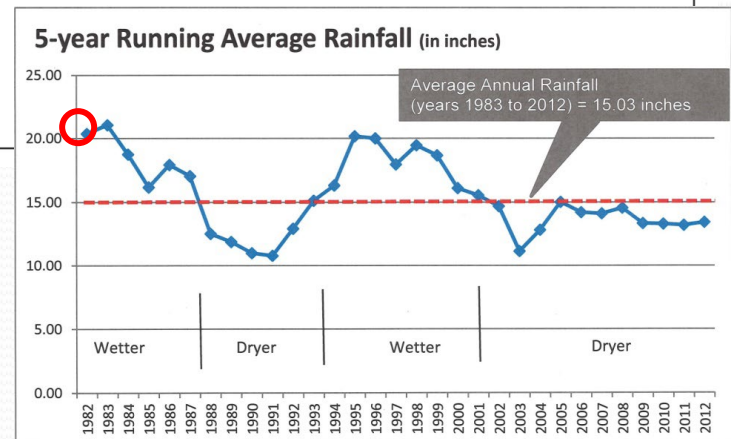
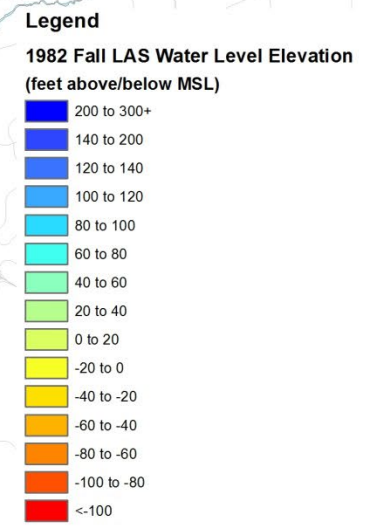
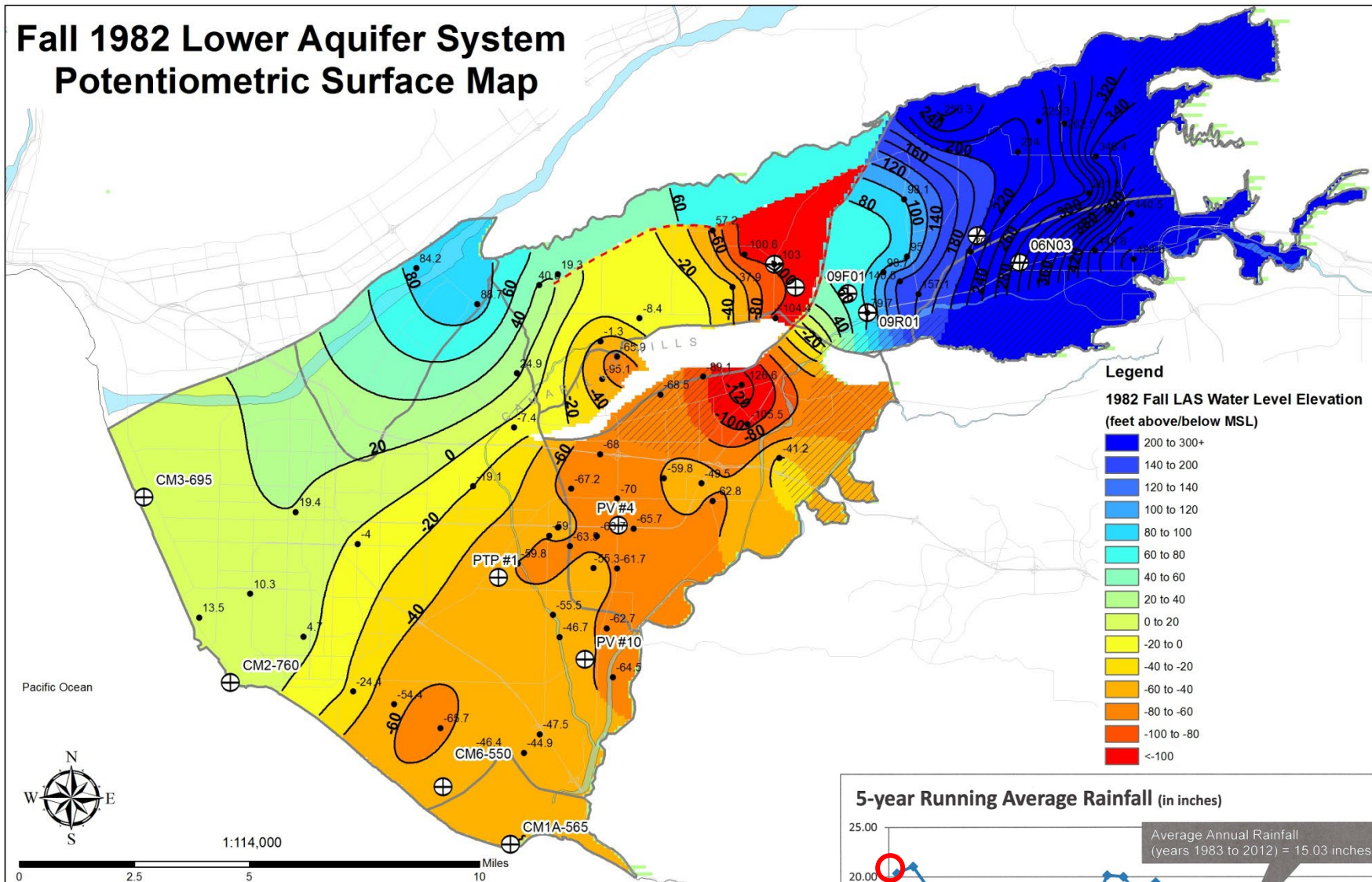
Fall 1978 Lower Aquifer System Potentiometric Surface Map



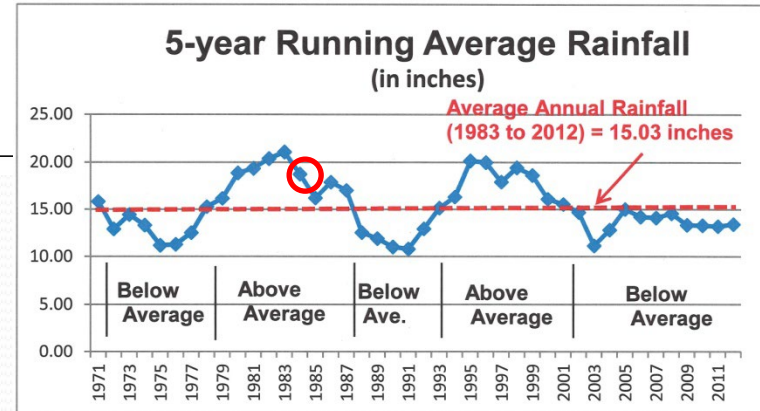
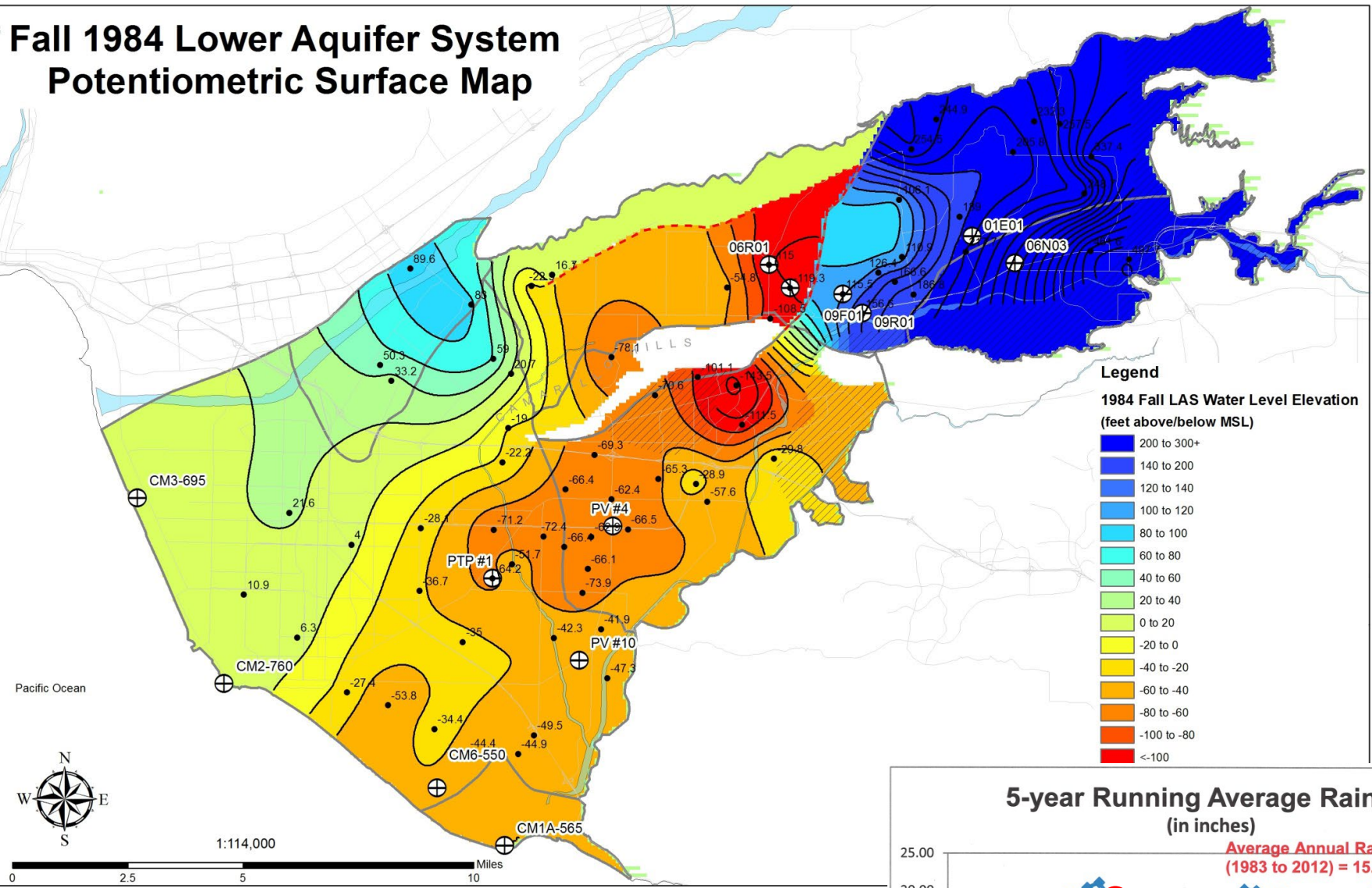
Fall 1980 Lower Aquifer System Potentiometric Surface Map



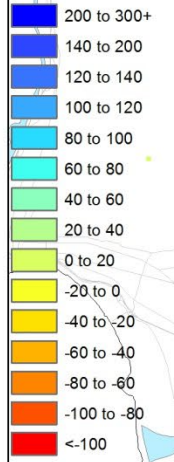
Fall 1982 Lower Aquifer System Potentiometric Surface Map



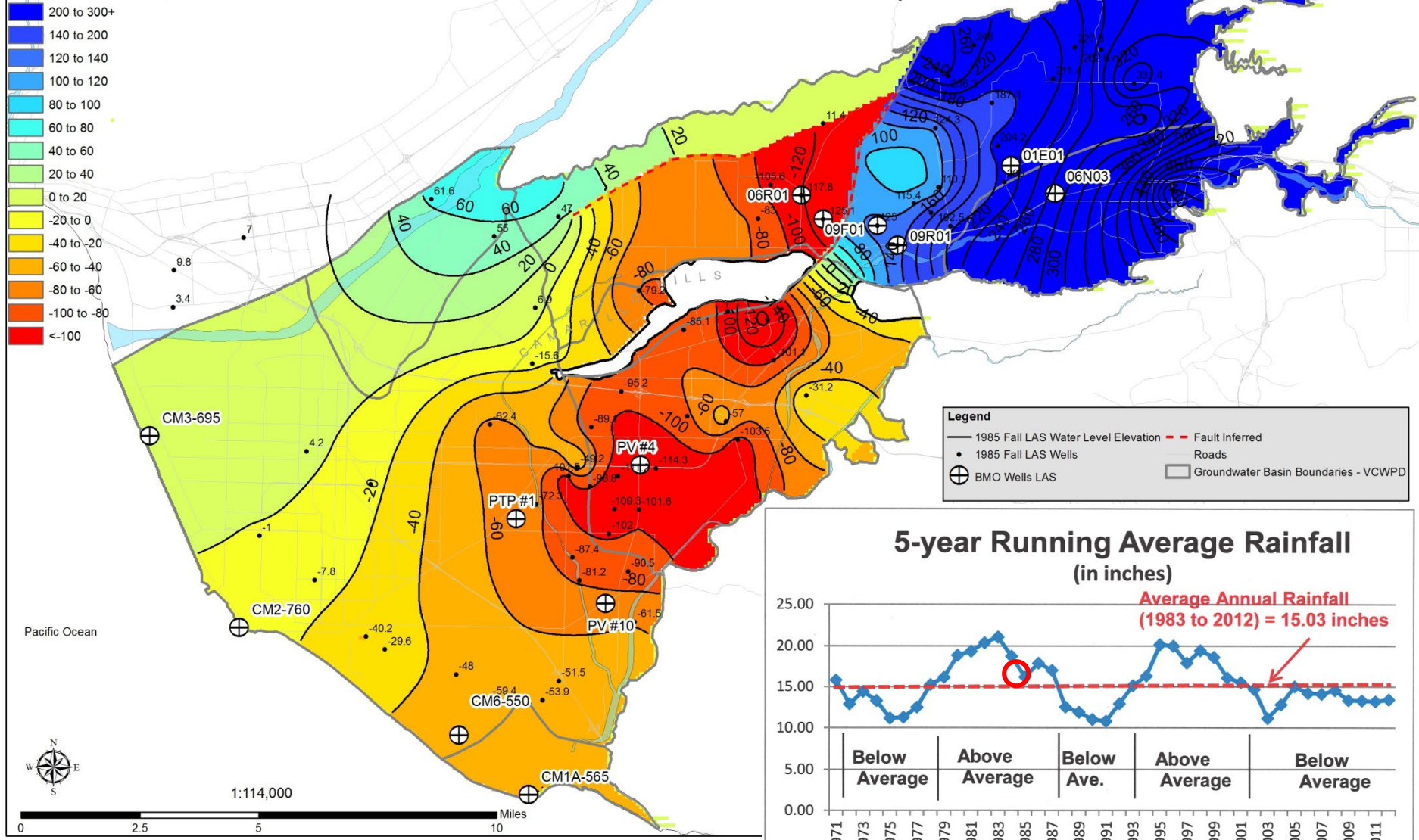
Fall 1984 Lower Aquifer System Potentiometric Surface Map



Legend
1985 Fall LAS Water Level Elevation
 (feet above/below MSL)

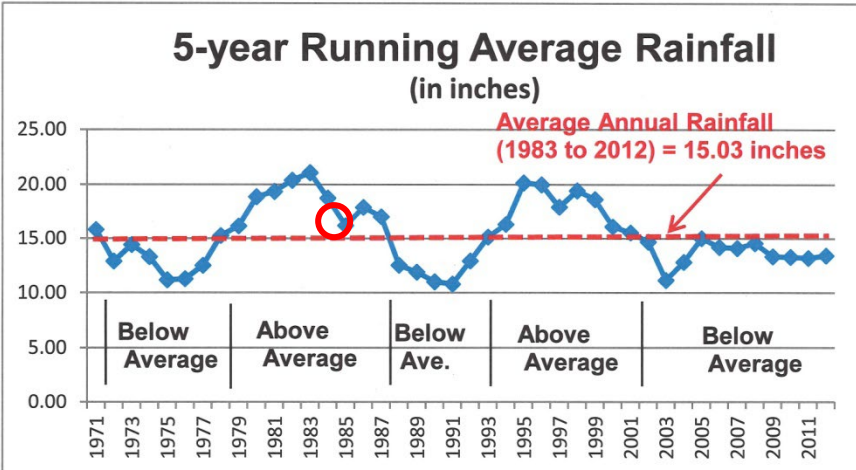


Fall 1985 Lower Aquifer System Potentiometric Surface Map

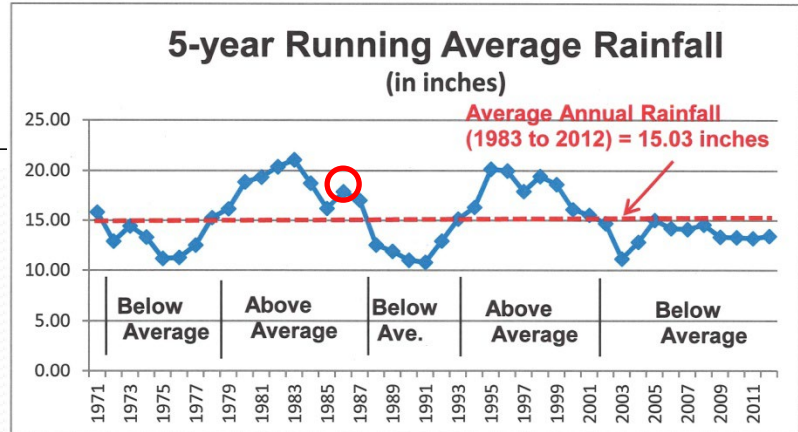
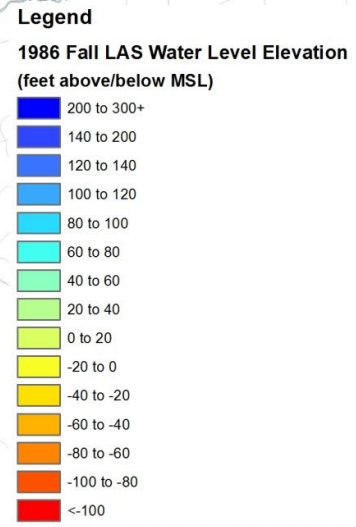
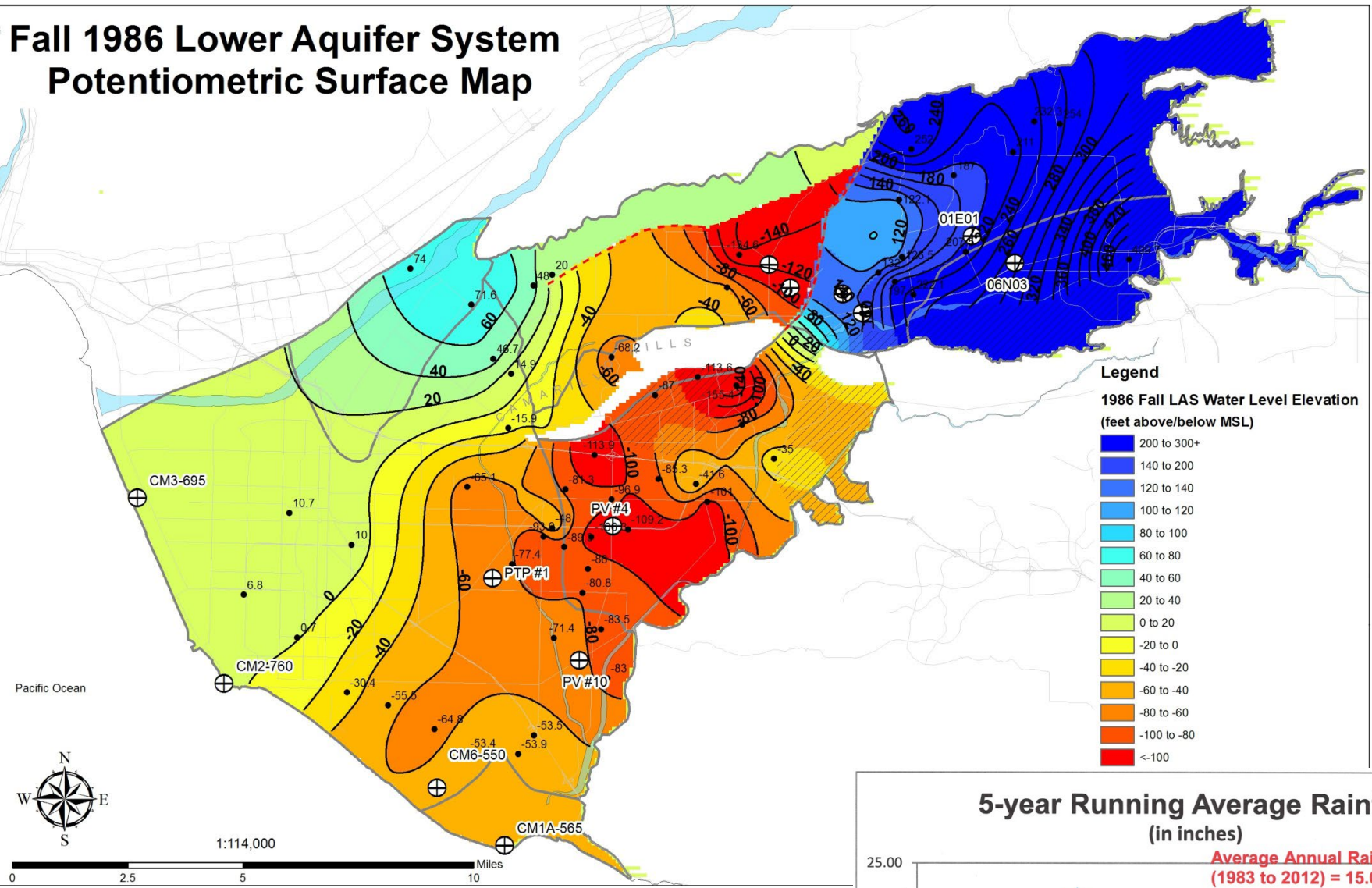


Legend

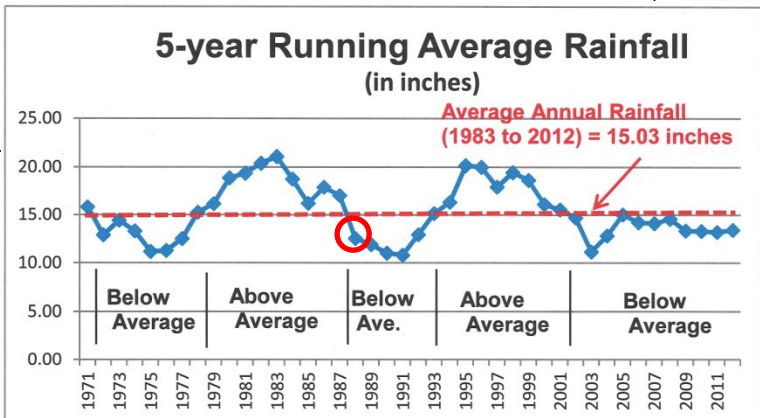
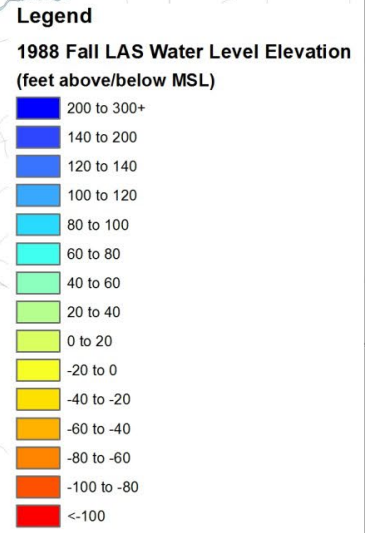
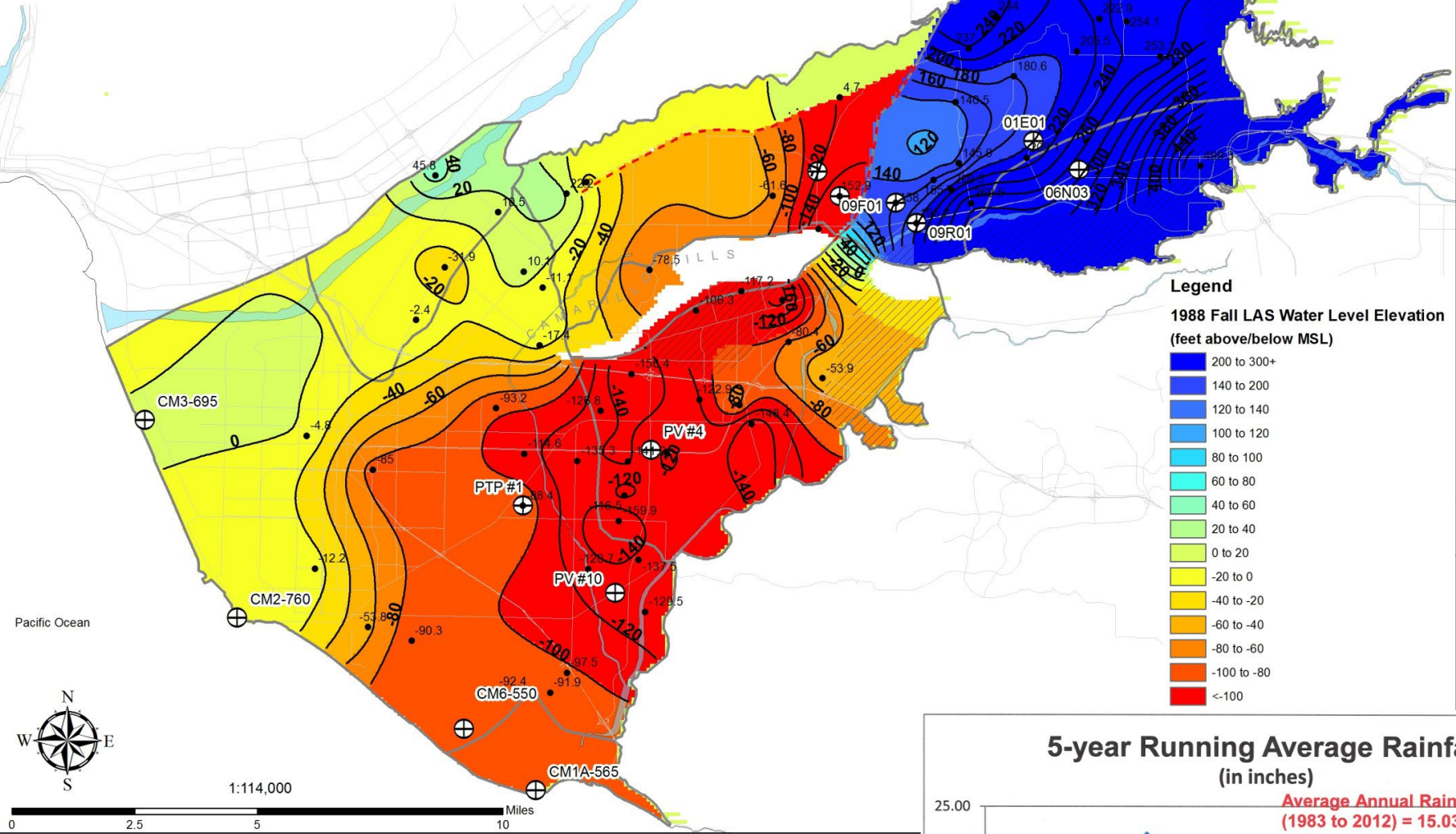
- 1985 Fall LAS Water Level Elevation
- 1985 Fall LAS Wells
- ⊕ BMO Wells LAS
- - - Fault Inferred
- Roads
- Groundwater Basin Boundaries - VCWPD



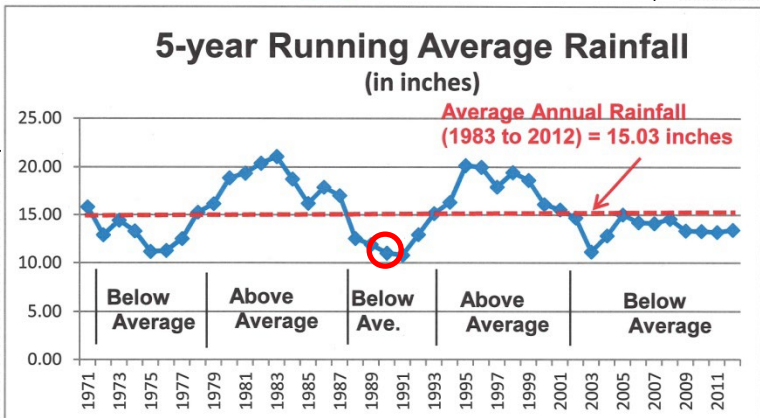
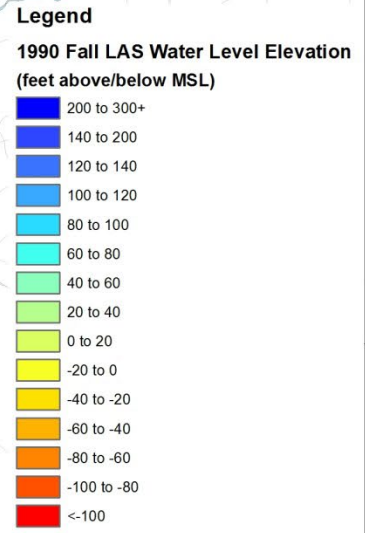
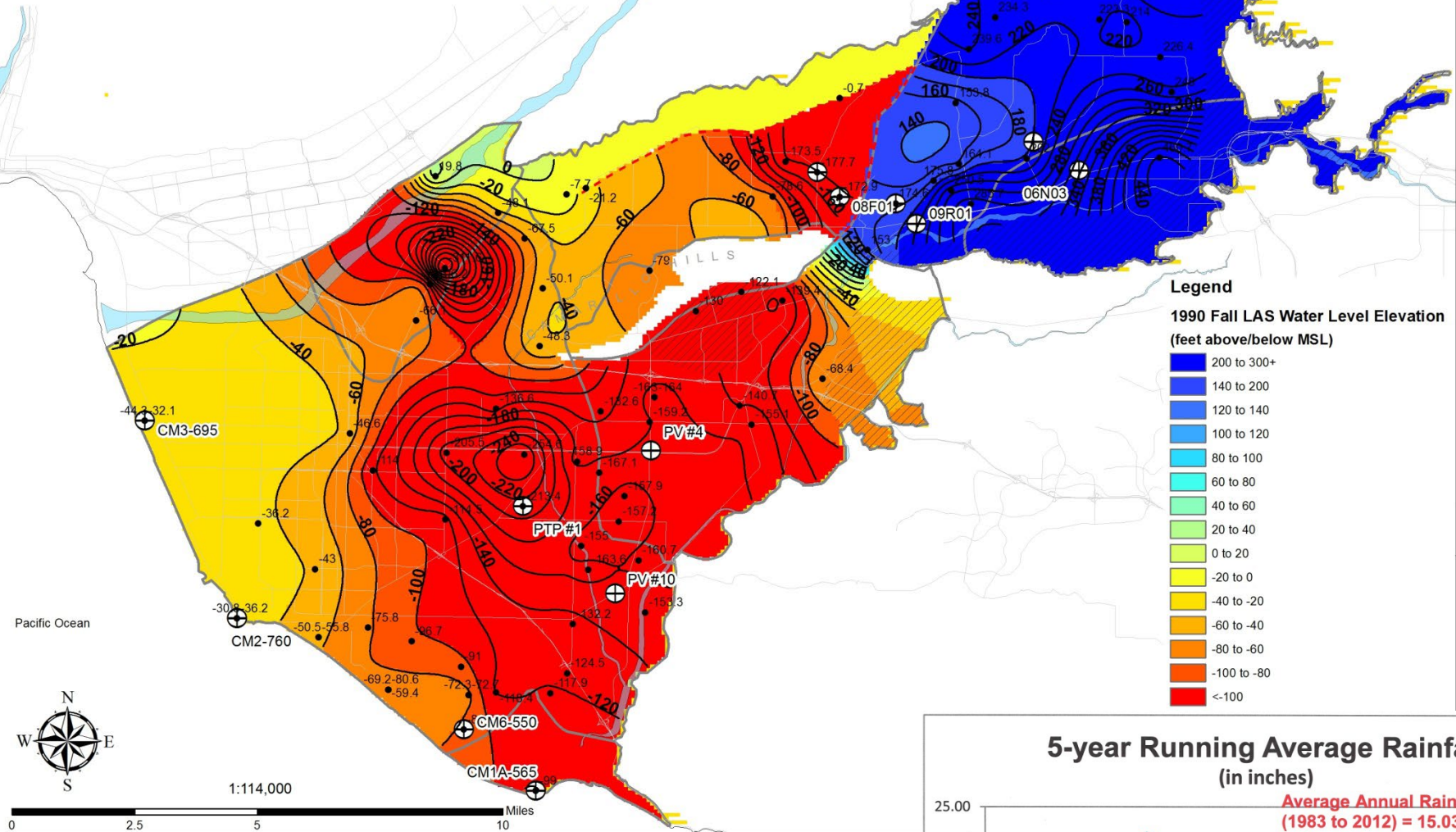
Fall 1986 Lower Aquifer System Potentiometric Surface Map



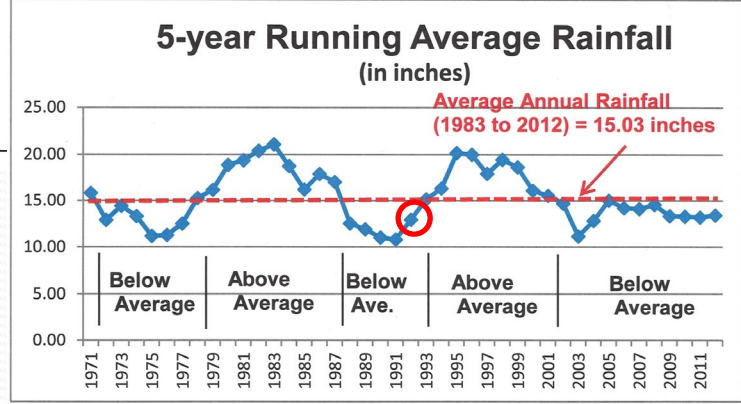
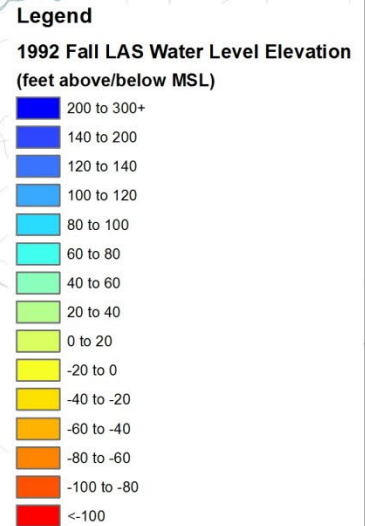
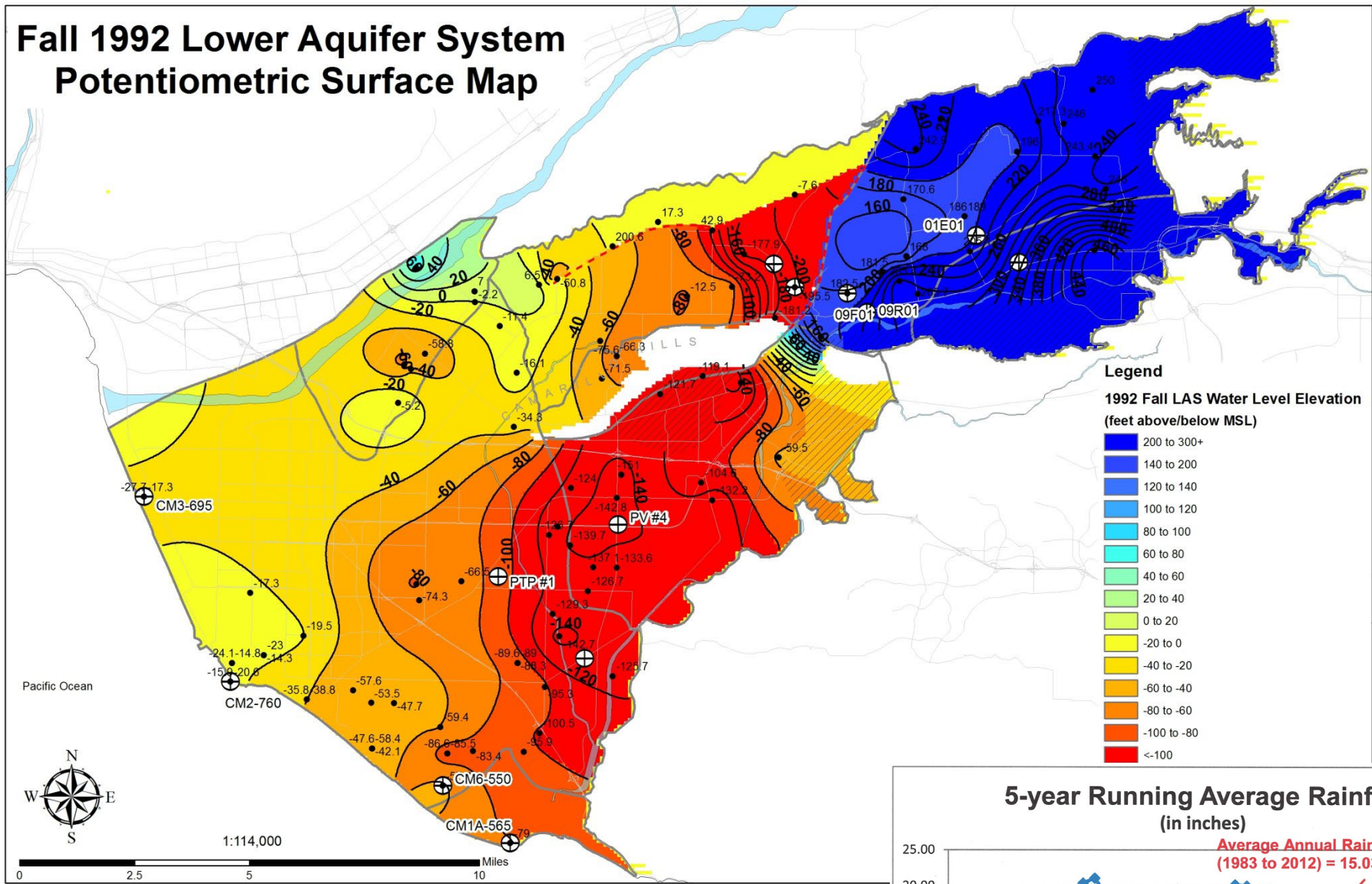
Fall 1988 Lower Aquifer System Potentiometric Surface Map



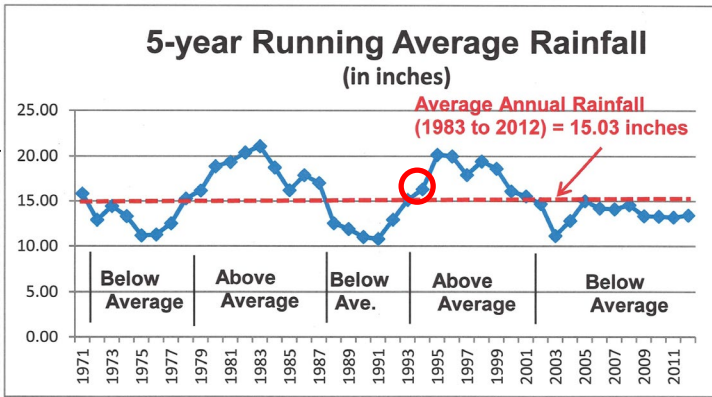
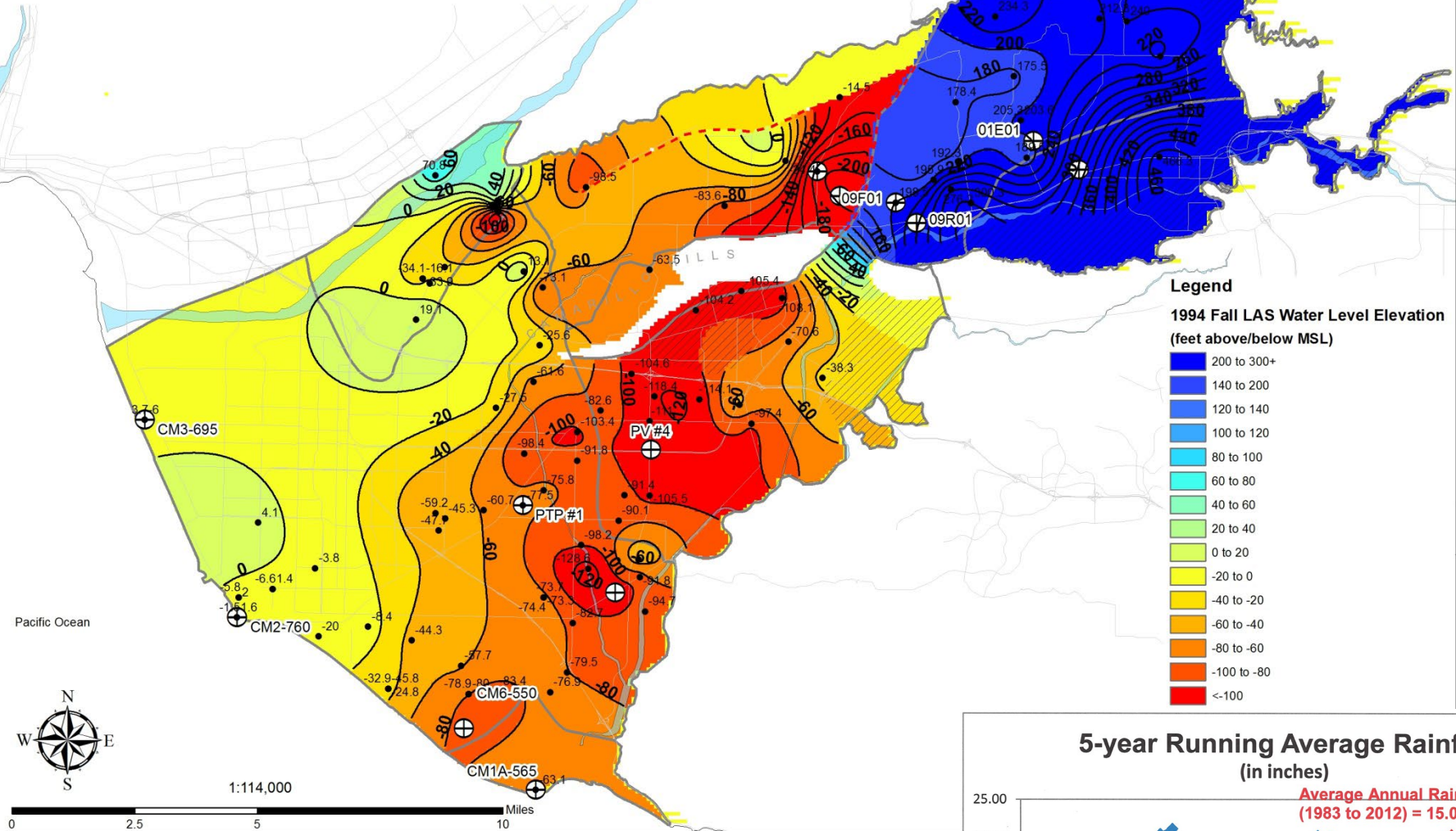
Fall 1990 Lower Aquifer System Potentiometric Surface Map



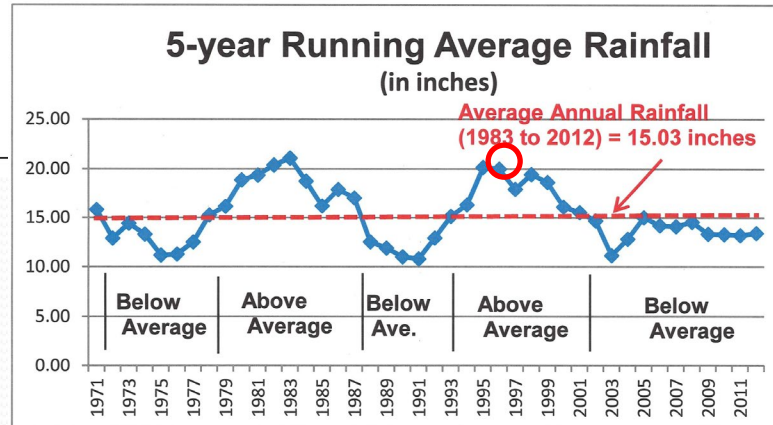
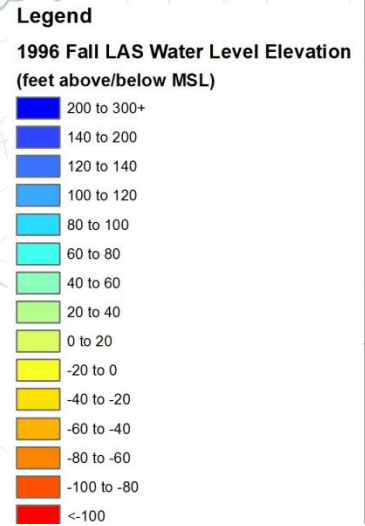
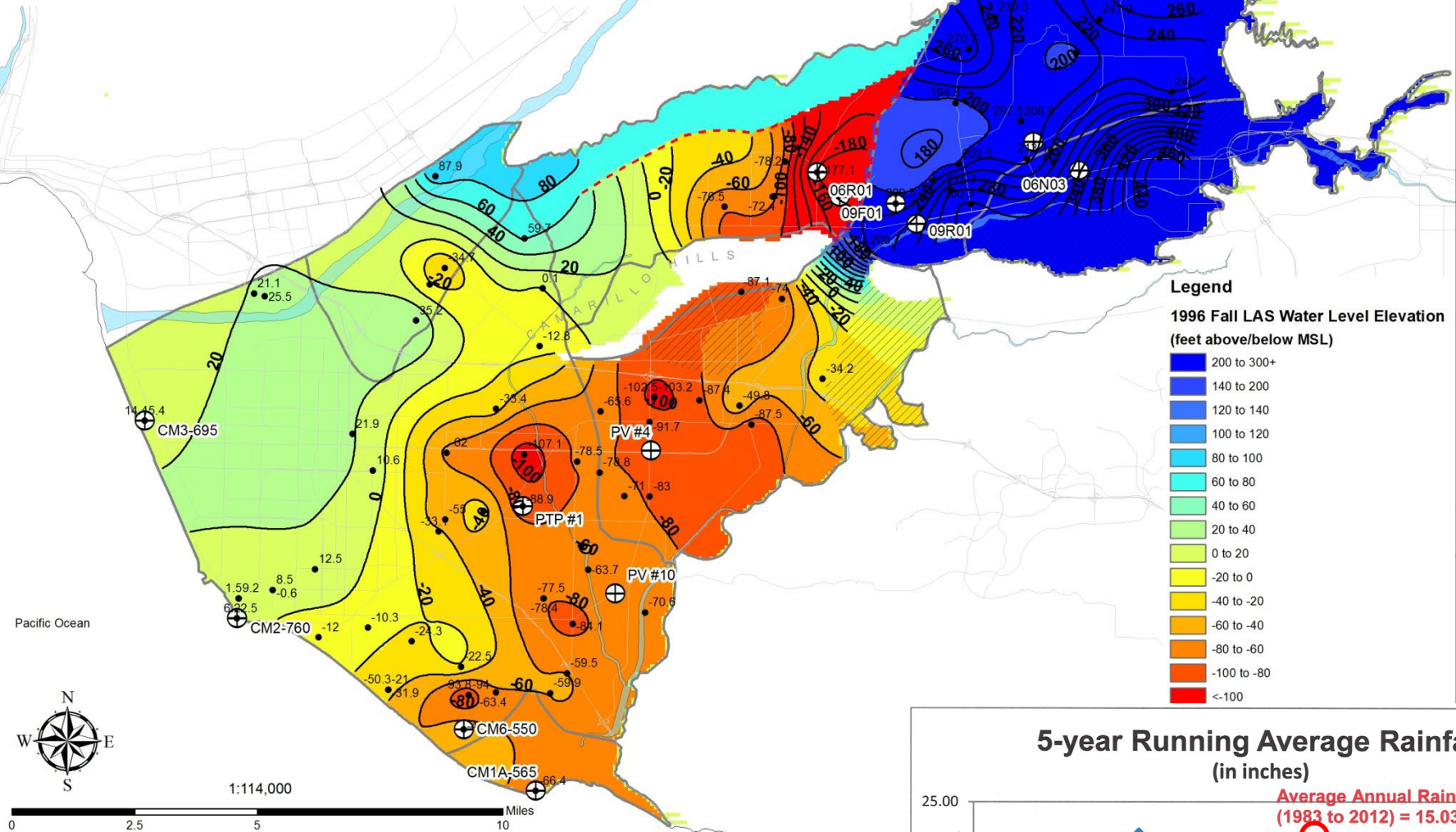
Fall 1992 Lower Aquifer System Potentiometric Surface Map



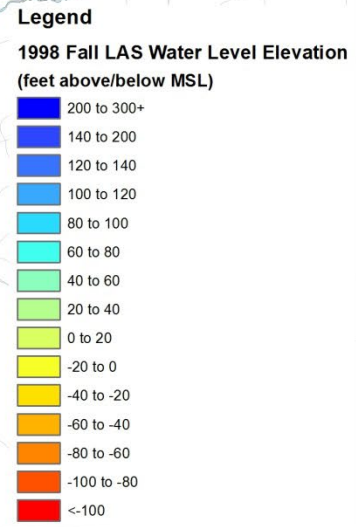
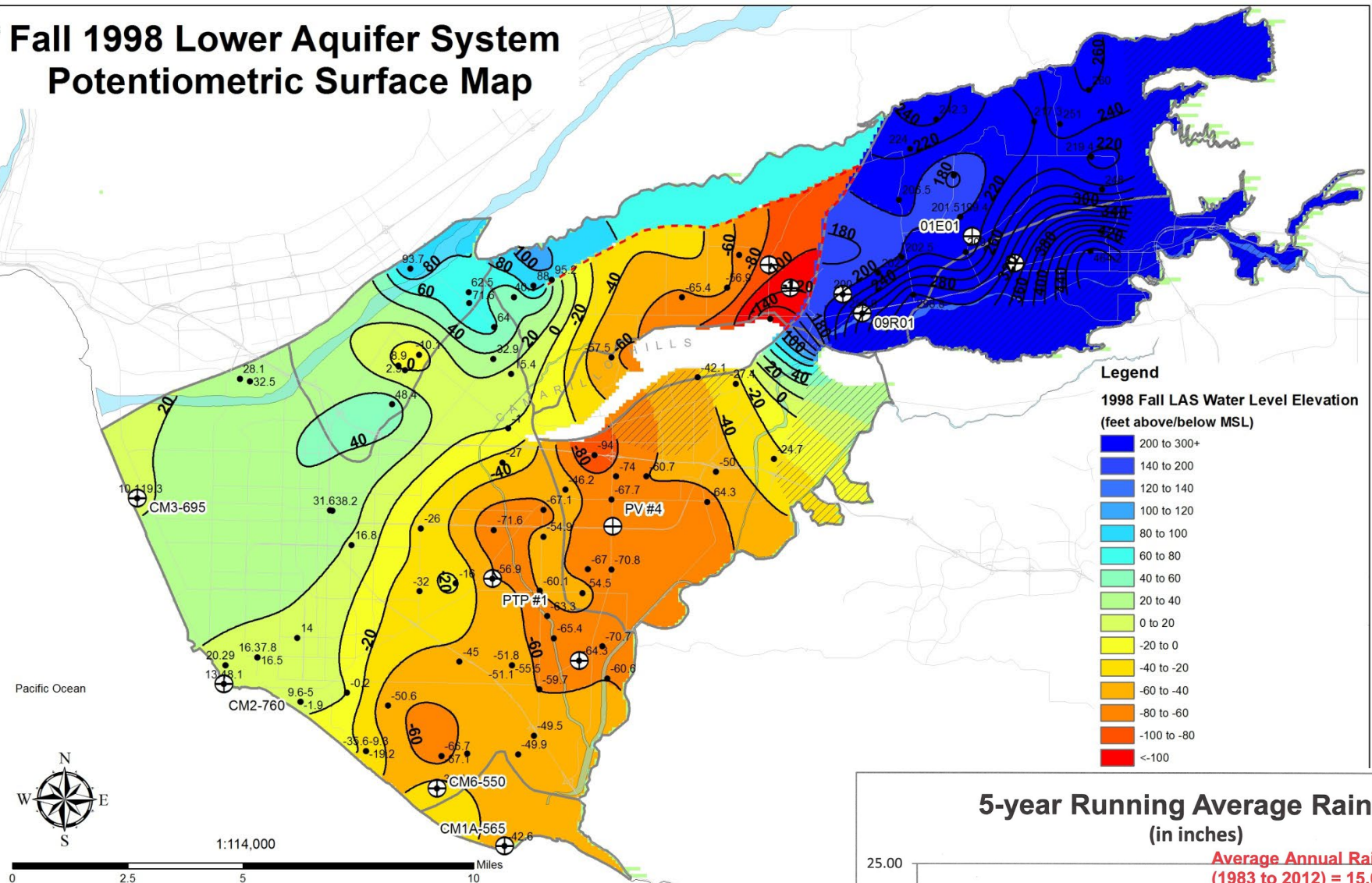
Fall 1994 Lower Aquifer System Potentiometric Surface Map



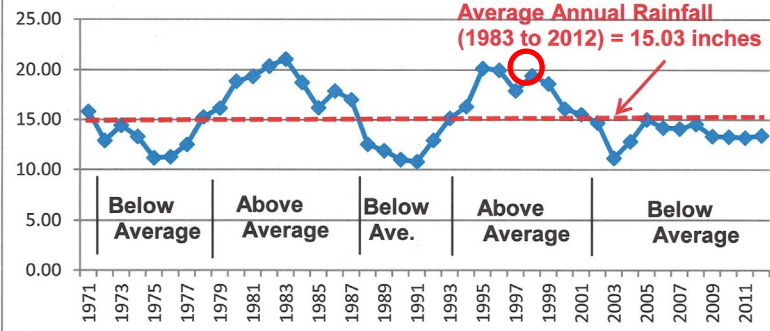
Fall 1996 Lower Aquifer System Potentiometric Surface Map



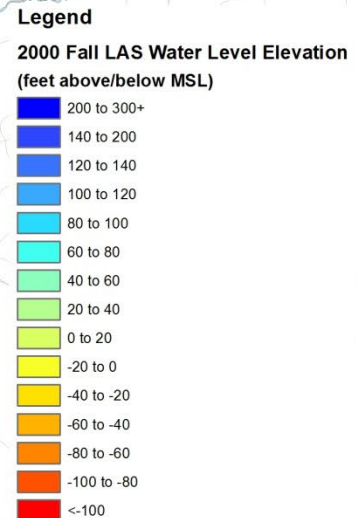
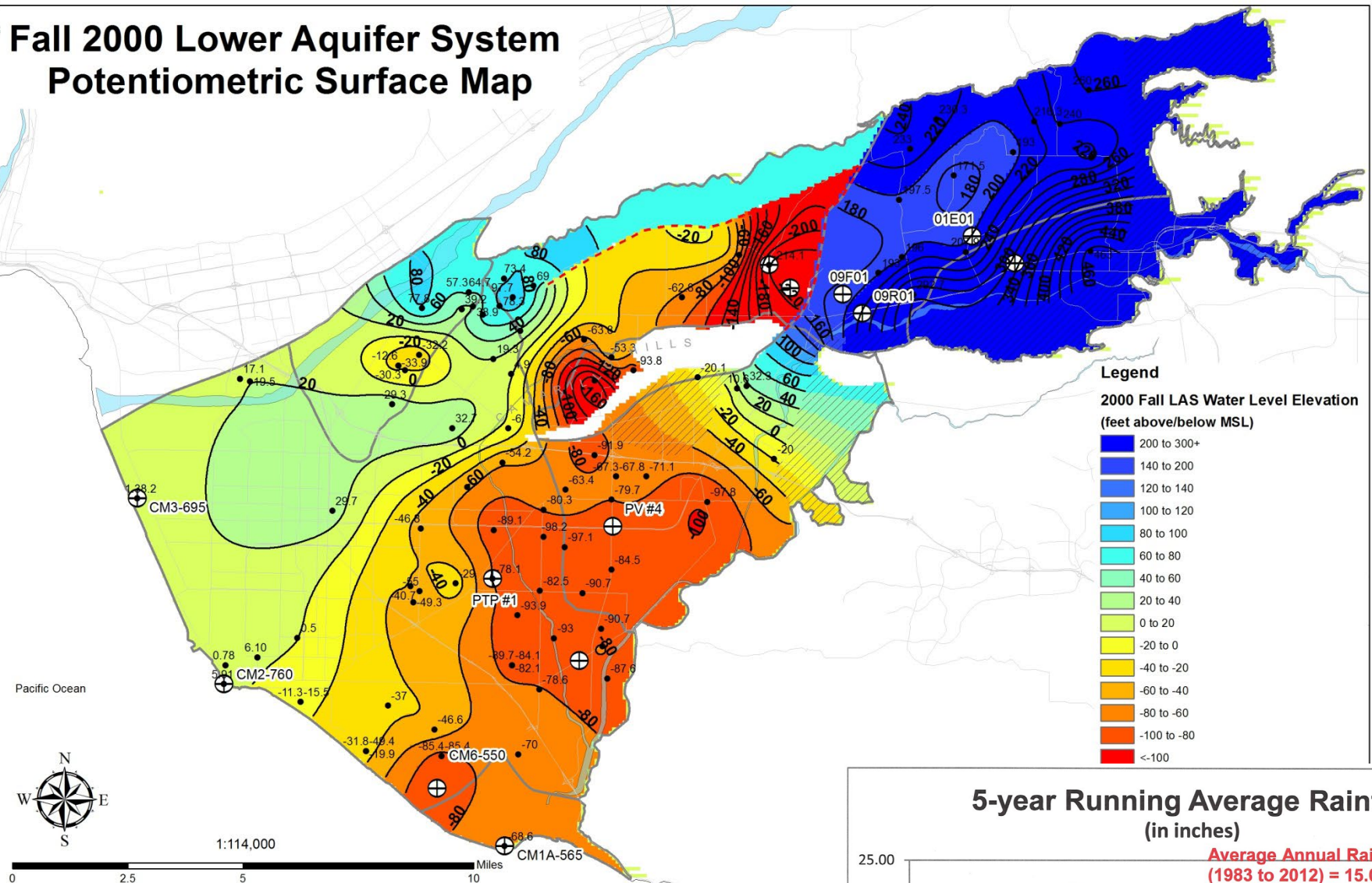
Fall 1998 Lower Aquifer System Potentiometric Surface Map



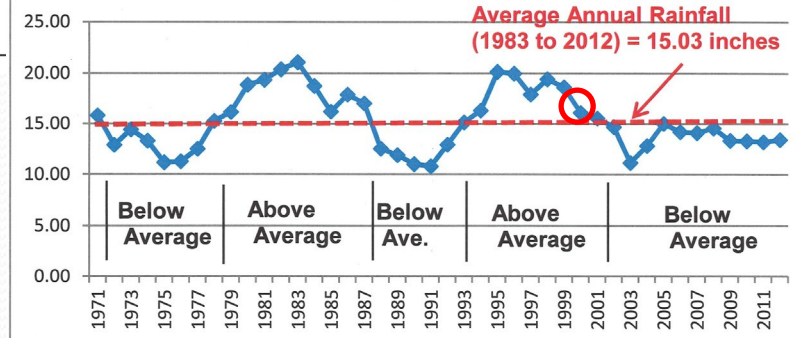
5-year Running Average Rainfall (in inches)



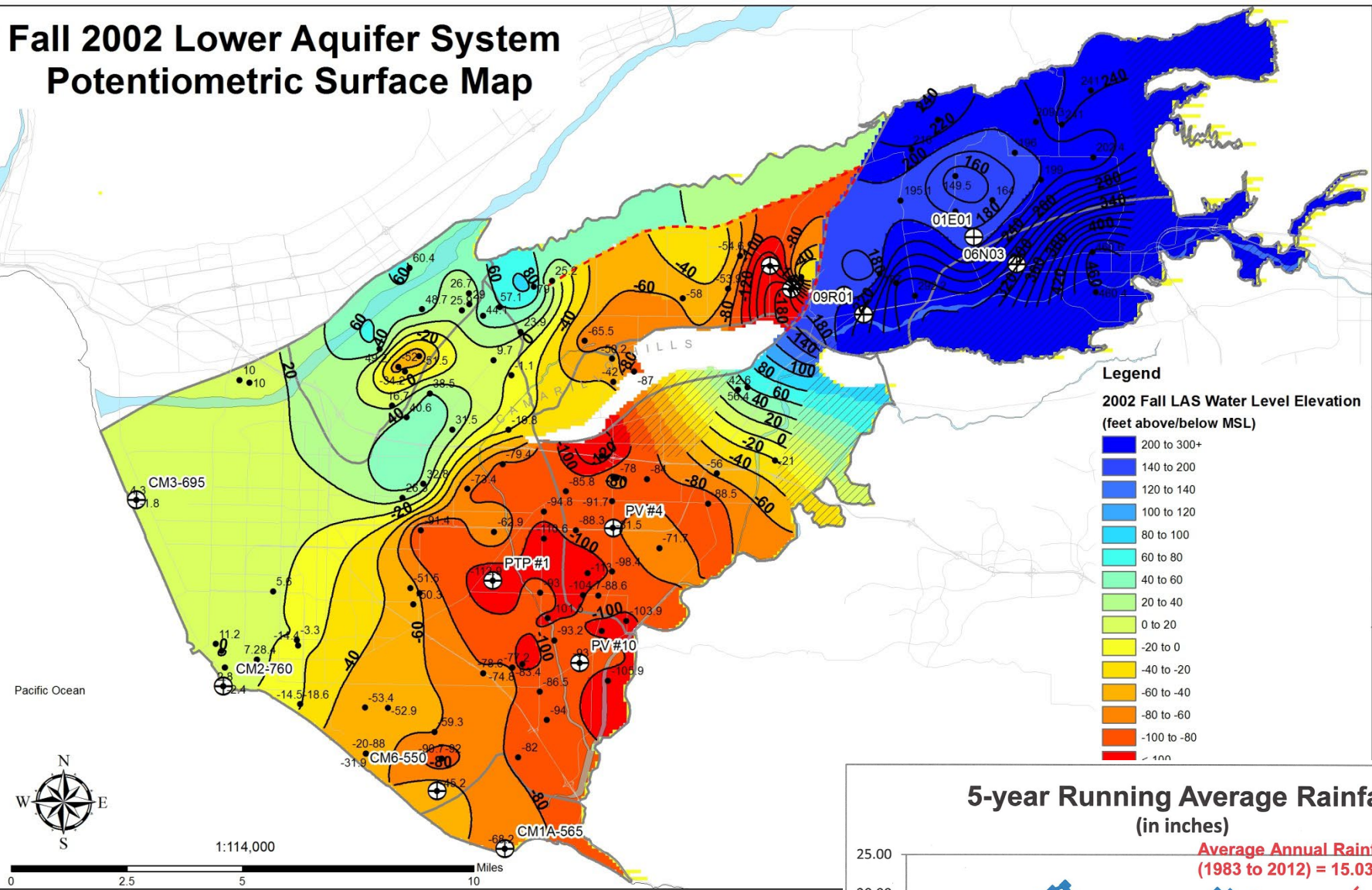
Fall 2000 Lower Aquifer System Potentiometric Surface Map



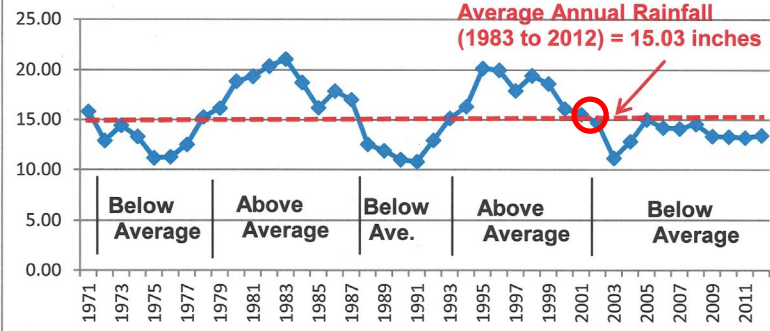
5-year Running Average Rainfall (in inches)



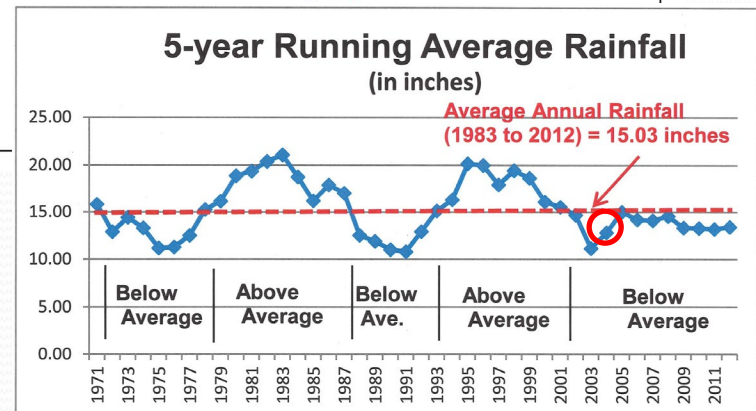
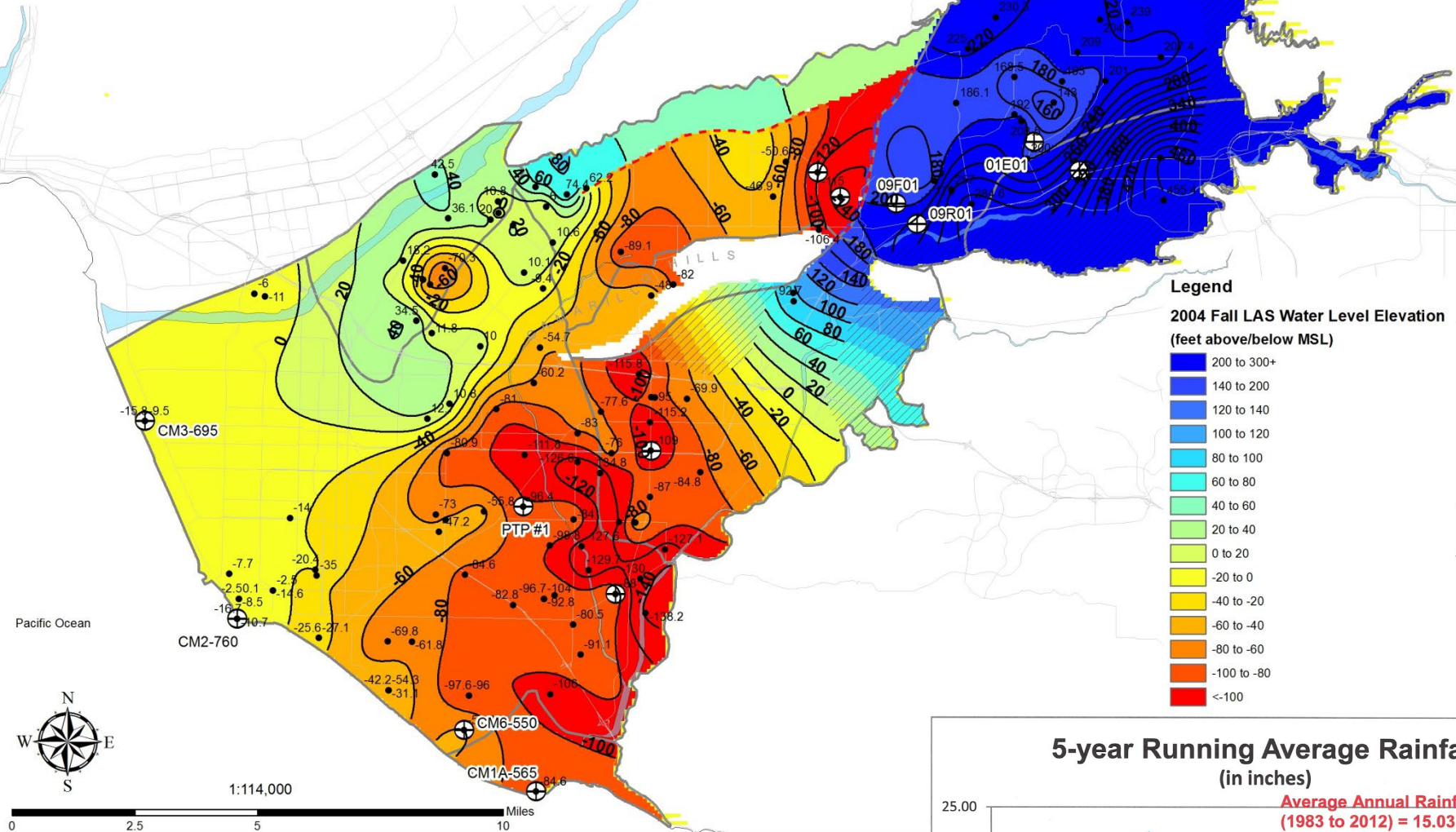
Fall 2002 Lower Aquifer System Potentiometric Surface Map



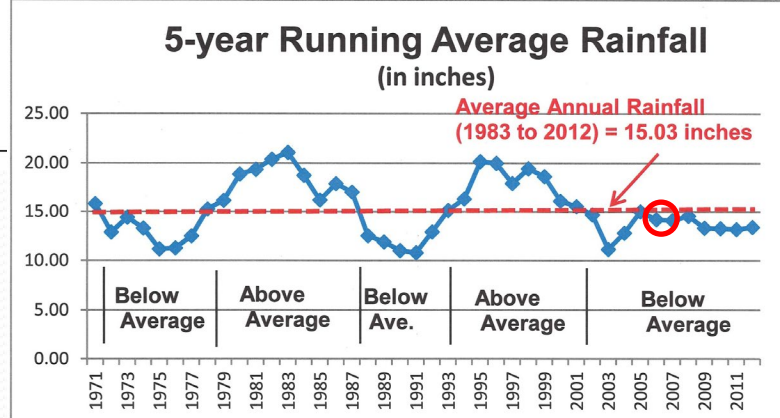
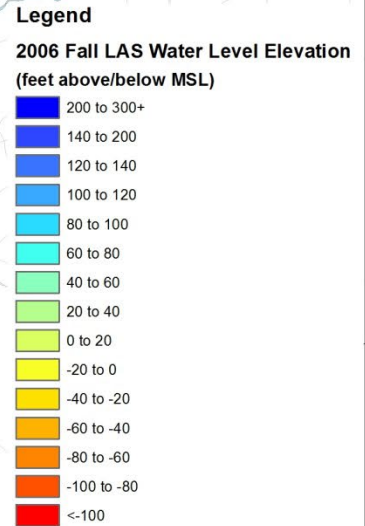
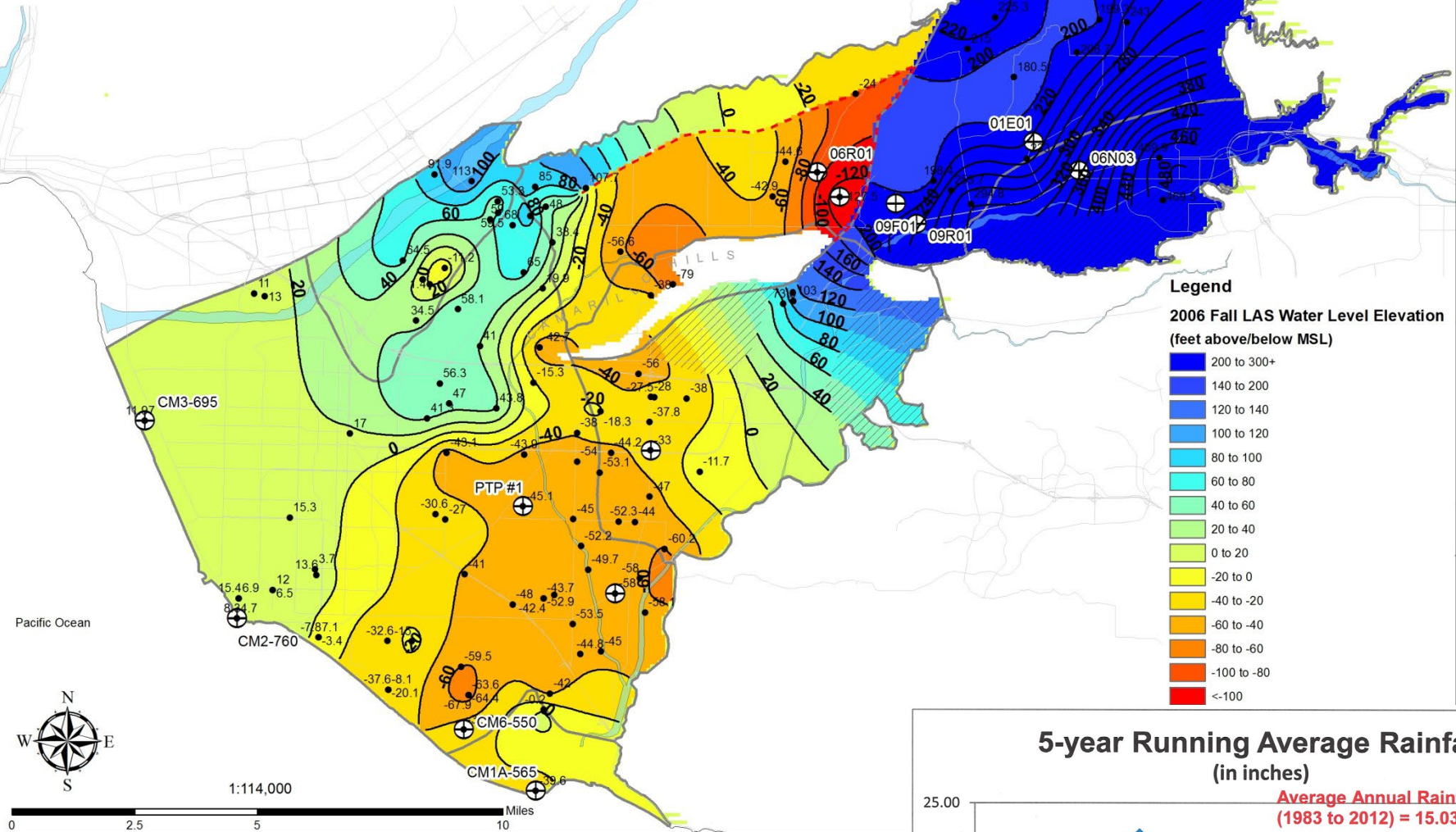
5-year Running Average Rainfall (in inches)



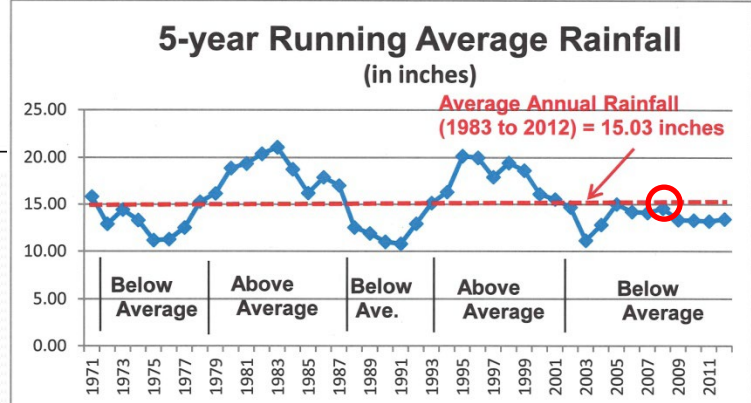
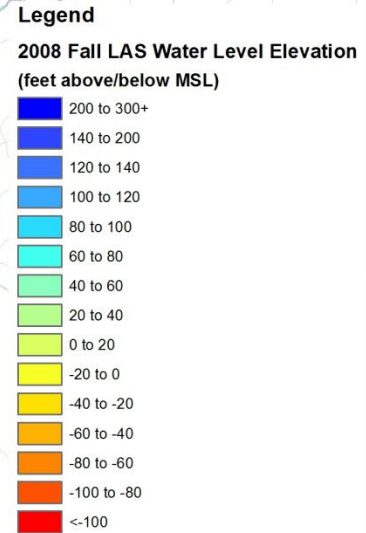
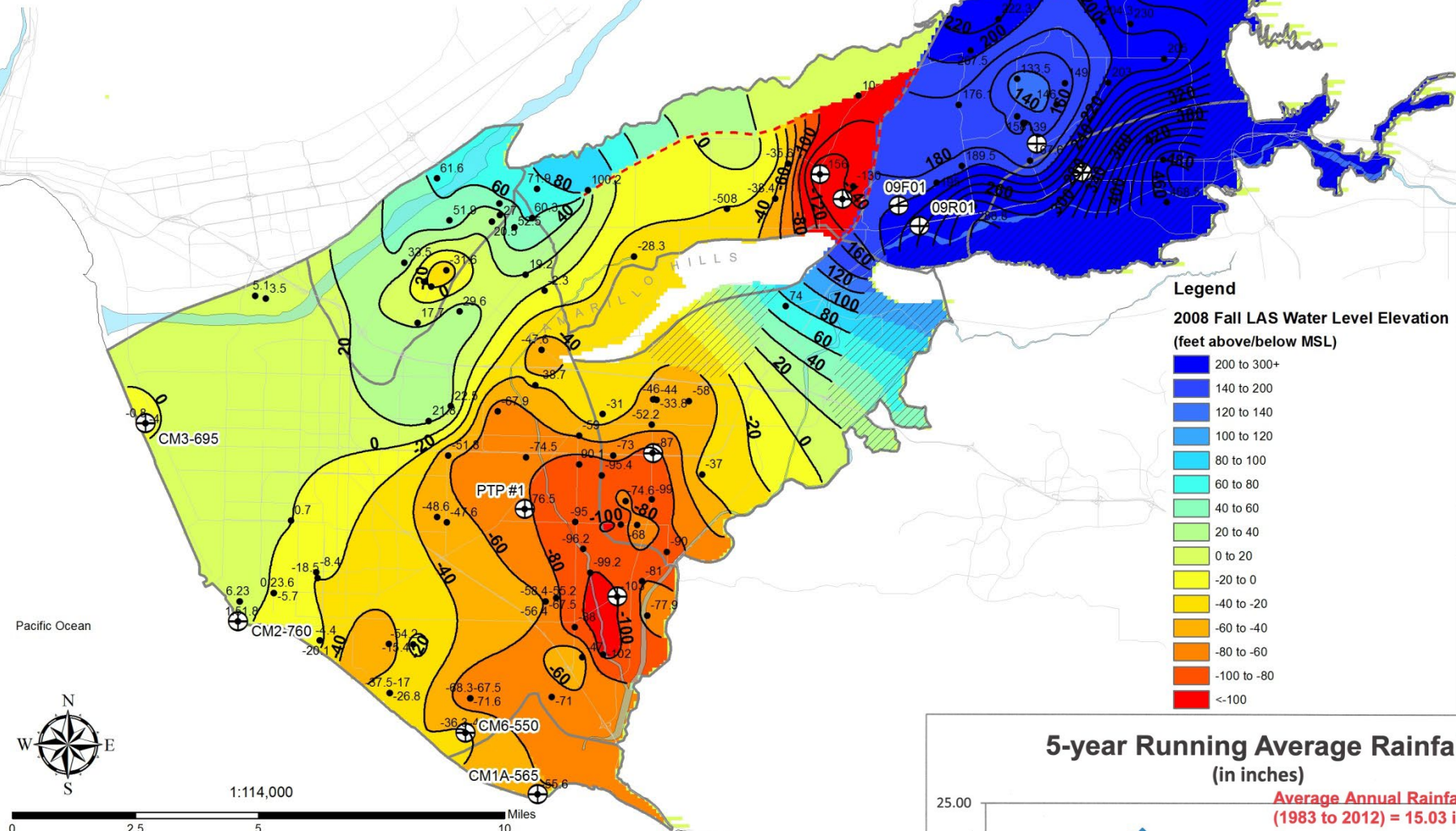
Fall 2004 Lower Aquifer System Potentiometric Surface Map



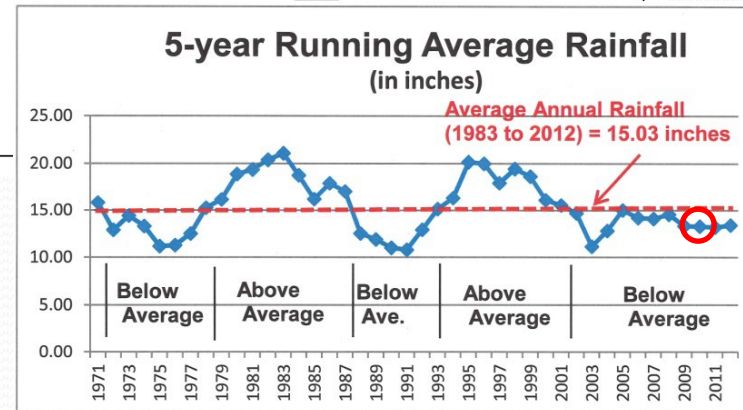
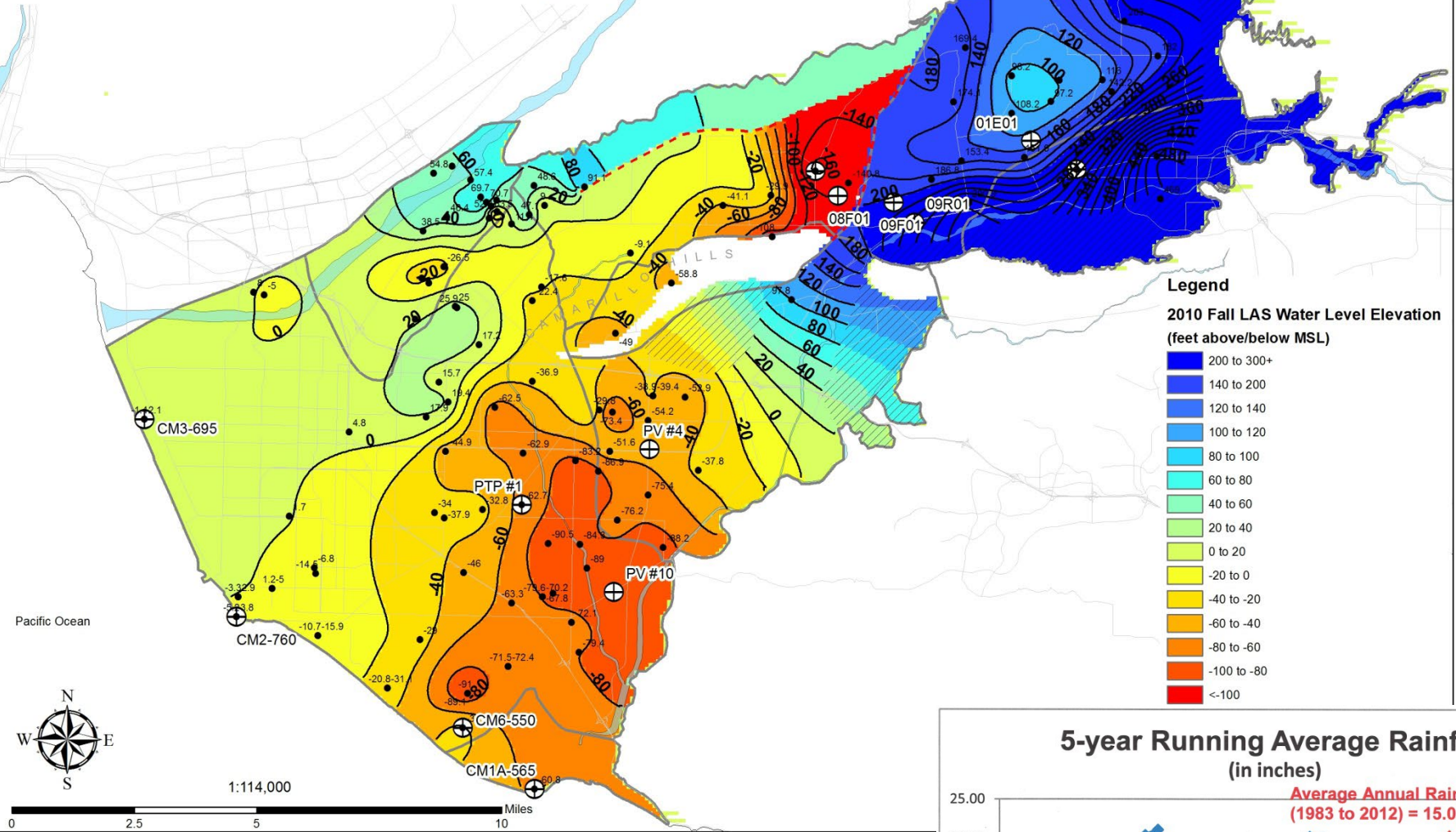
Fall 2006 Lower Aquifer System Potentiometric Surface Map



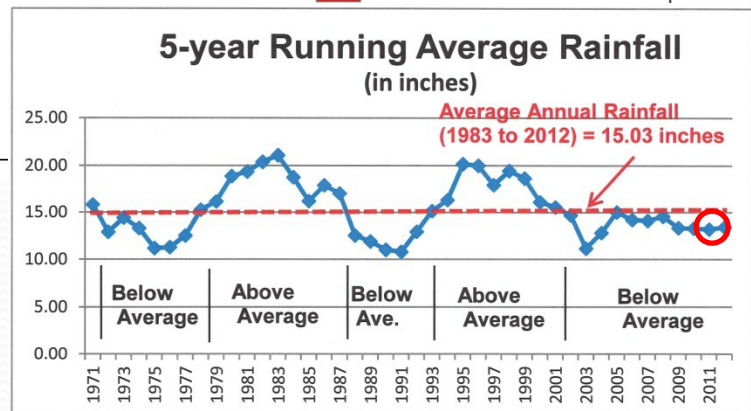
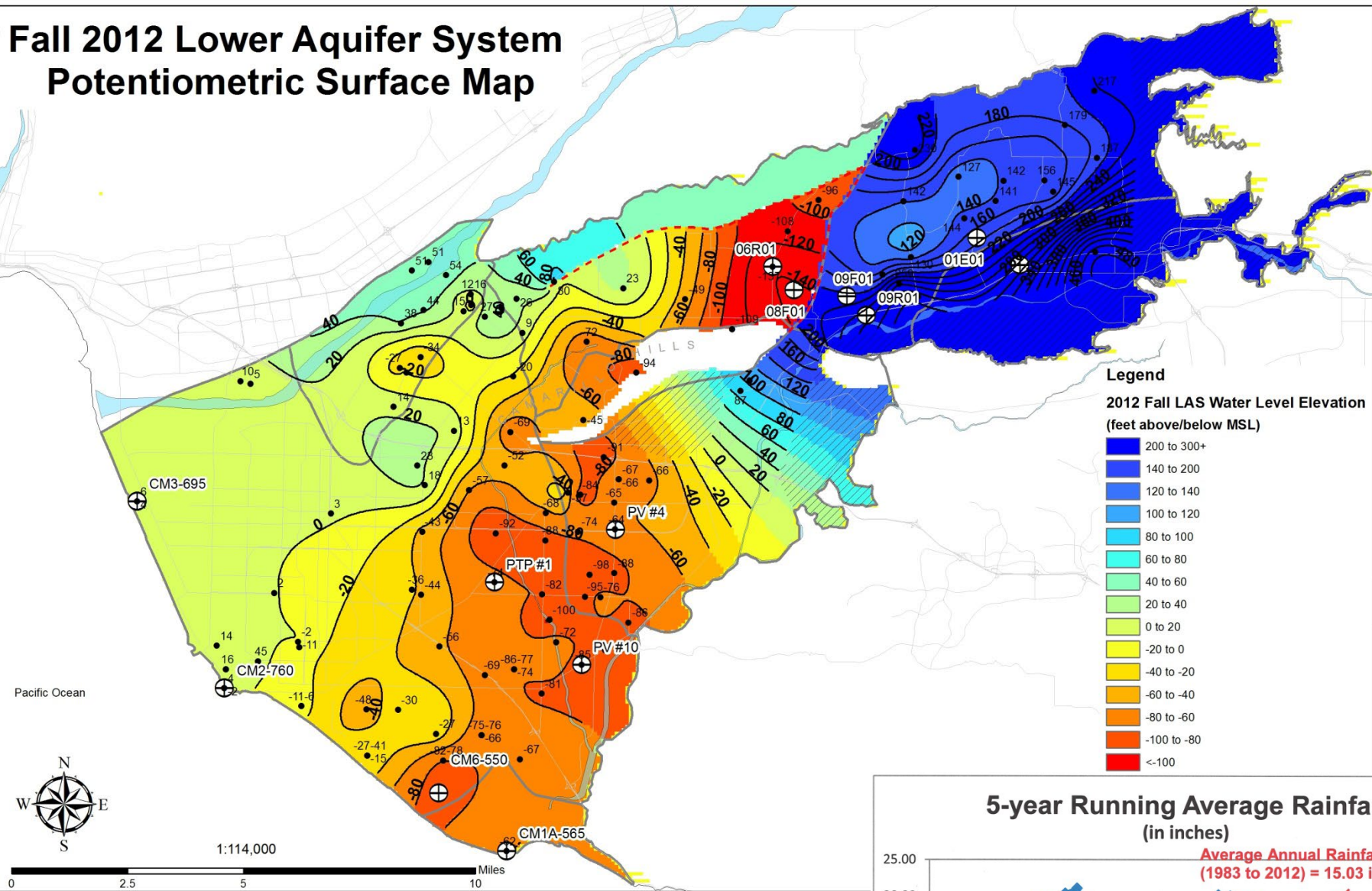
Fall 2008 Lower Aquifer System Potentiometric Surface Map



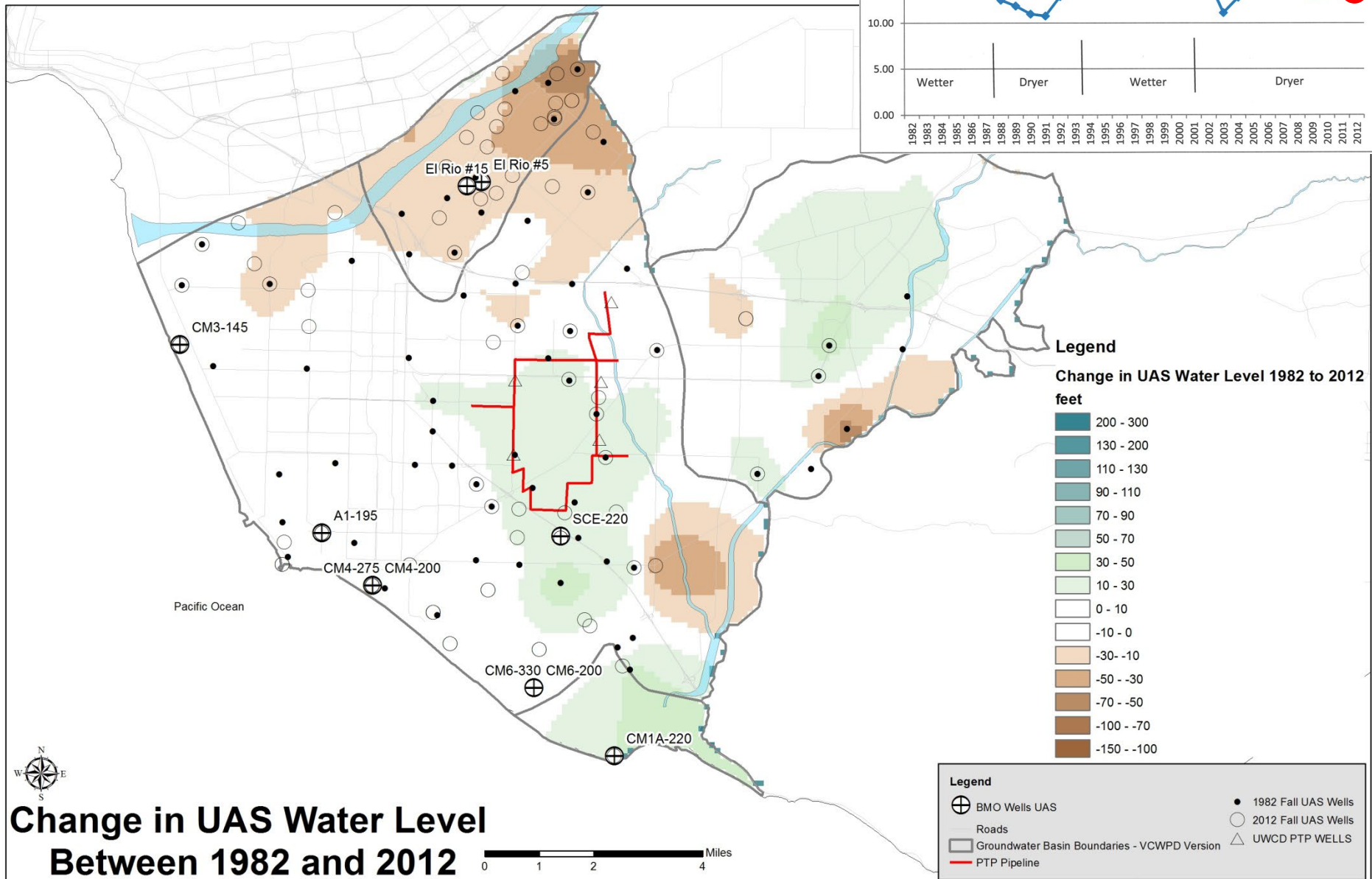
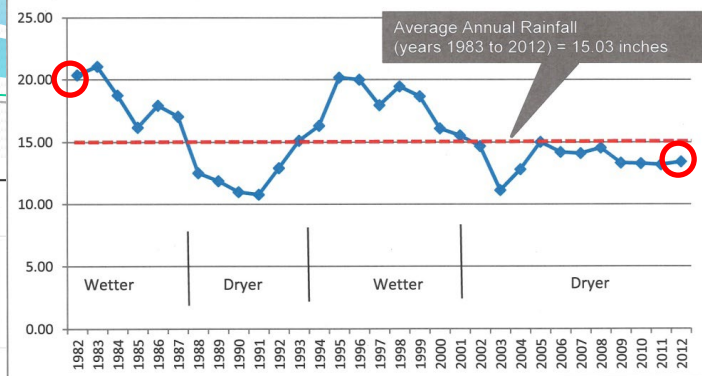
Fall 2010 Lower Aquifer System Potentiometric Surface Map



Fall 2012 Lower Aquifer System Potentiometric Surface Map

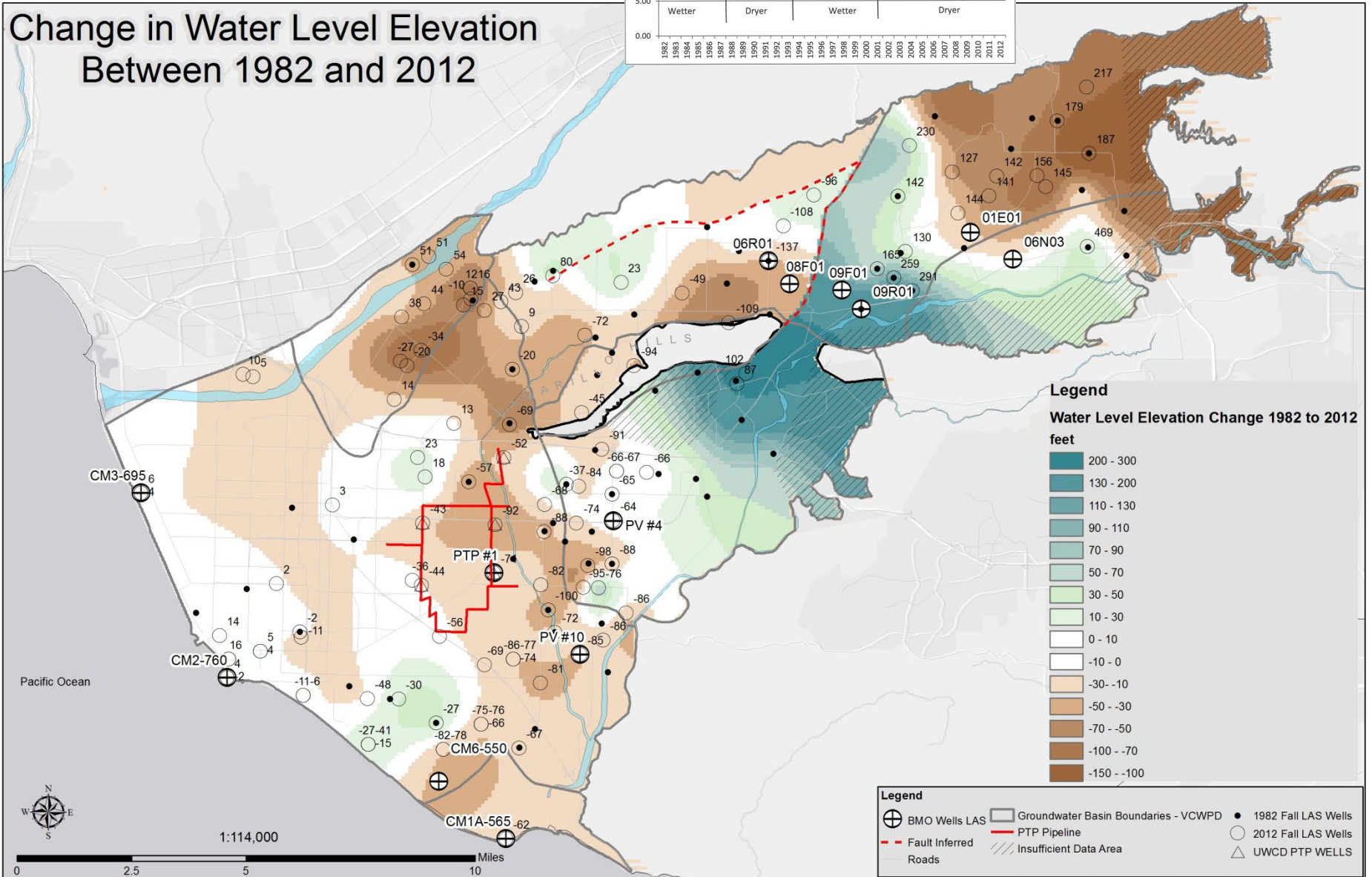
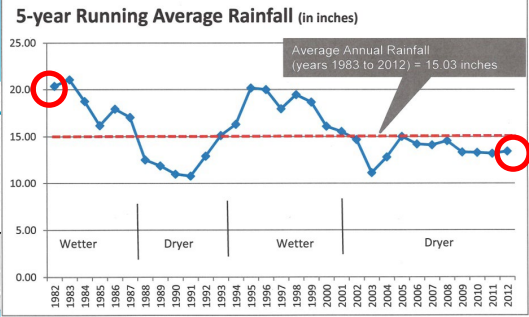


5-year Running Average Rainfall (in inches)



Change in UAS Water Level Between 1982 and 2012

Change in Water Level Elevation Between 1982 and 2012



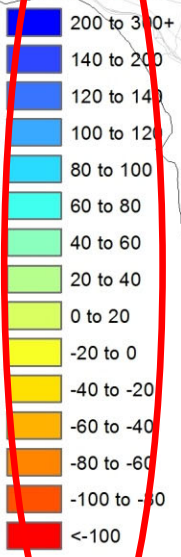
Discussion

- Overview of Basin Condition
- Evaluation of BMO monitoring well locations
- Evaluation of BMO groundwater levels.

Conclusion

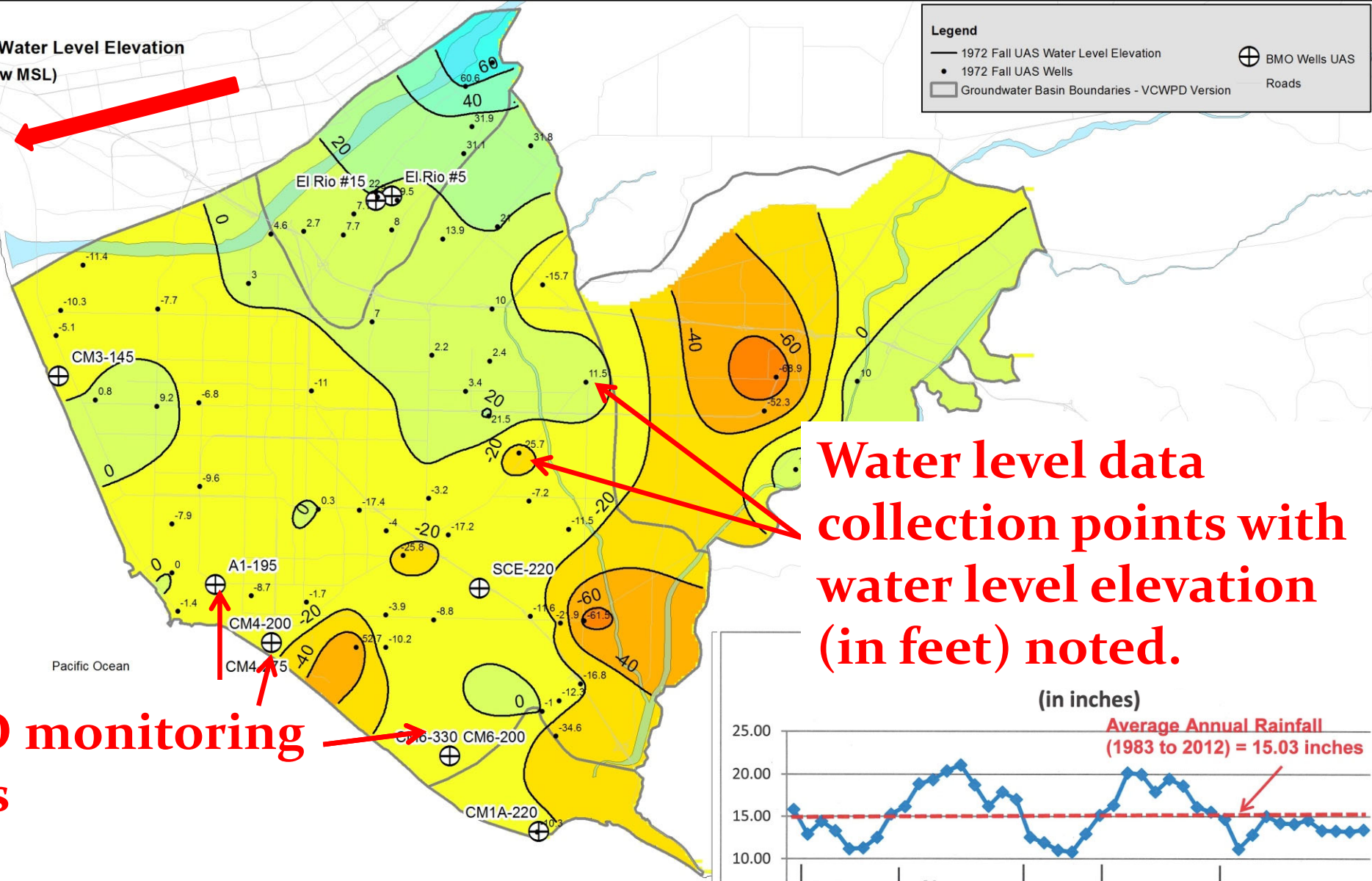
- Agency staff is requesting your feedback.
- Should this graphical tool be presented to the Board?
- What if any refinements should be made before it is presented to the Board?

Legend
1972 Fall UAS Water Level Elevation
 (feet above/below MSL)



Legend

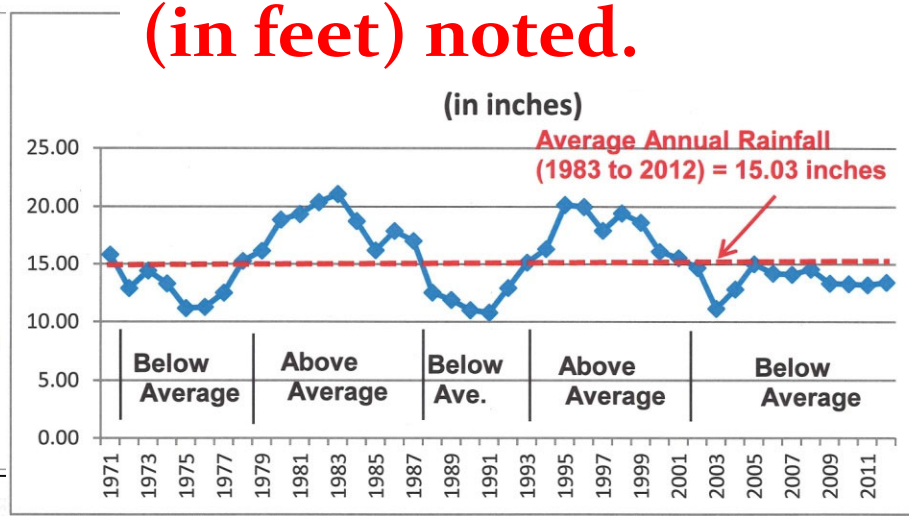
- 1972 Fall UAS Water Level Elevation
- 1972 Fall UAS Wells
- ⊕ BMO Wells UAS
- ▭ Groundwater Basin Boundaries - VCWPD Version
- Roads



Water level data collection points with water level elevation (in feet) noted.

BMO monitoring wells

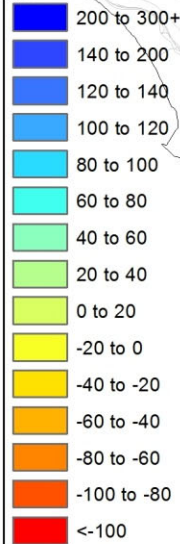
Fall 1972 Upper Aquifer System Potentiometric Surface Map



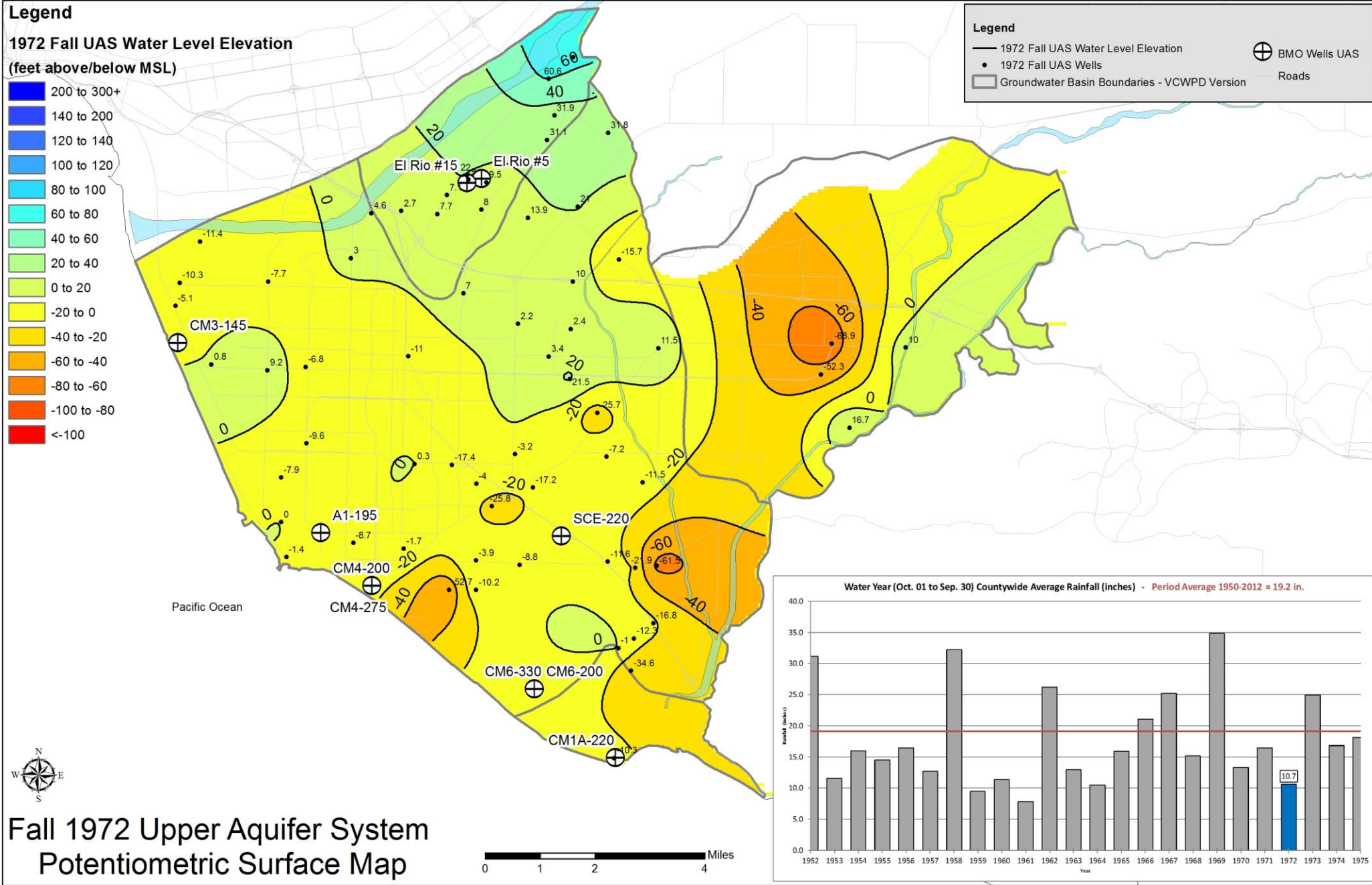
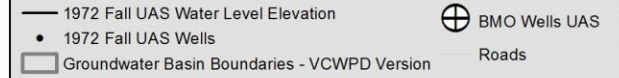
Legend

1972 Fall UAS Water Level Elevation

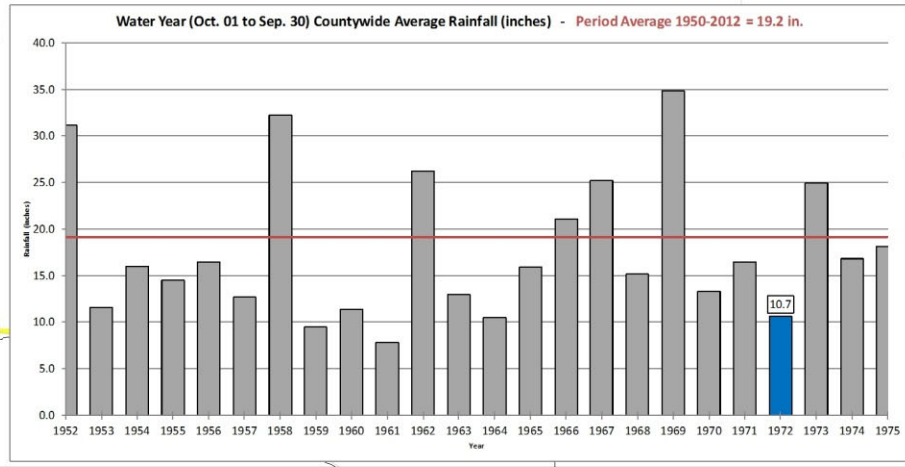
(feet above/below MSL)



Legend



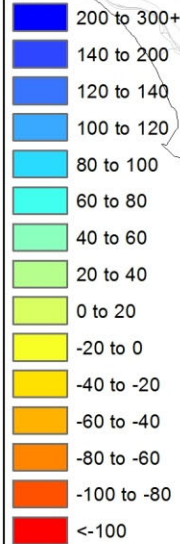
Fall 1972 Upper Aquifer System Potentiometric Surface Map



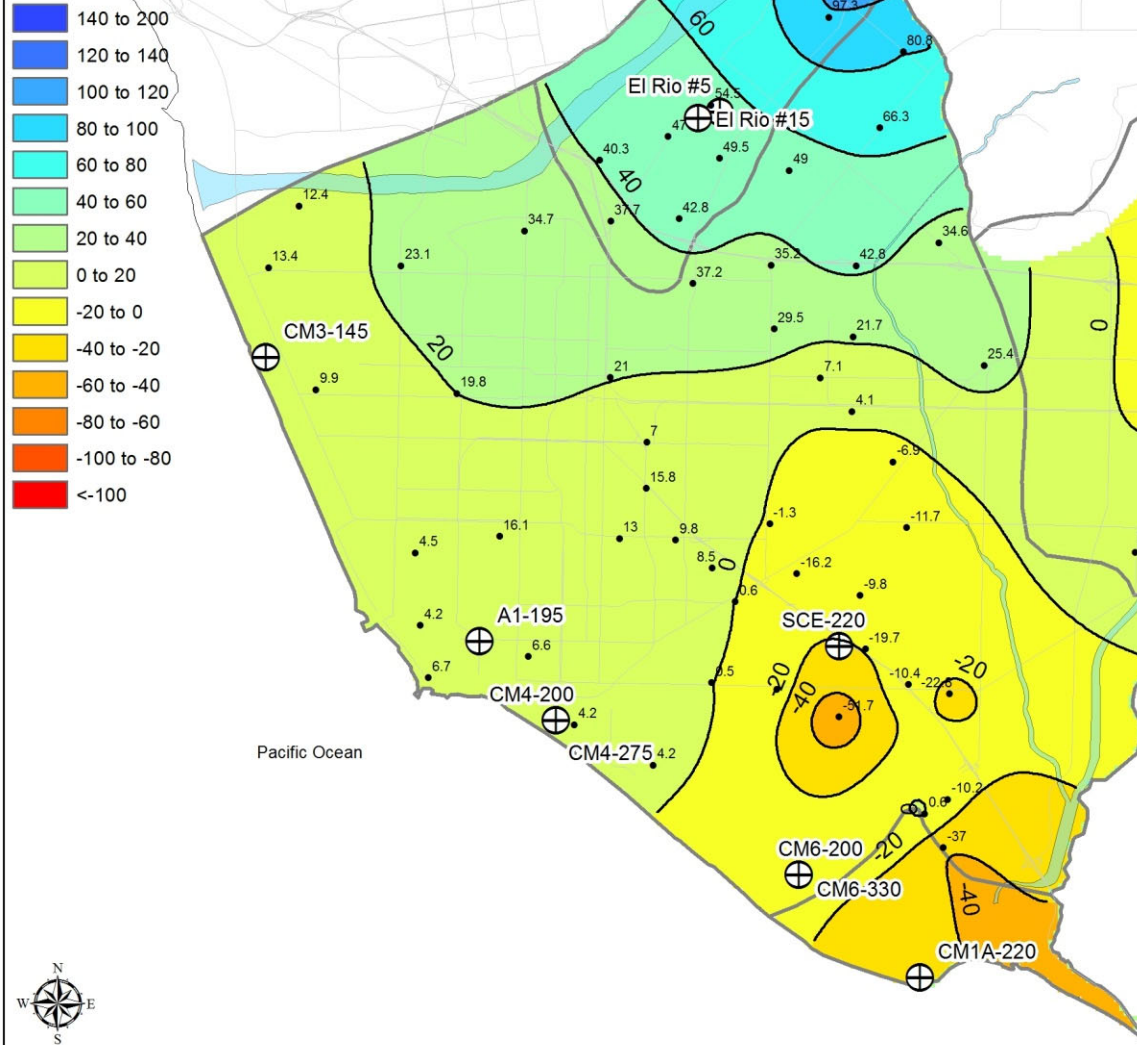
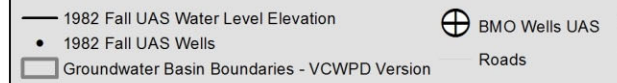
Legend

1982 Fall UAS Water Level Elevation

(feet above/below MSL)



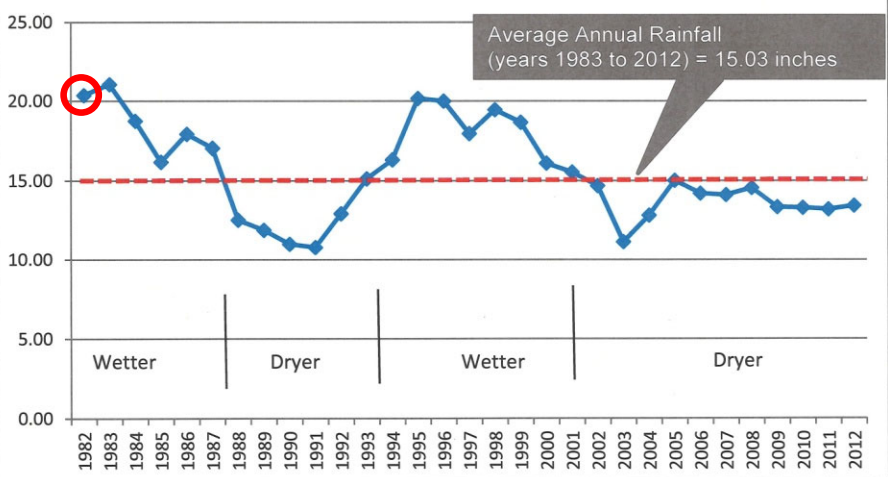
Legend



**Fall 1982 Upper Aquifer System
Potentiometric Surface Map**



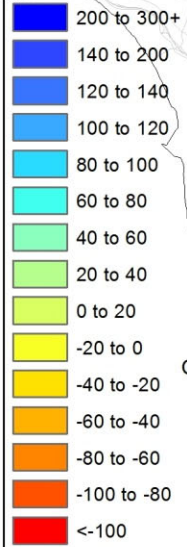
5-year Running Average Rainfall (in inches)



Legend

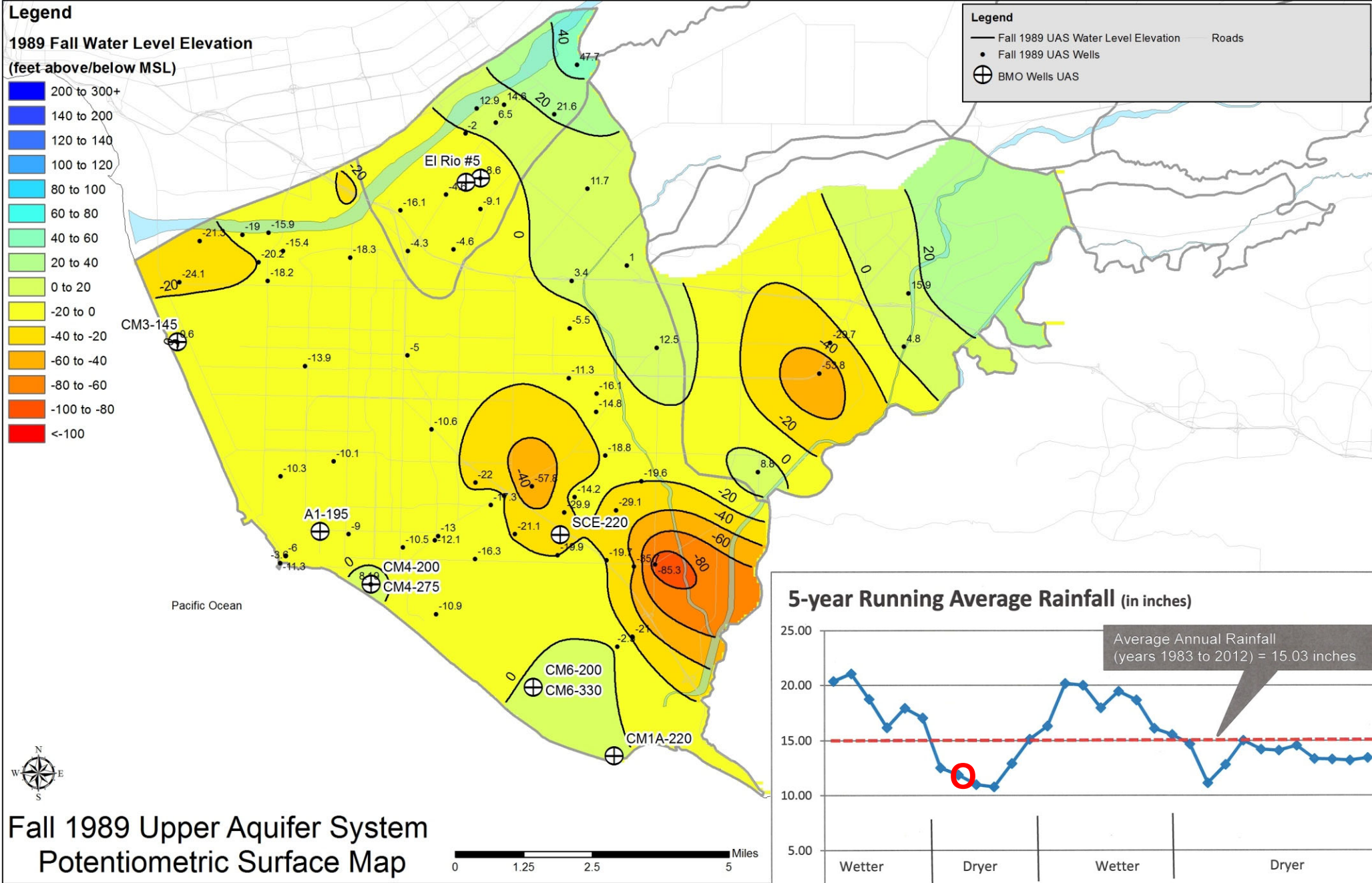
1989 Fall Water Level Elevation

(feet above/below MSL)

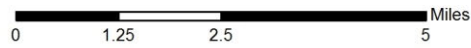


Legend

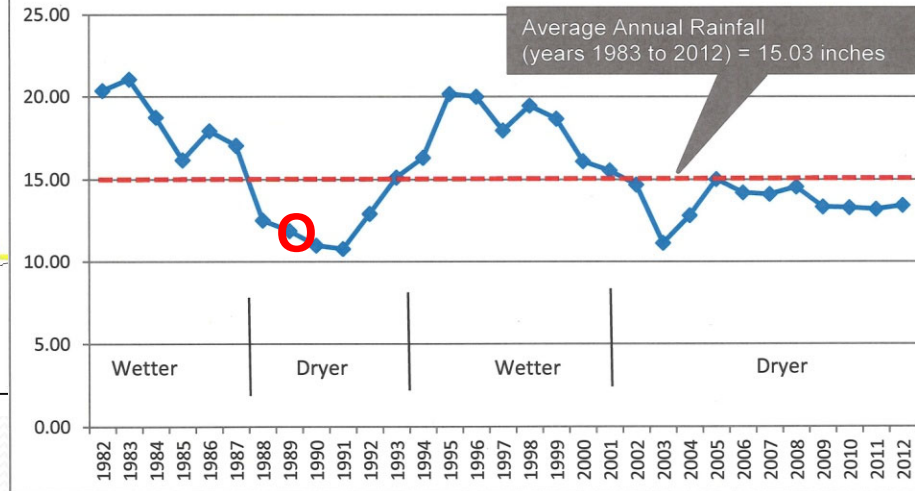
- Fall 1989 UAS Water Level Elevation
- Fall 1989 UAS Wells
- ⊕ BMO Wells UAS
- Roads



**Fall 1989 Upper Aquifer System
Potentiometric Surface Map**



5-year Running Average Rainfall (in inches)



Average Annual Rainfall
(years 1983 to 2012) = 15.03 inches

Wetter

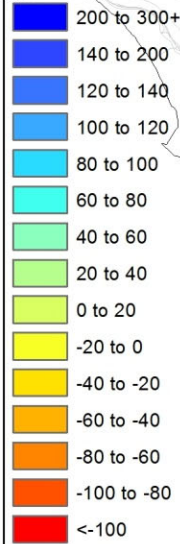
Drier

Wetter

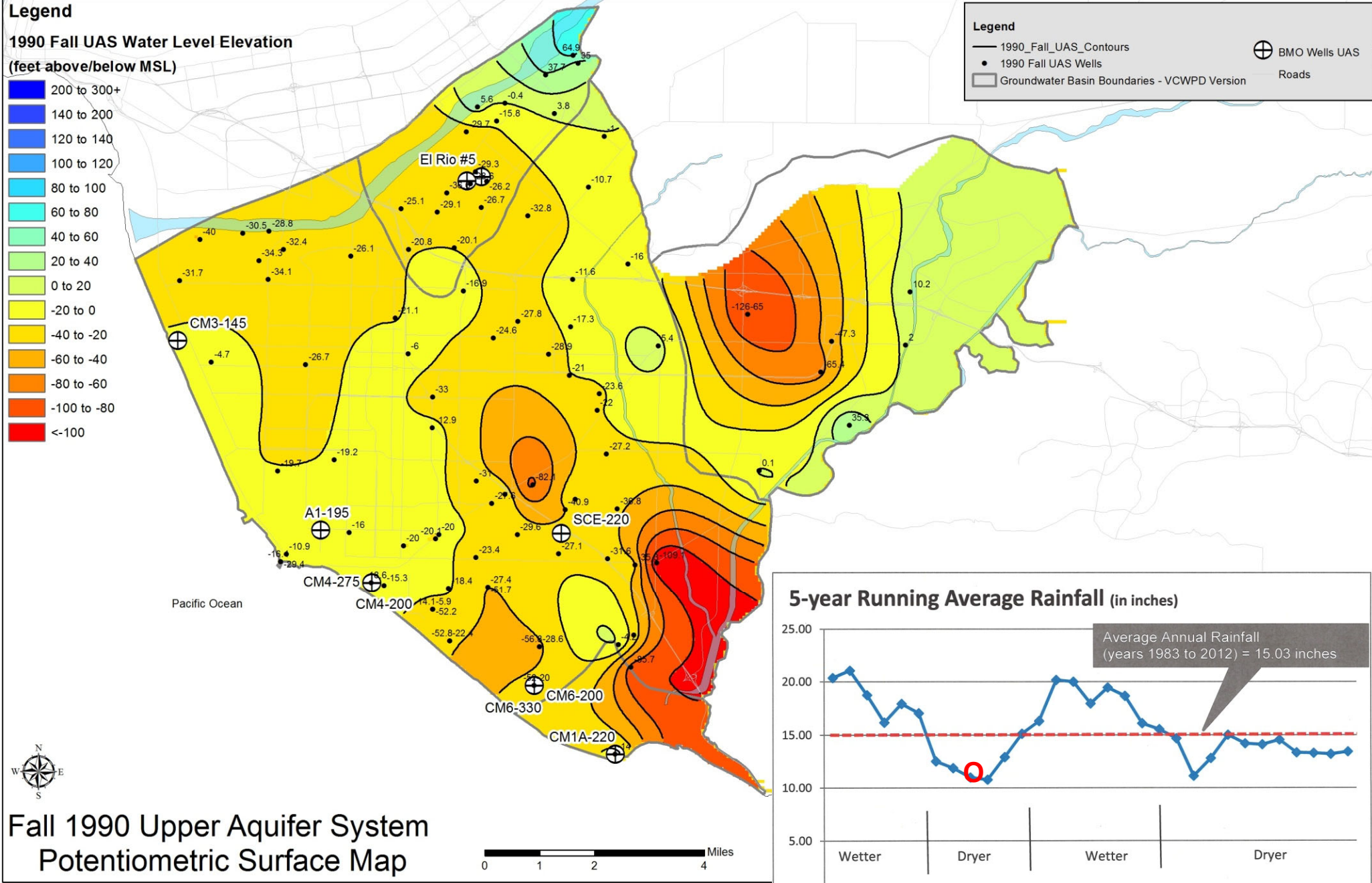
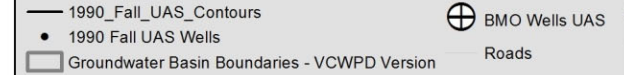
Drier

Legend

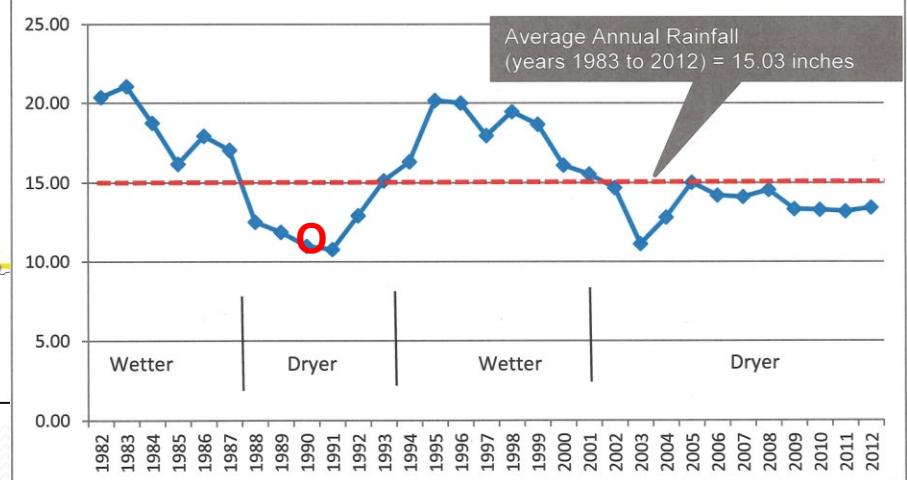
**1990 Fall UAS Water Level Elevation
(feet above/below MSL)**



Legend



5-year Running Average Rainfall (in inches)

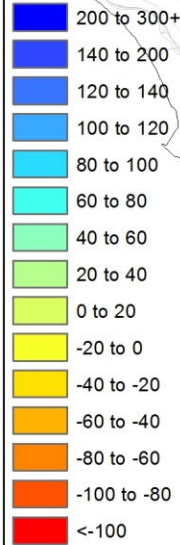


**Fall 1990 Upper Aquifer System
Potentiometric Surface Map**

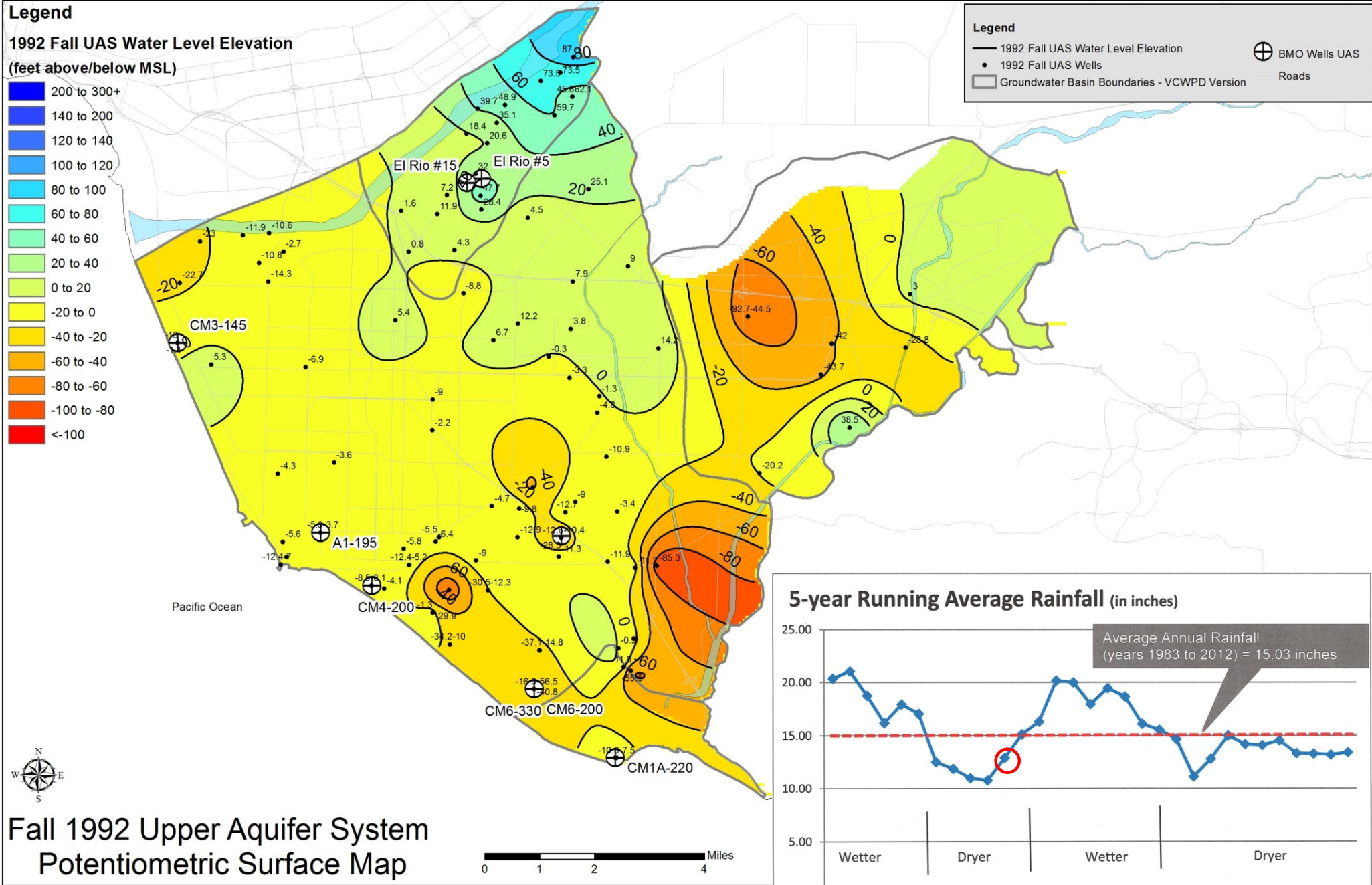
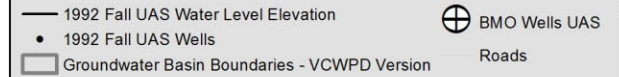
Legend

1992 Fall UAS Water Level Elevation

(feet above/below MSL)

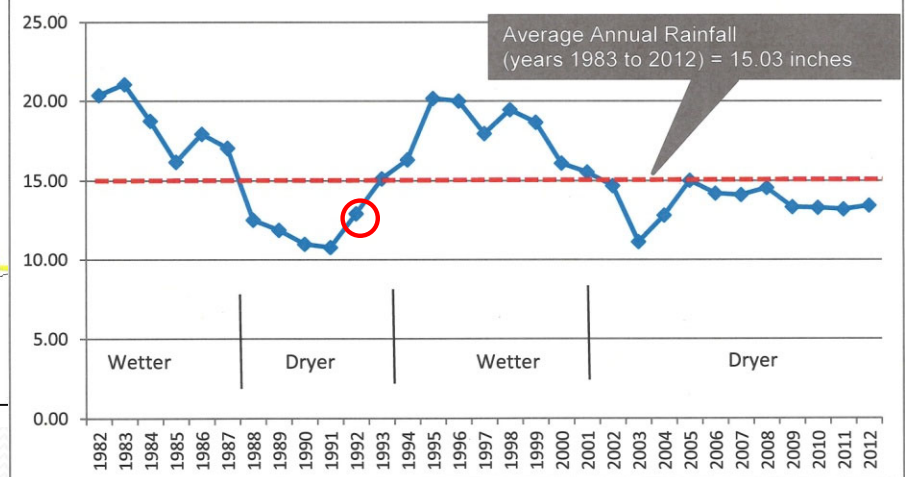


Legend



Fall 1992 Upper Aquifer System Potentiometric Surface Map

5-year Running Average Rainfall (in inches)

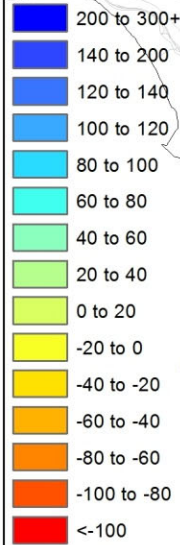


Average Annual Rainfall (years 1983 to 2012) = 15.03 inches

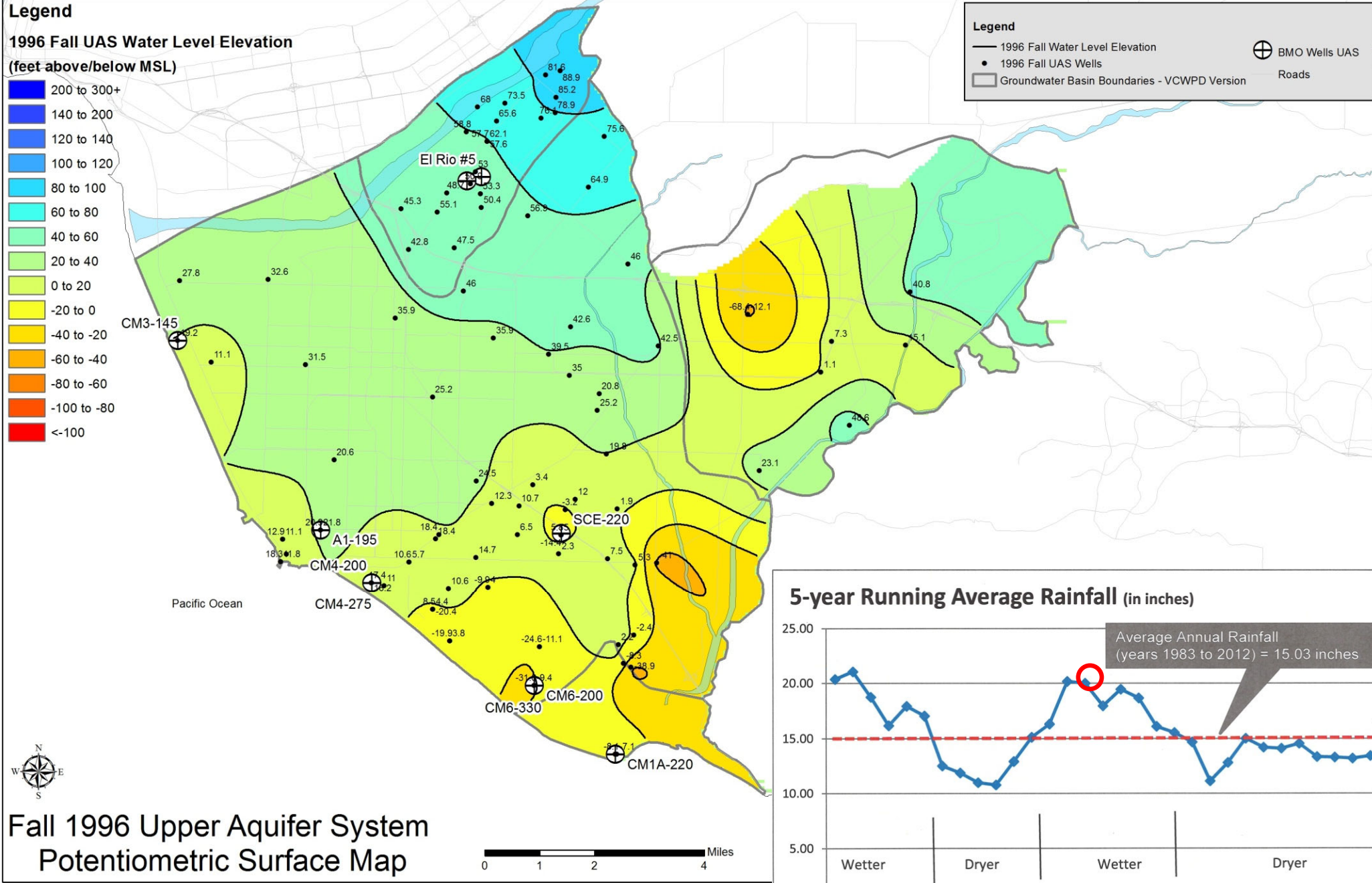
Wetter Drier Wetter Drier

Legend

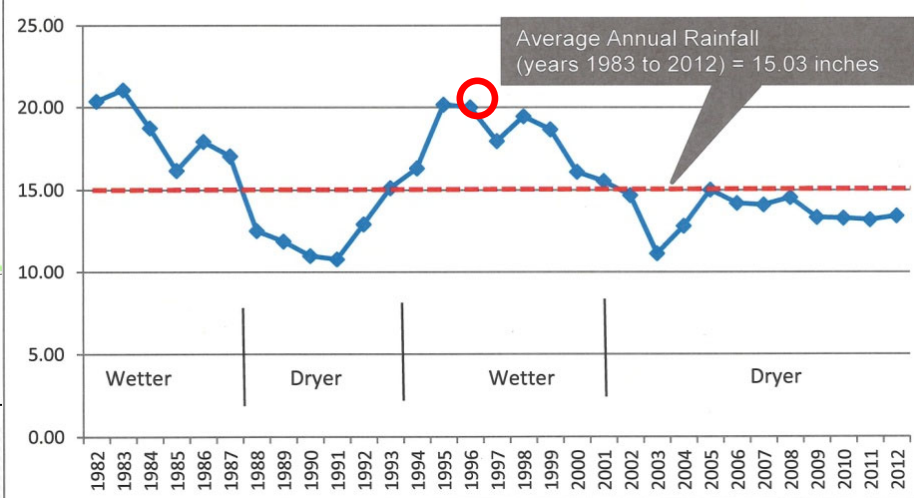
**1996 Fall UAS Water Level Elevation
(feet above/below MSL)**



Legend



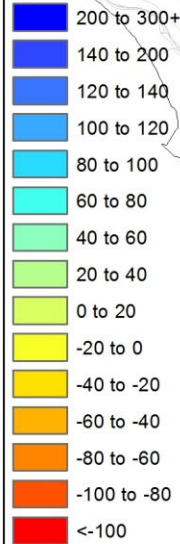
5-year Running Average Rainfall (in inches)



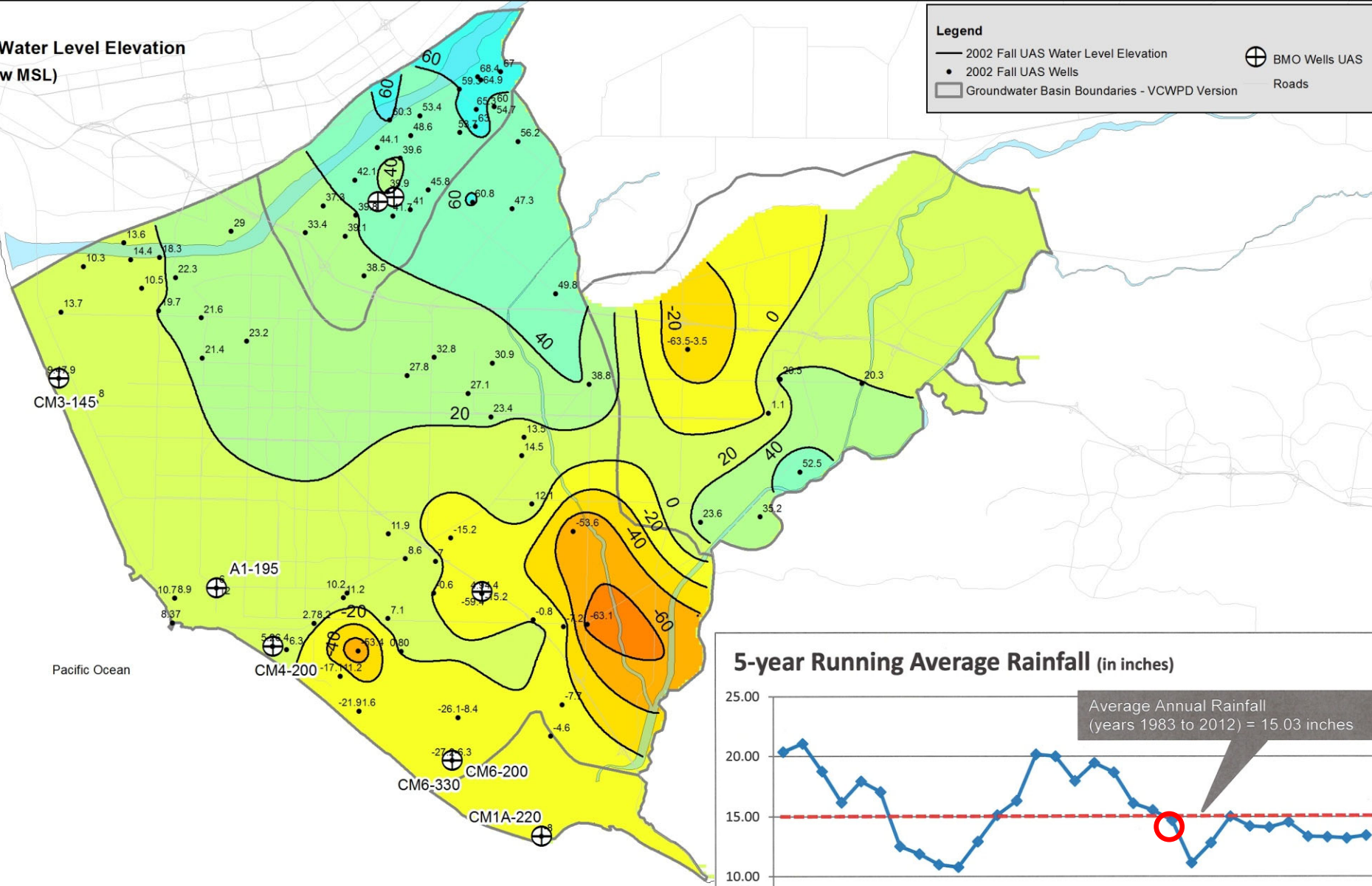
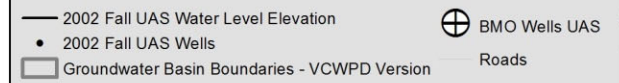
Legend

2002 Fall UAS Water Level Elevation

(feet above/below MSL)



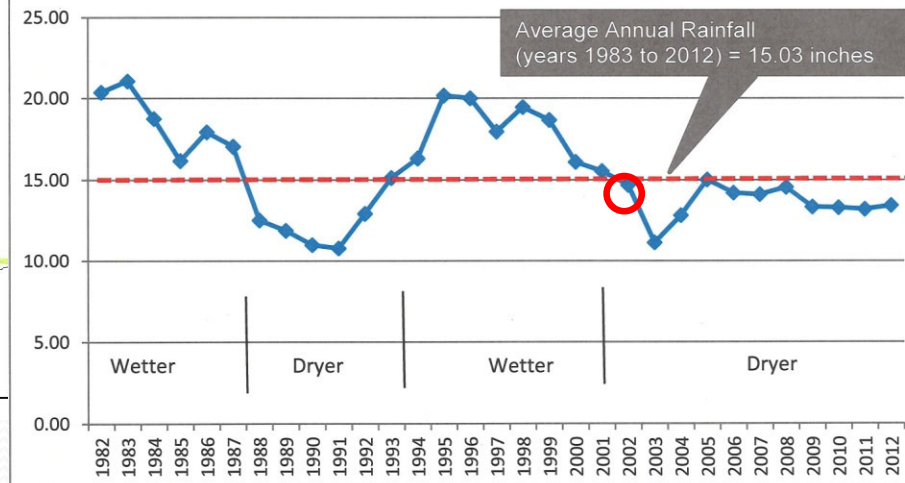
Legend



**Fall 2002 Upper Aquifer System
Potentiometric Surface Map**



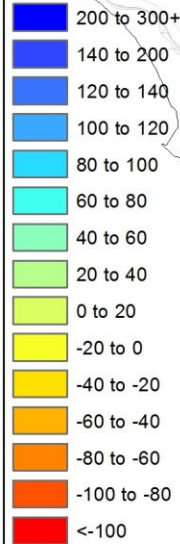
5-year Running Average Rainfall (in inches)



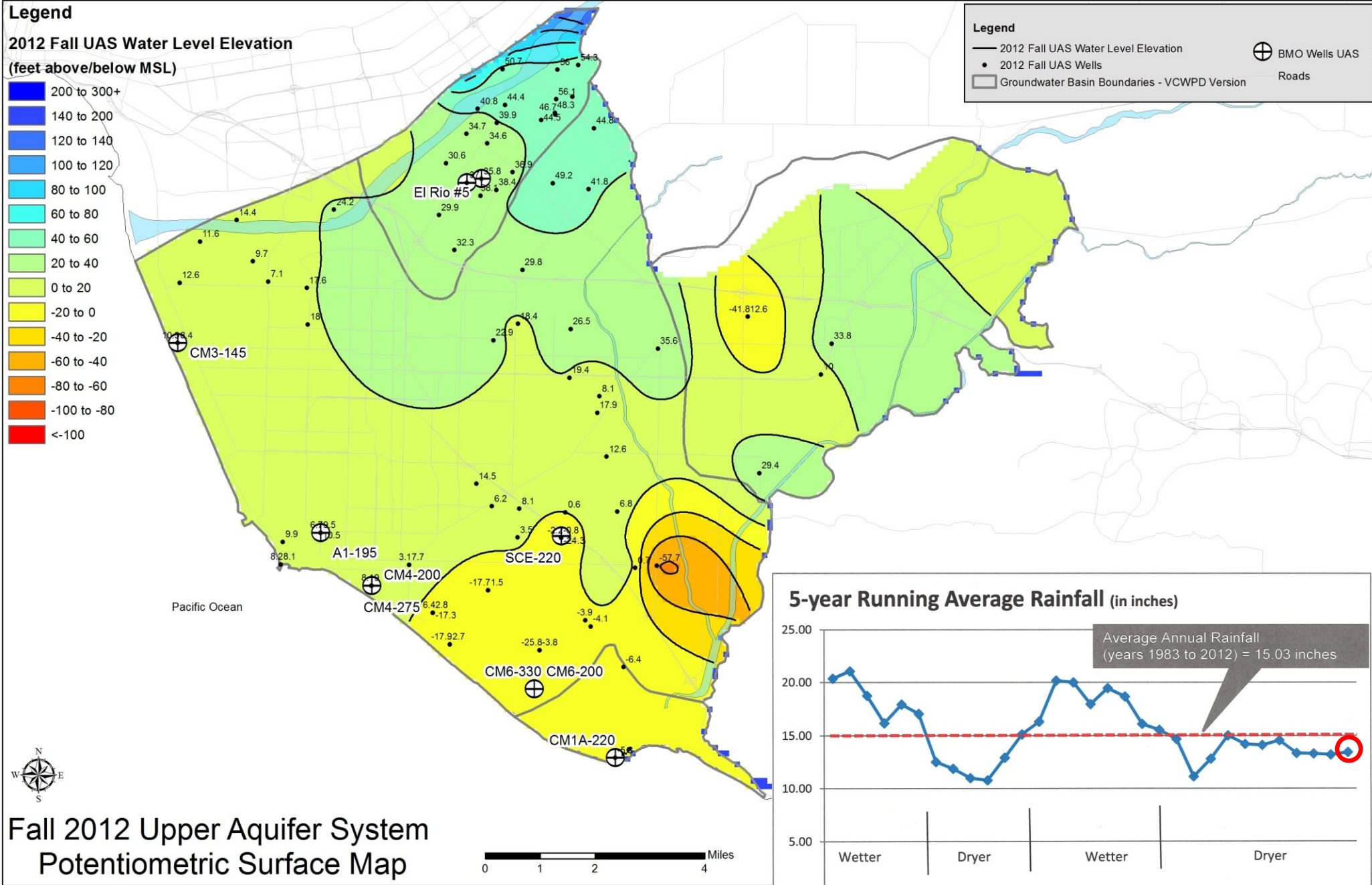
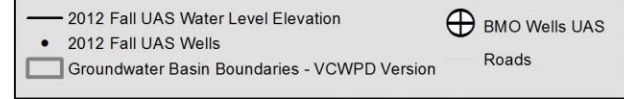
Legend

2012 Fall UAS Water Level Elevation

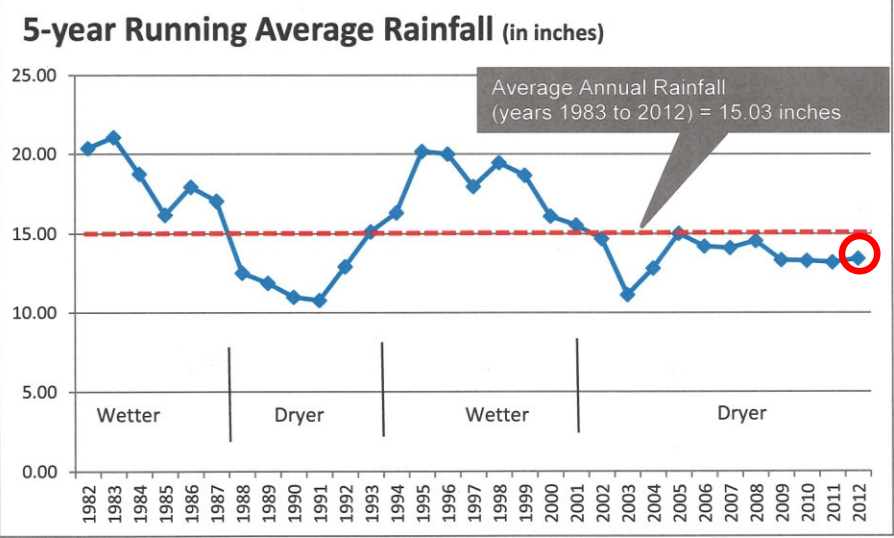
(feet above/below MSL)



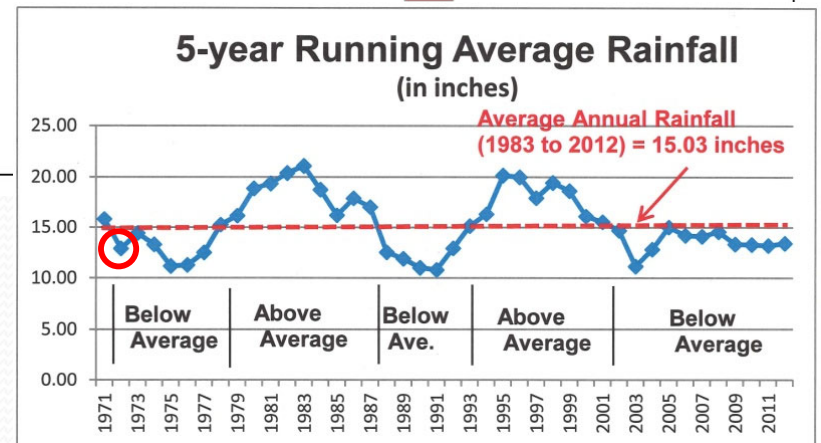
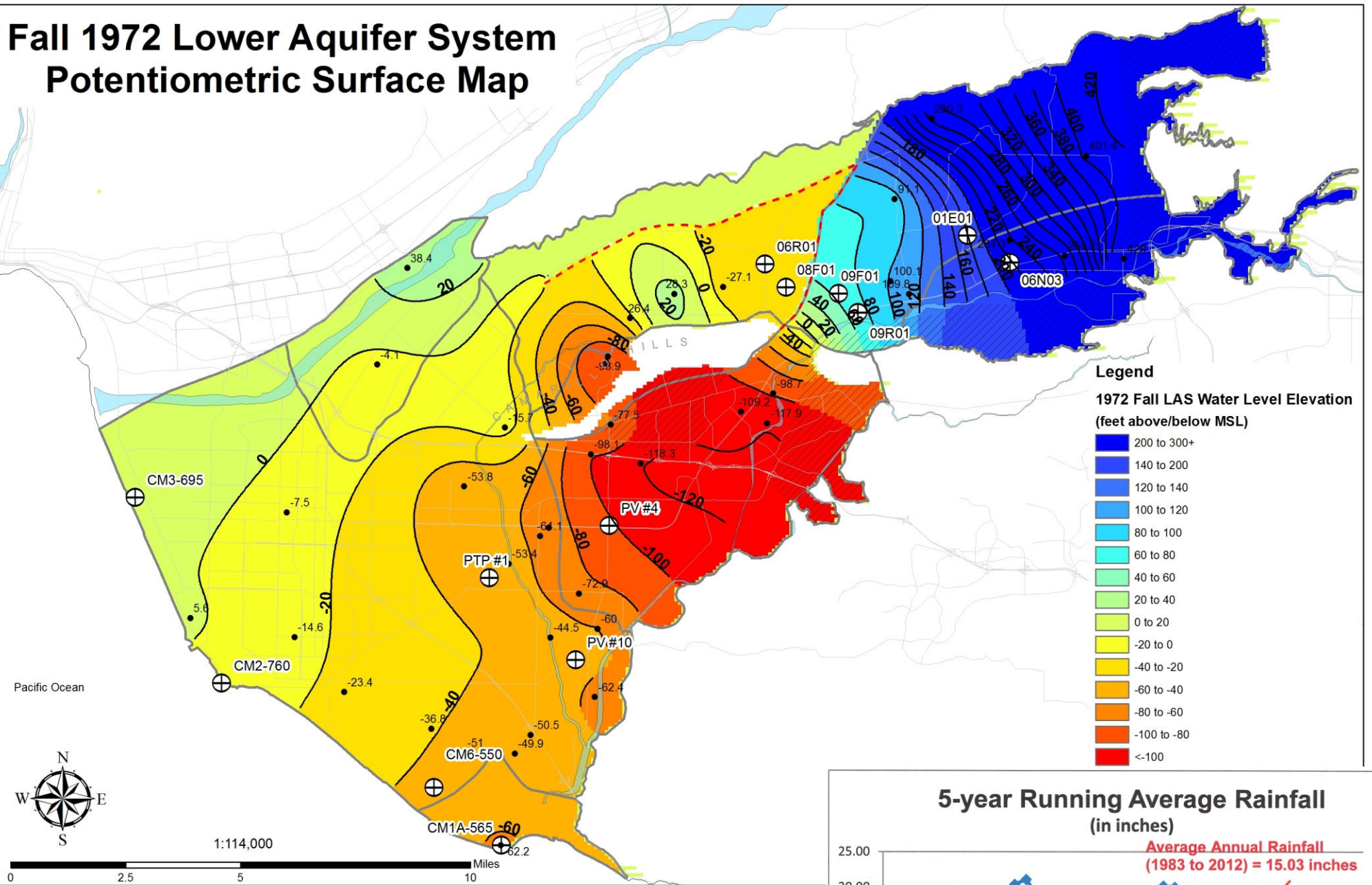
Legend



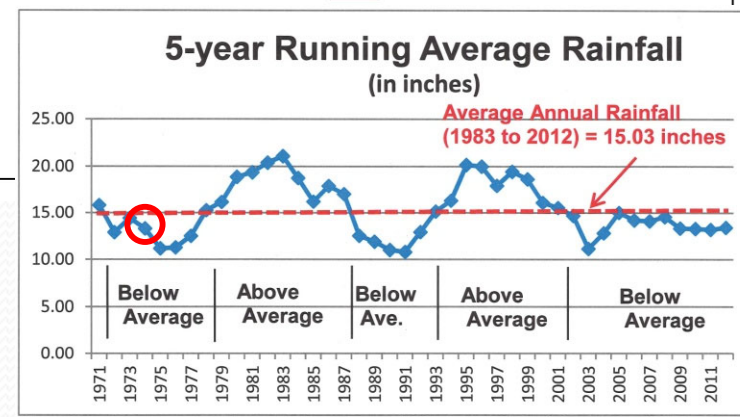
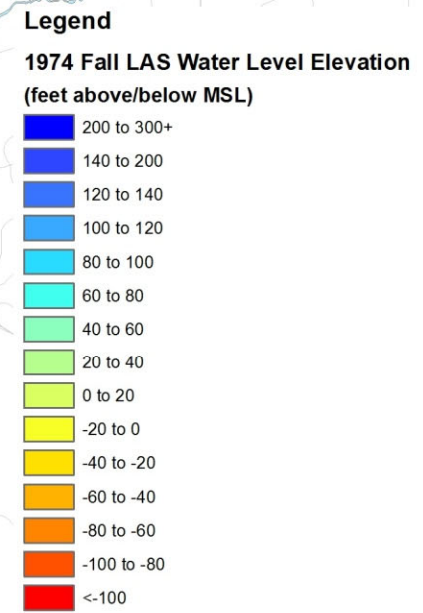
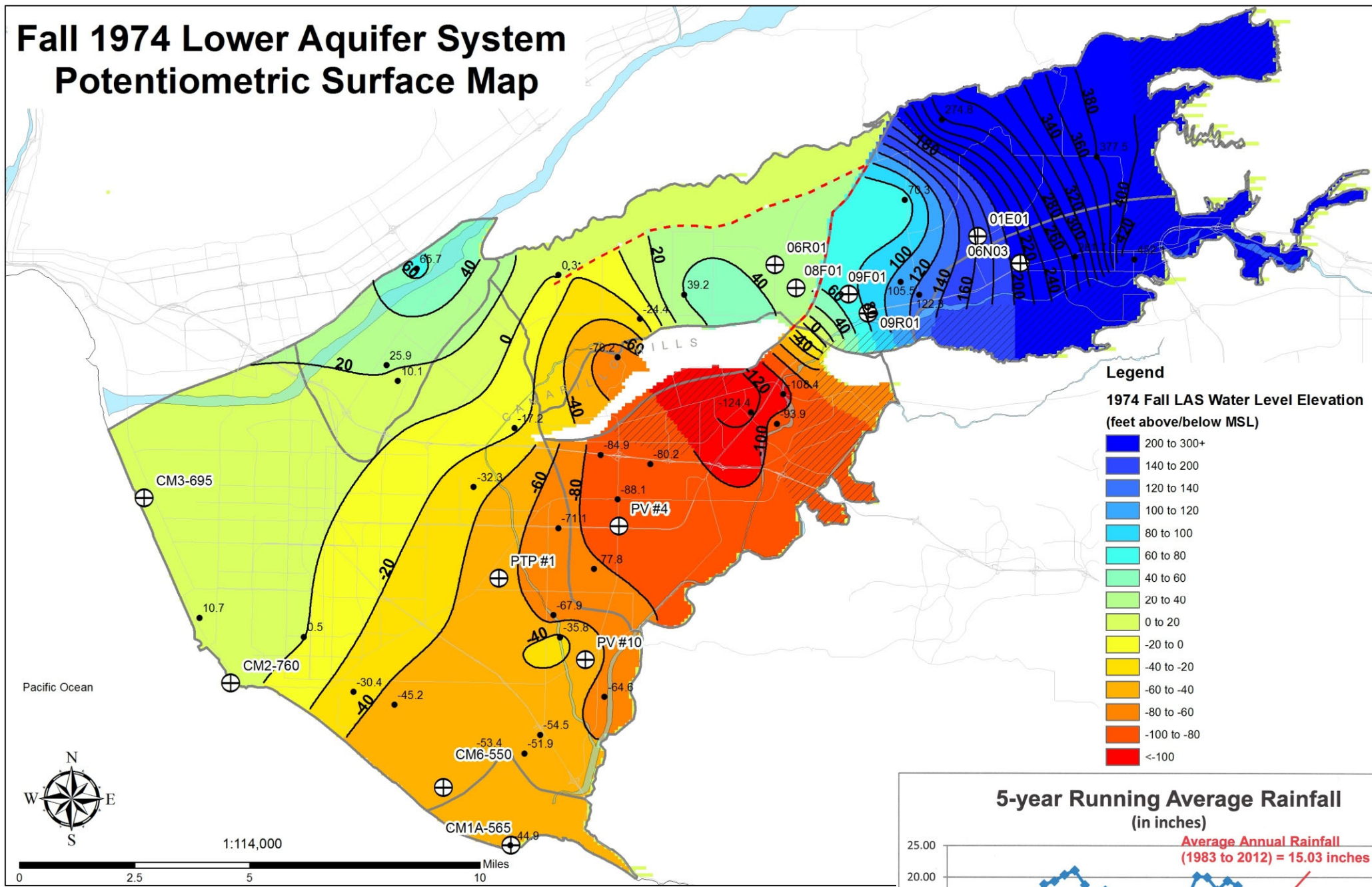
Fall 2012 Upper Aquifer System Potentiometric Surface Map



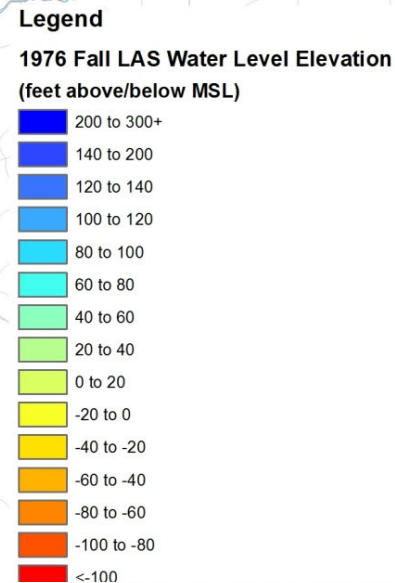
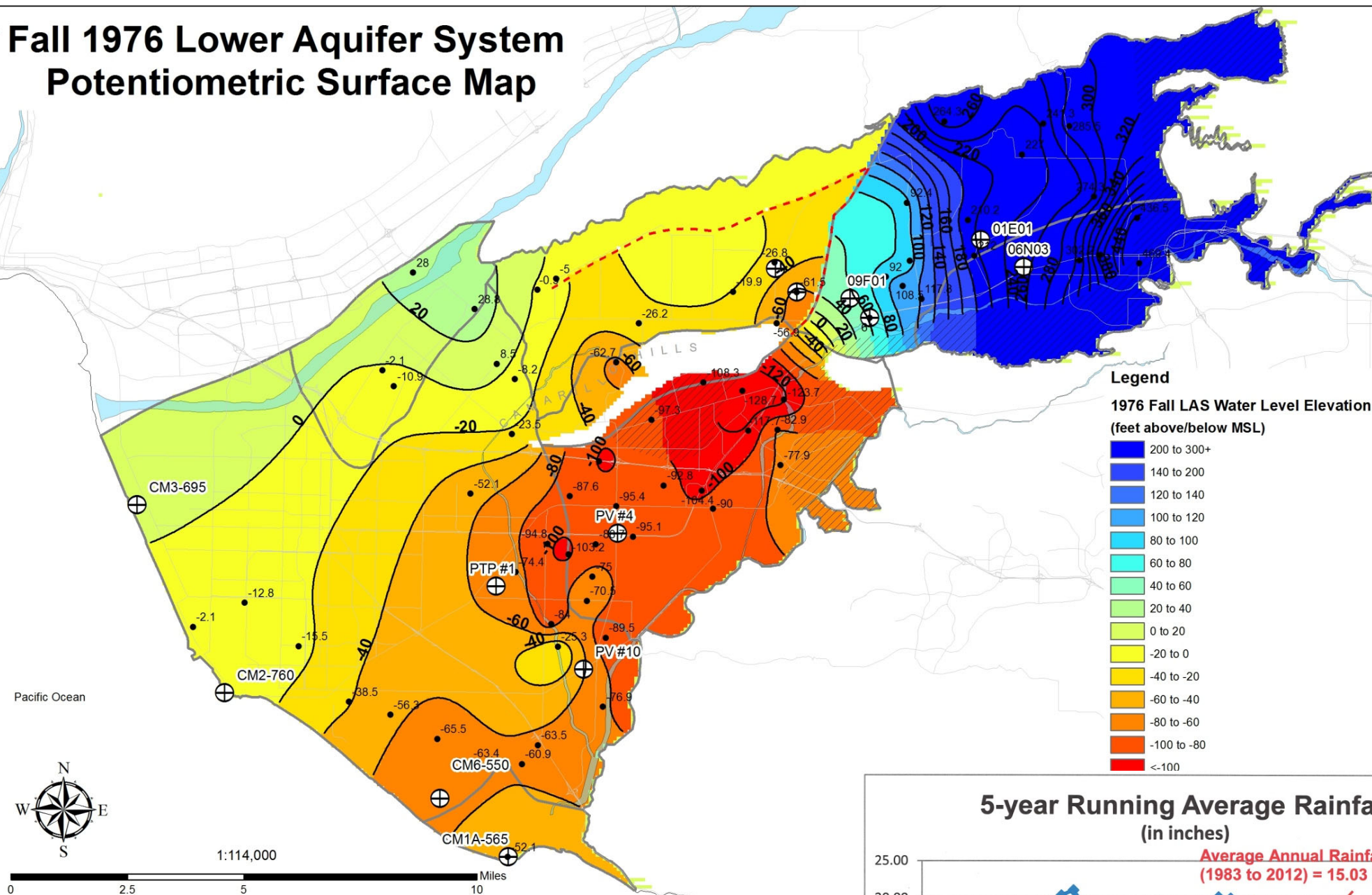
Fall 1972 Lower Aquifer System Potentiometric Surface Map



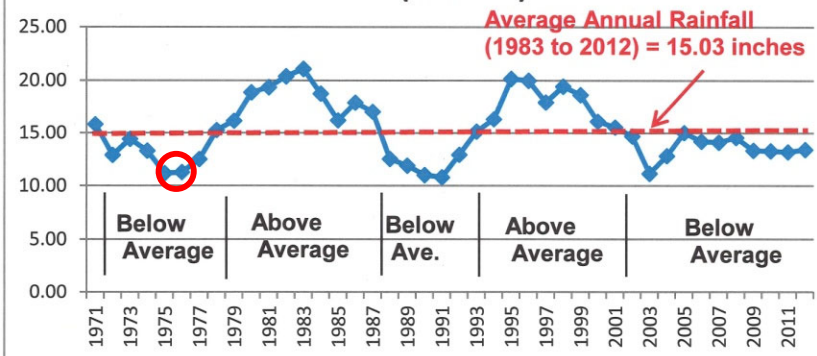
Fall 1974 Lower Aquifer System Potentiometric Surface Map



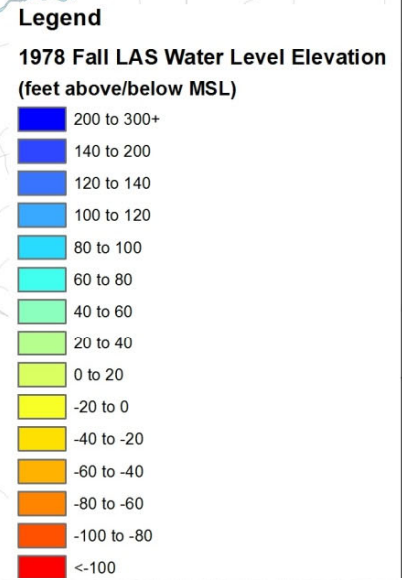
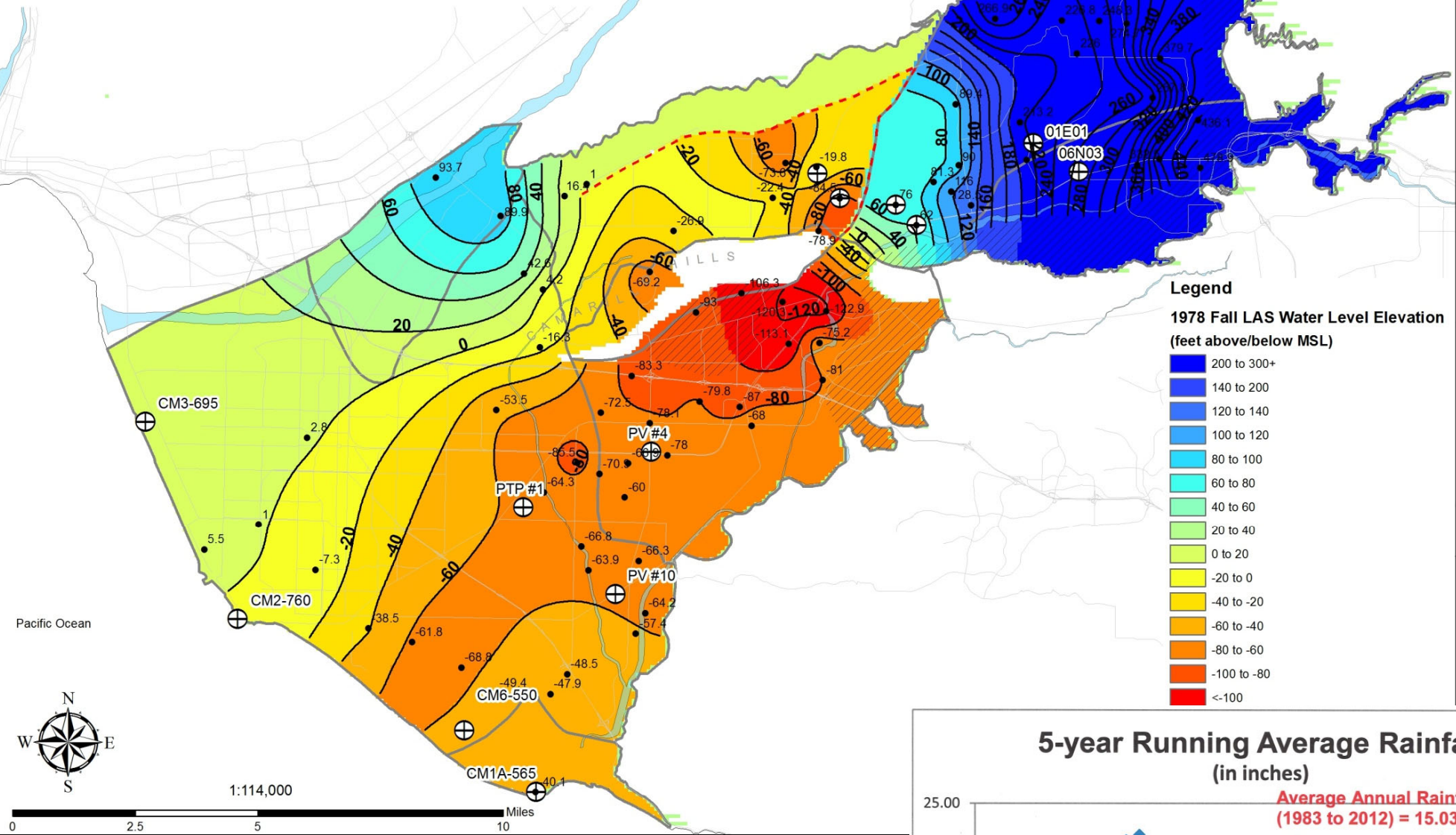
Fall 1976 Lower Aquifer System Potentiometric Surface Map



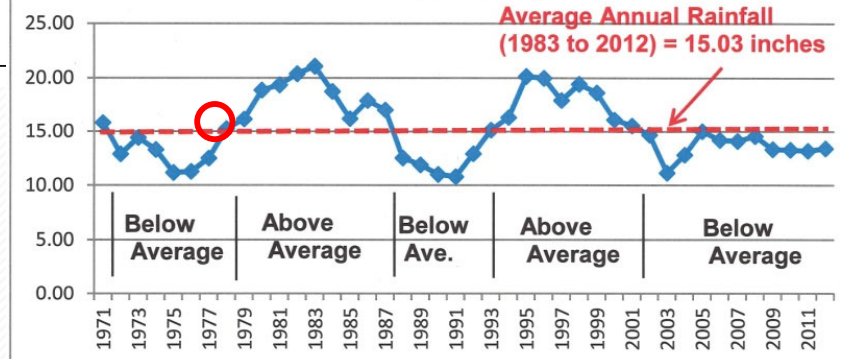
5-year Running Average Rainfall (in inches)



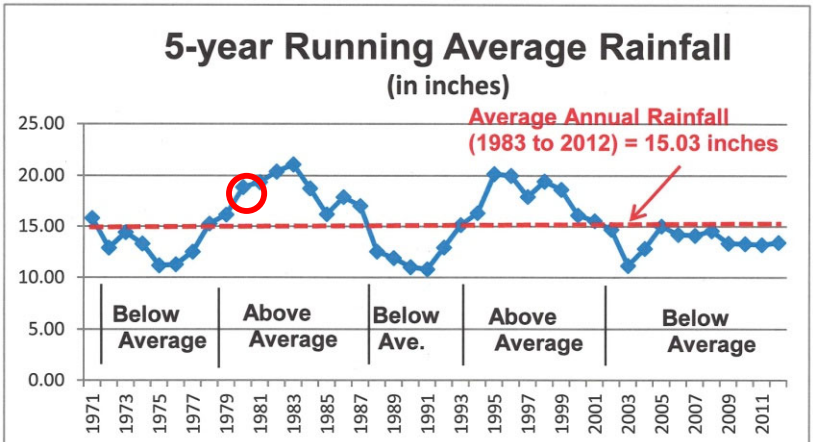
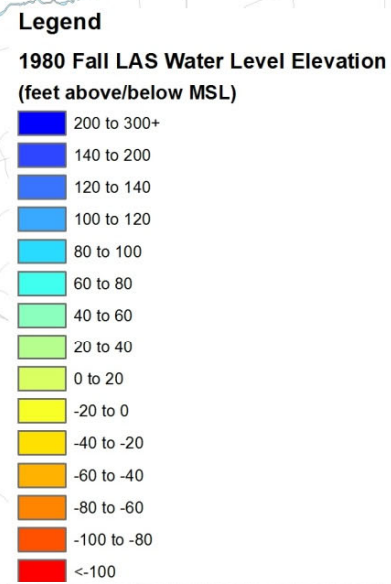
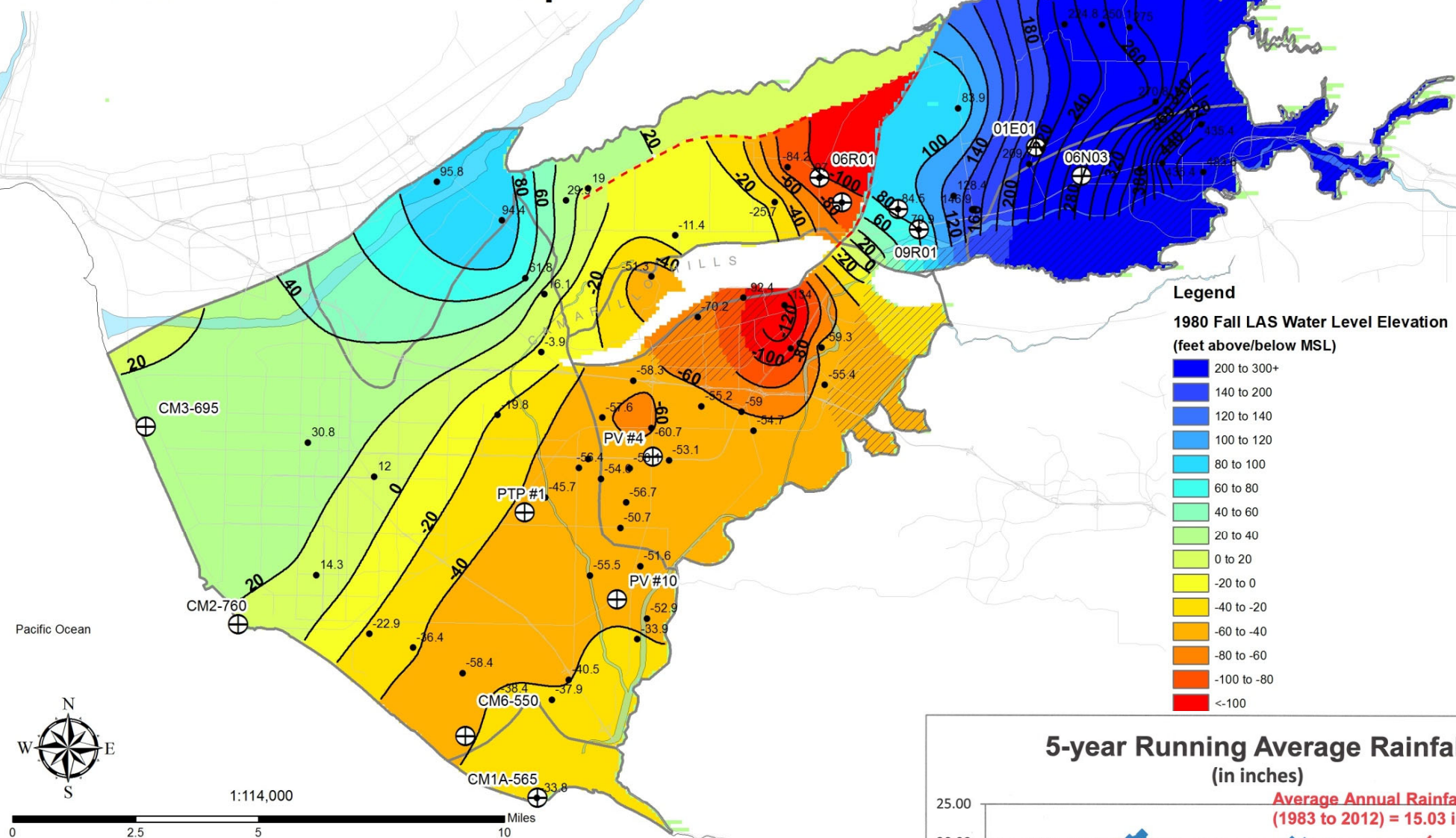
Fall 1978 Lower Aquifer System Potentiometric Surface Map



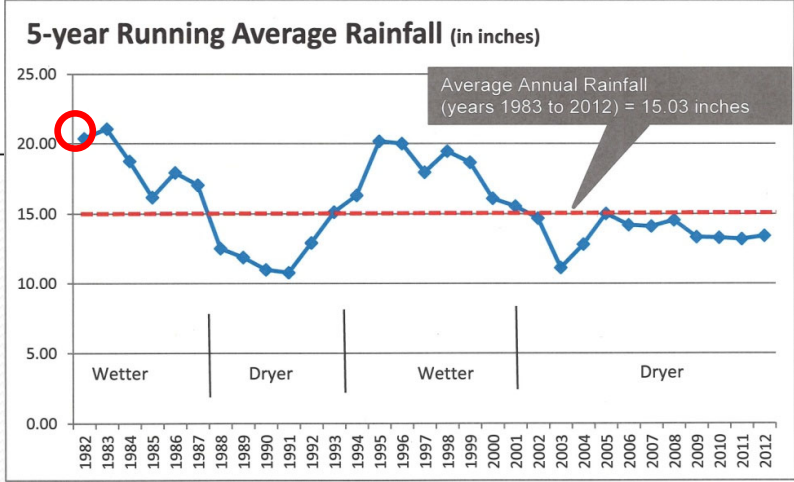
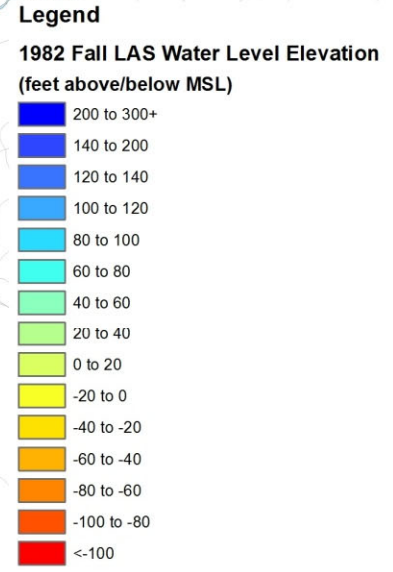
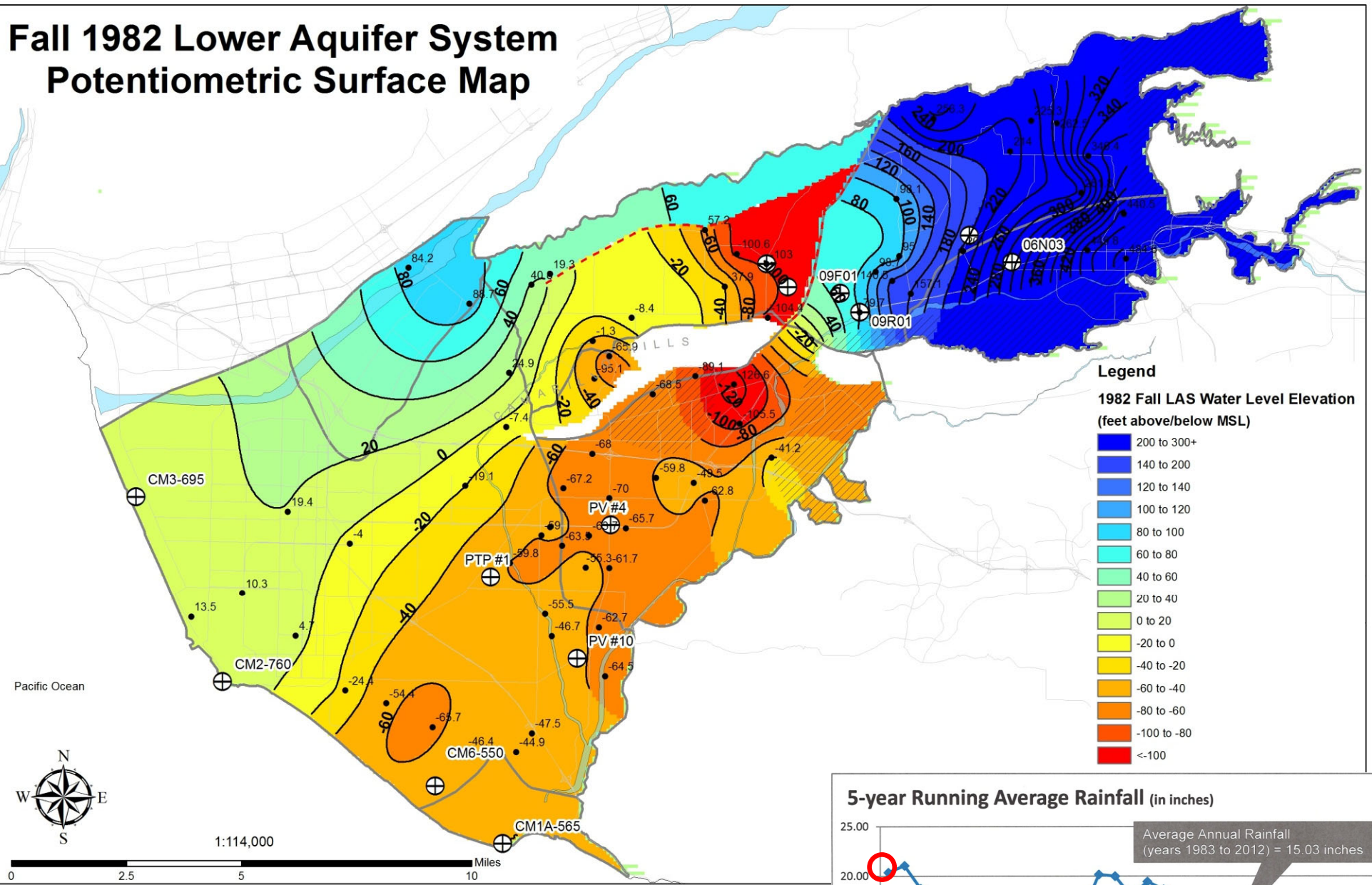
5-year Running Average Rainfall (in inches)



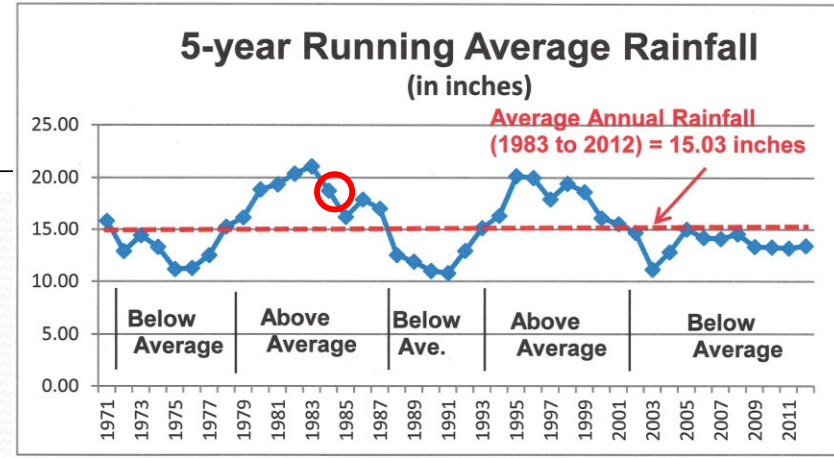
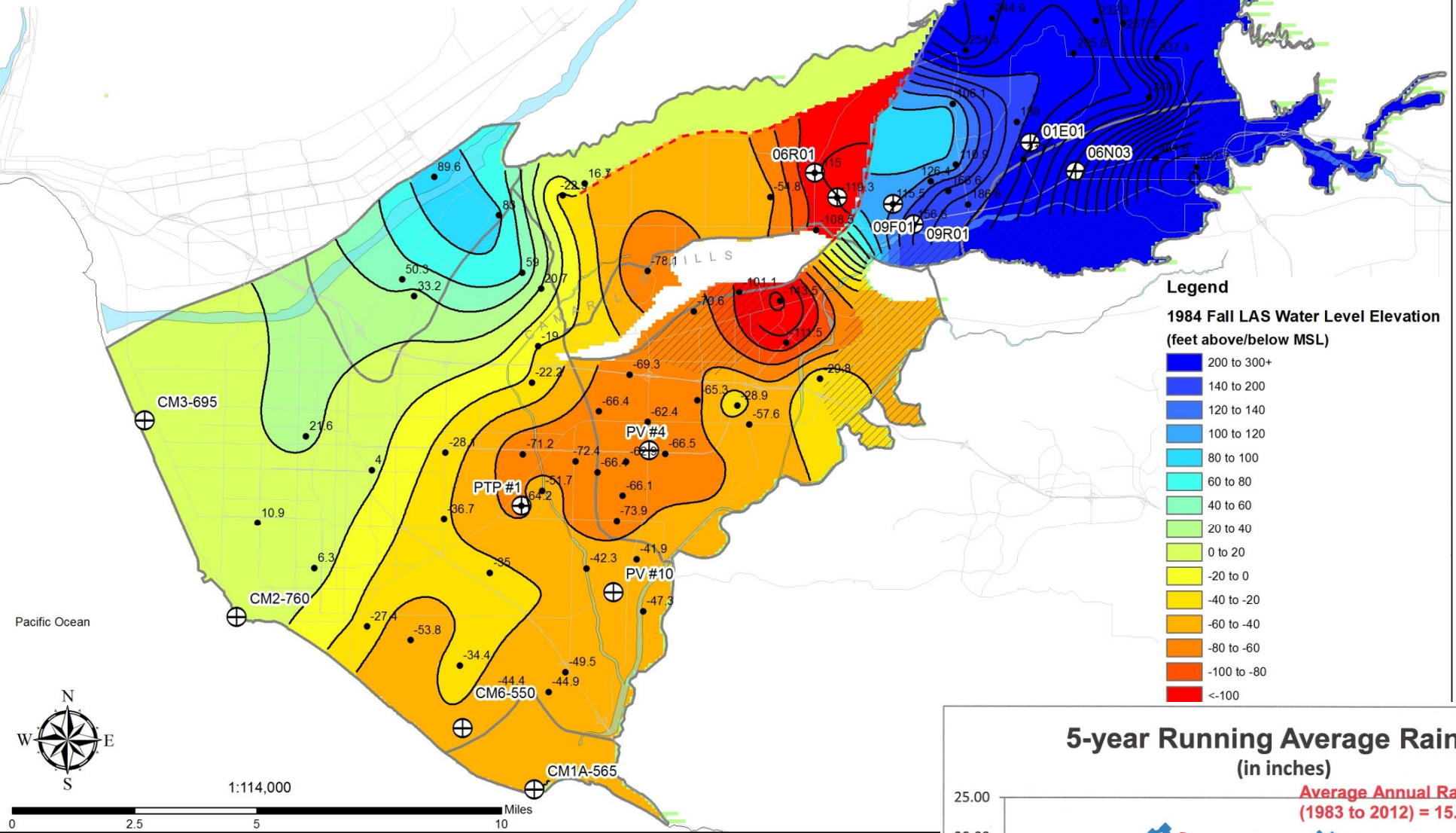
Fall 1980 Lower Aquifer System Potentiometric Surface Map



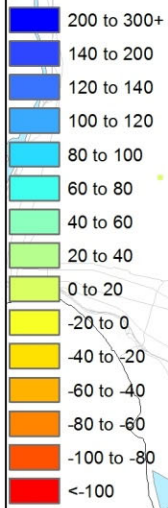
Fall 1982 Lower Aquifer System Potentiometric Surface Map



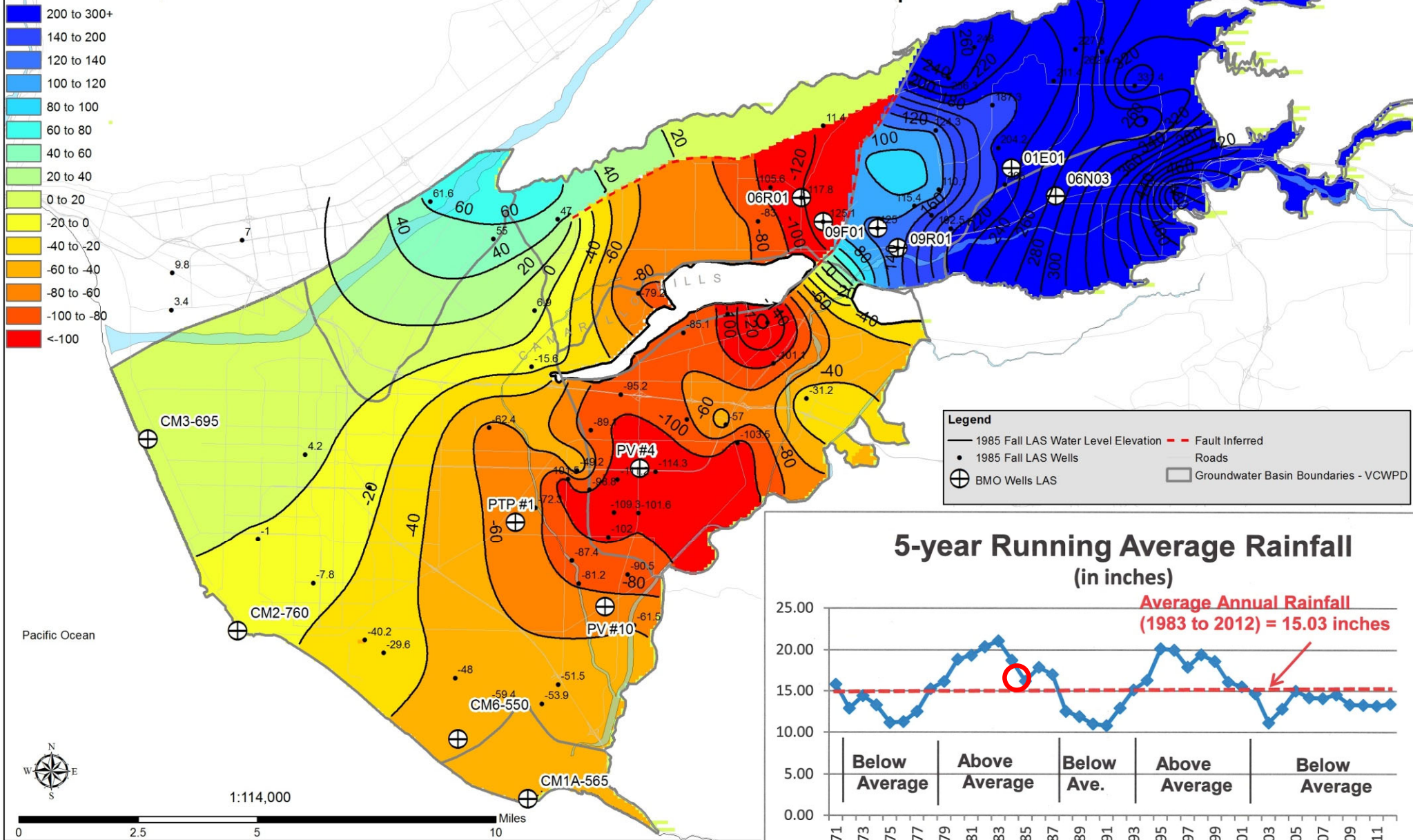
Fall 1984 Lower Aquifer System Potentiometric Surface Map



Legend
1985 Fall LAS Water Level Elevation
 (feet above/below MSL)



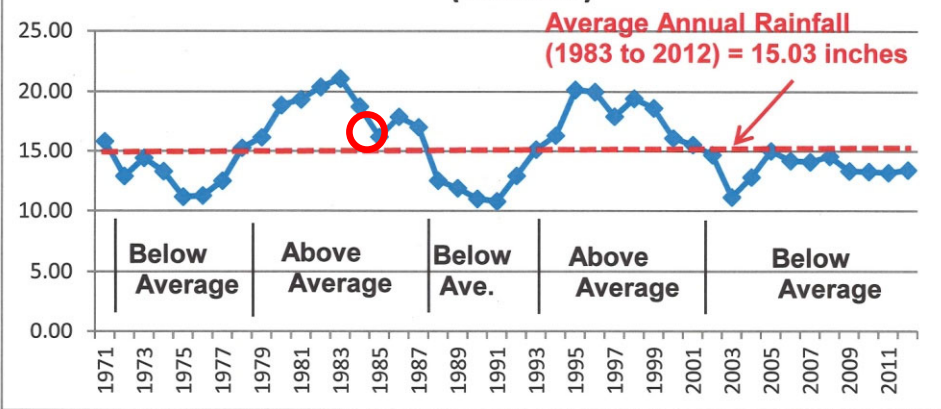
Fall 1985 Lower Aquifer System Potentiometric Surface Map



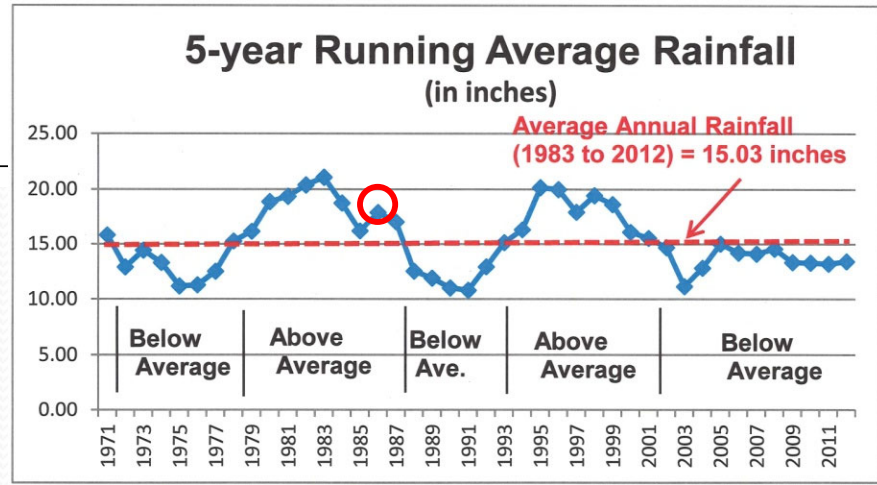
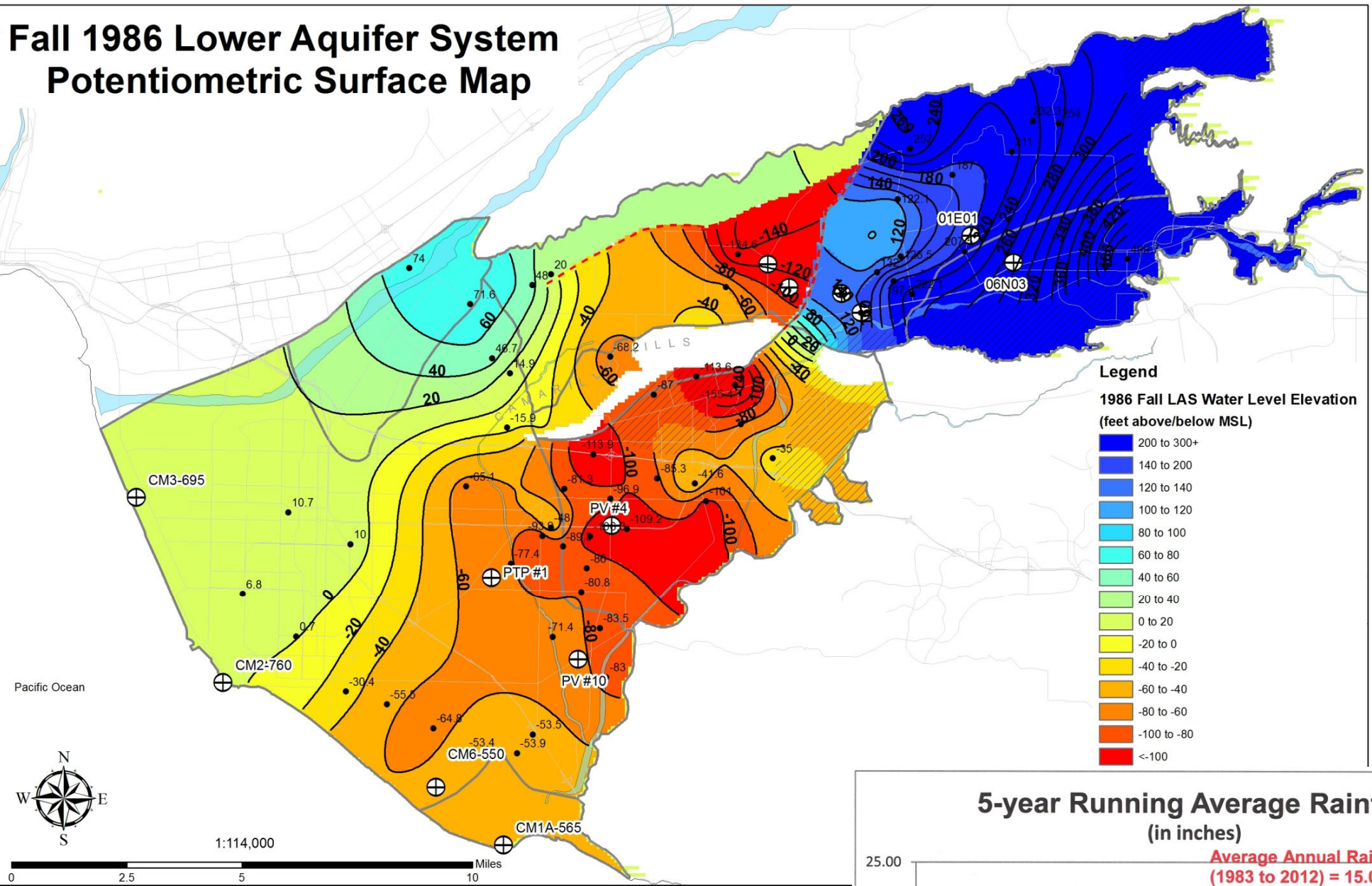
Legend

- 1985 Fall LAS Water Level Elevation
- 1985 Fall LAS Wells
- ⊕ BMO Wells LAS
- - - Fault Inferred
- Roads
- Groundwater Basin Boundaries - VCWPD

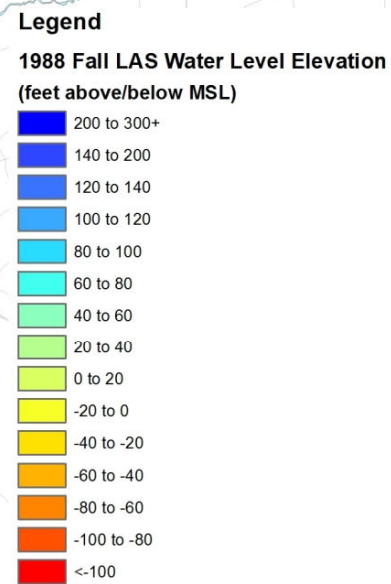
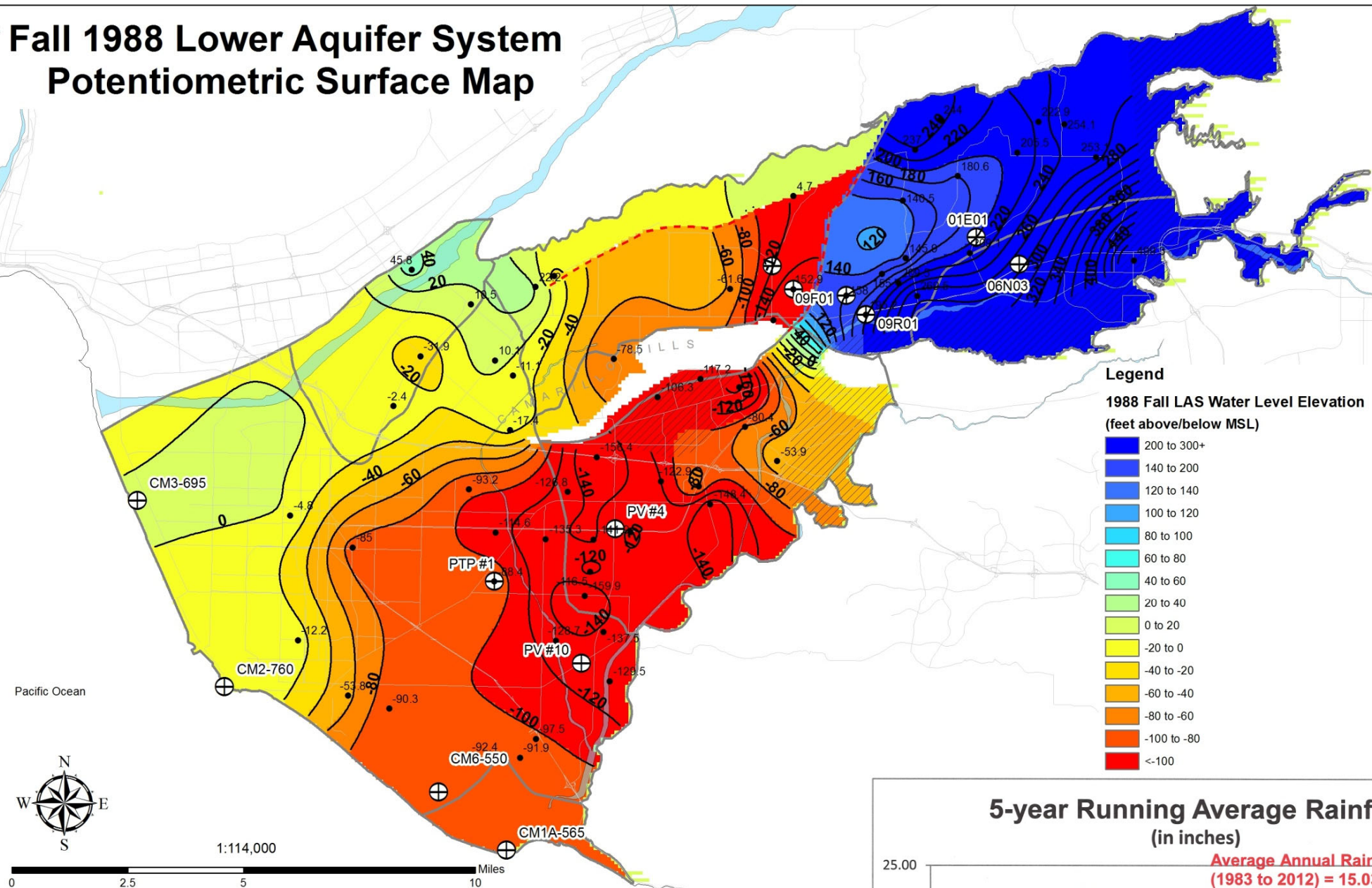
5-year Running Average Rainfall (in inches)



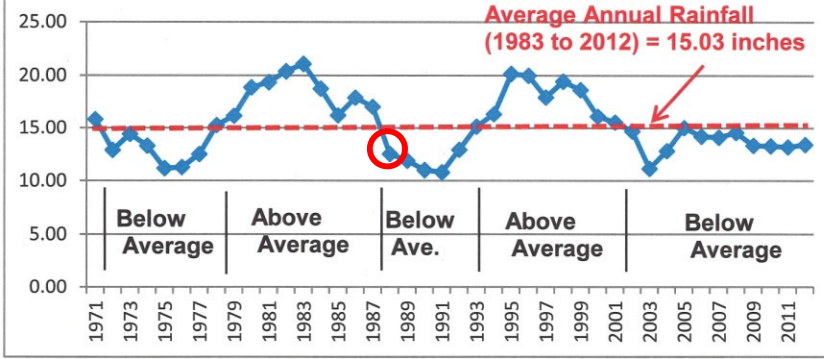
Fall 1986 Lower Aquifer System Potentiometric Surface Map



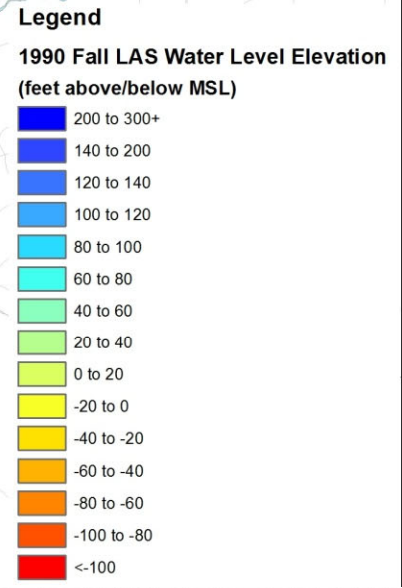
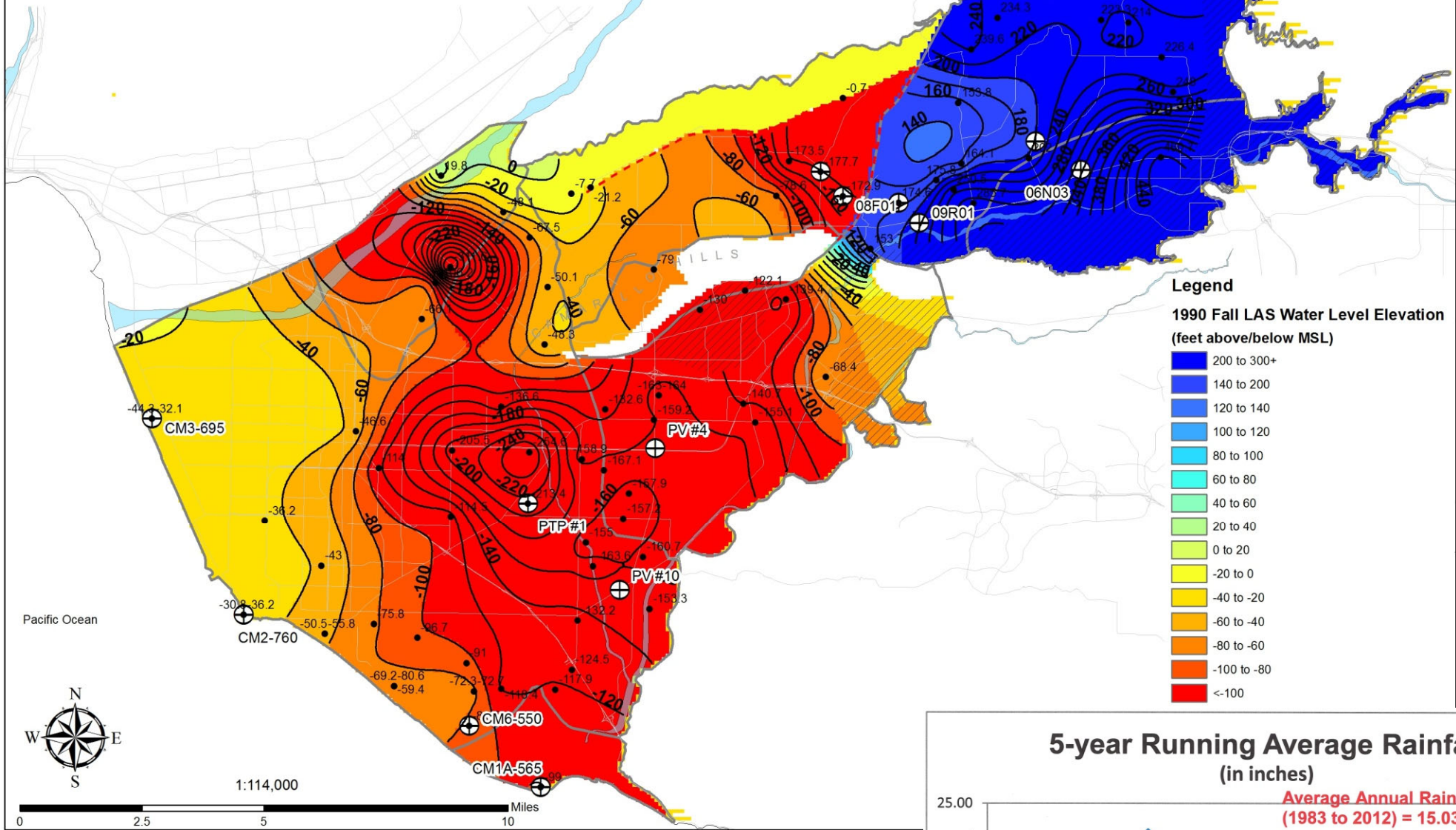
Fall 1988 Lower Aquifer System Potentiometric Surface Map



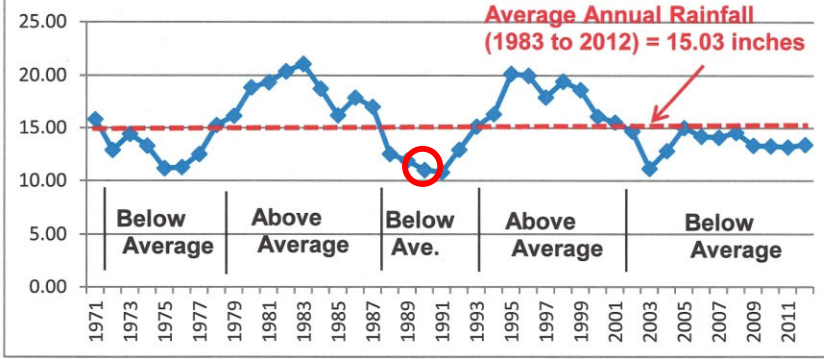
5-year Running Average Rainfall (in inches)



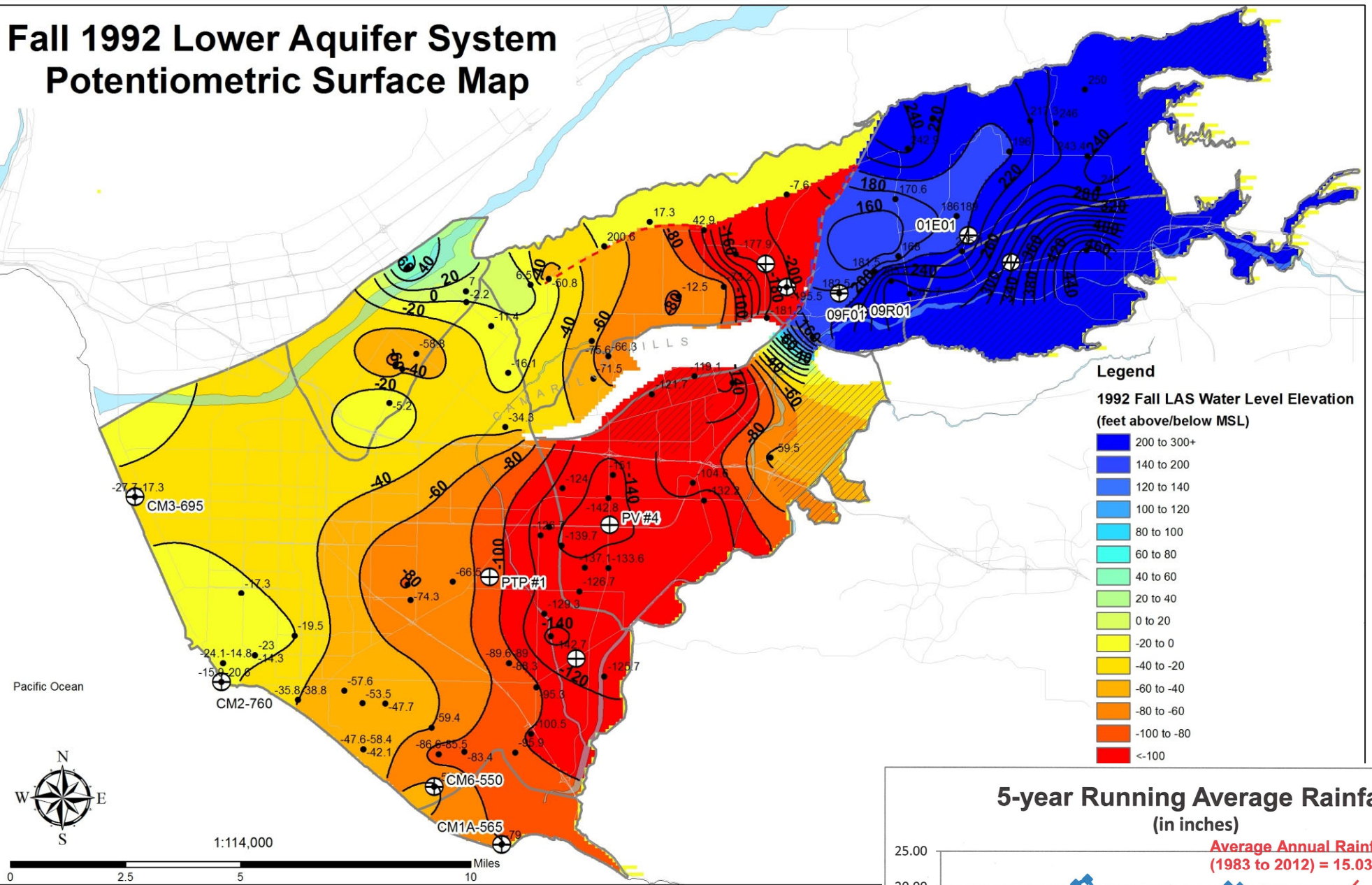
Fall 1990 Lower Aquifer System Potentiometric Surface Map



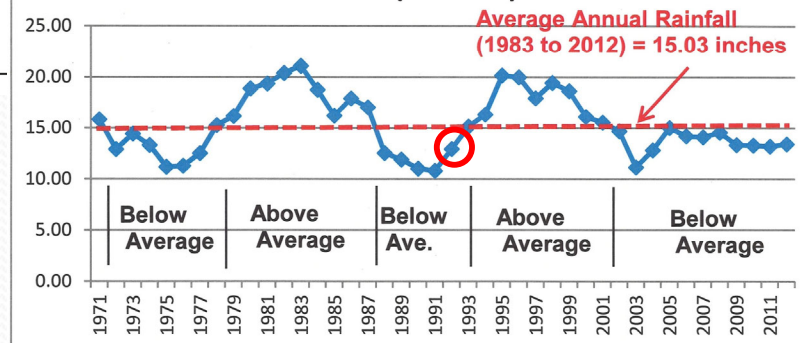
5-year Running Average Rainfall (in inches)



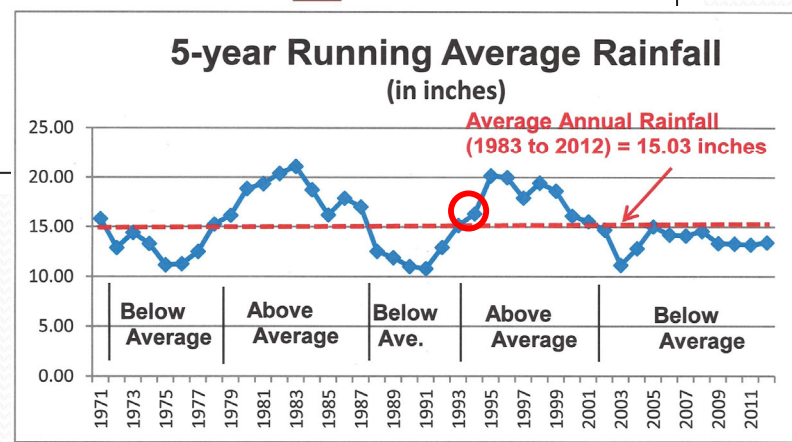
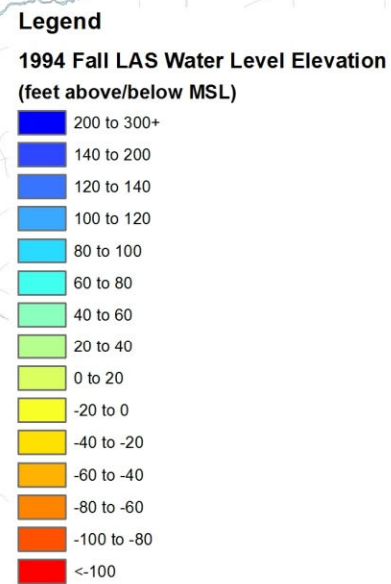
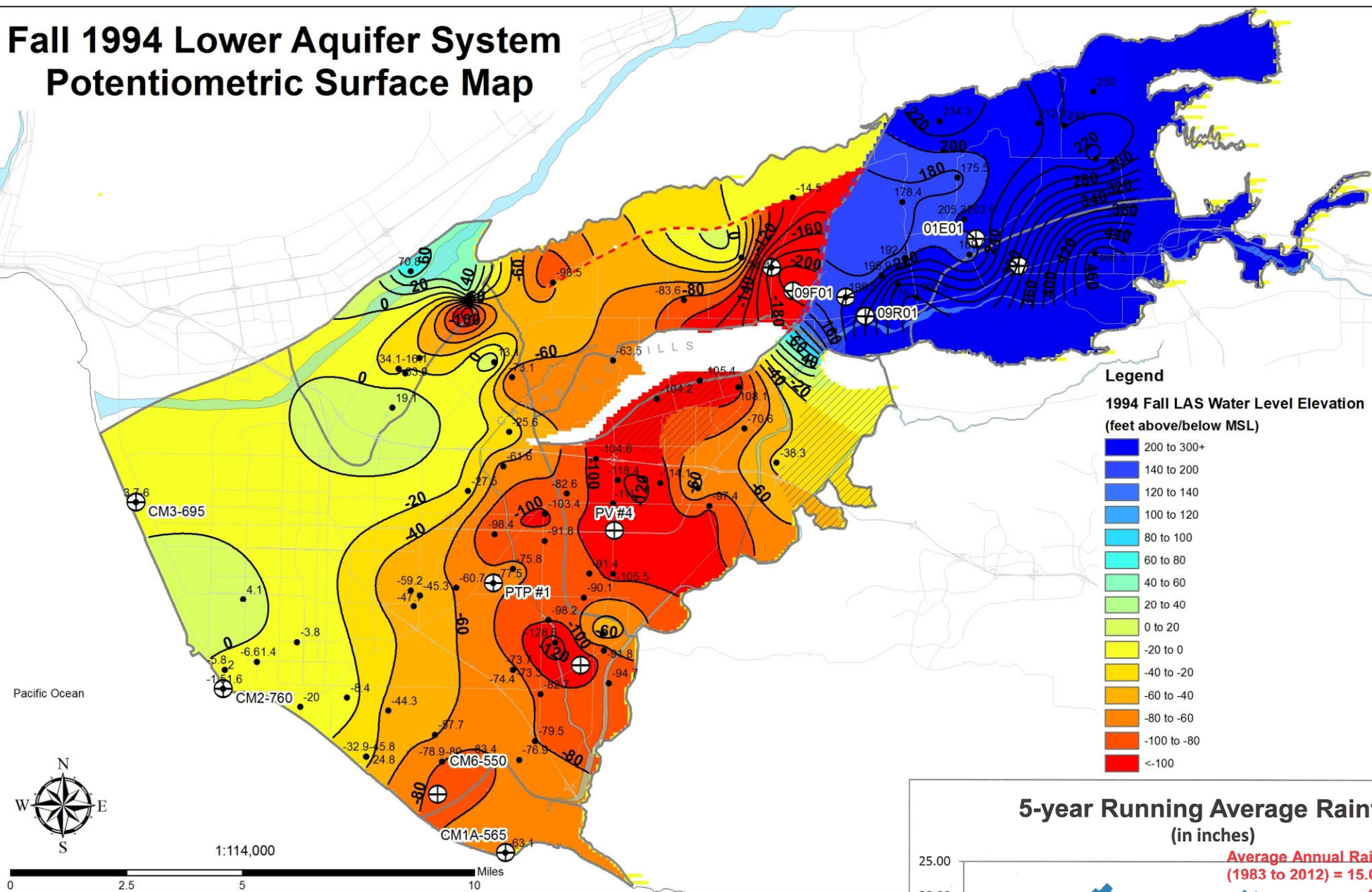
Fall 1992 Lower Aquifer System Potentiometric Surface Map



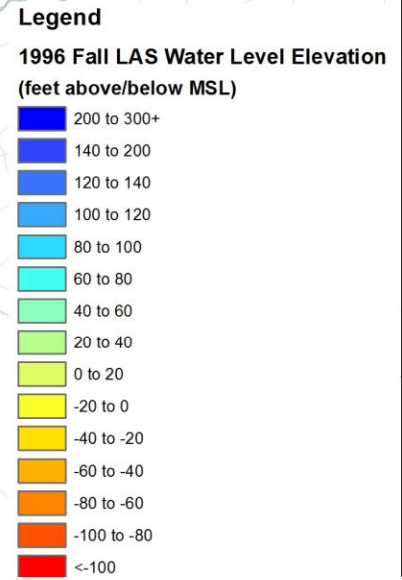
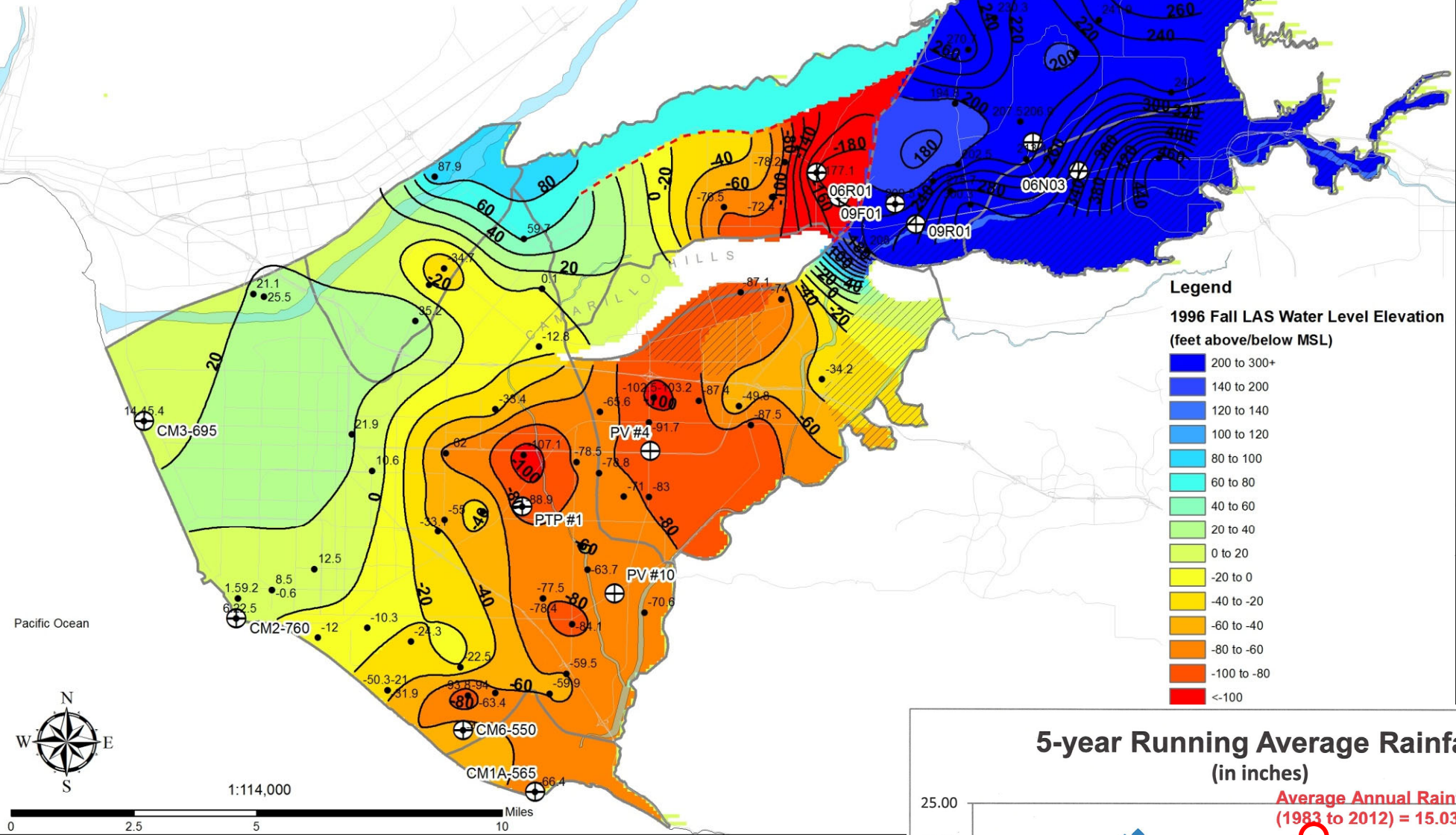
5-year Running Average Rainfall (in inches)



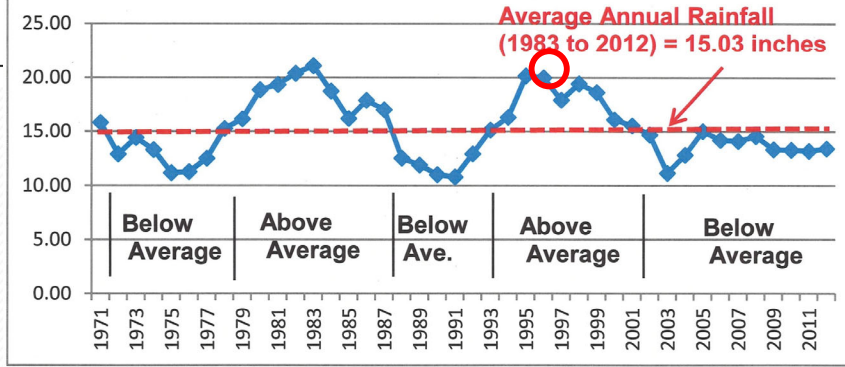
Fall 1994 Lower Aquifer System Potentiometric Surface Map



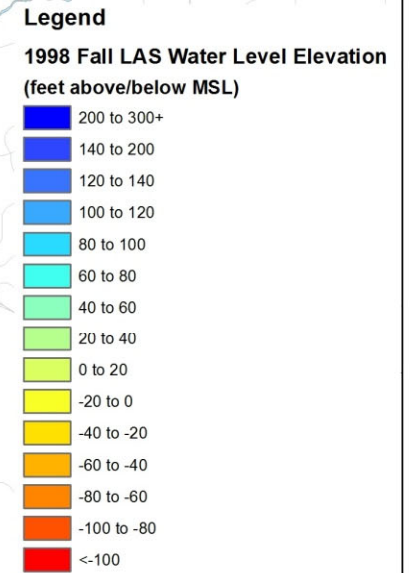
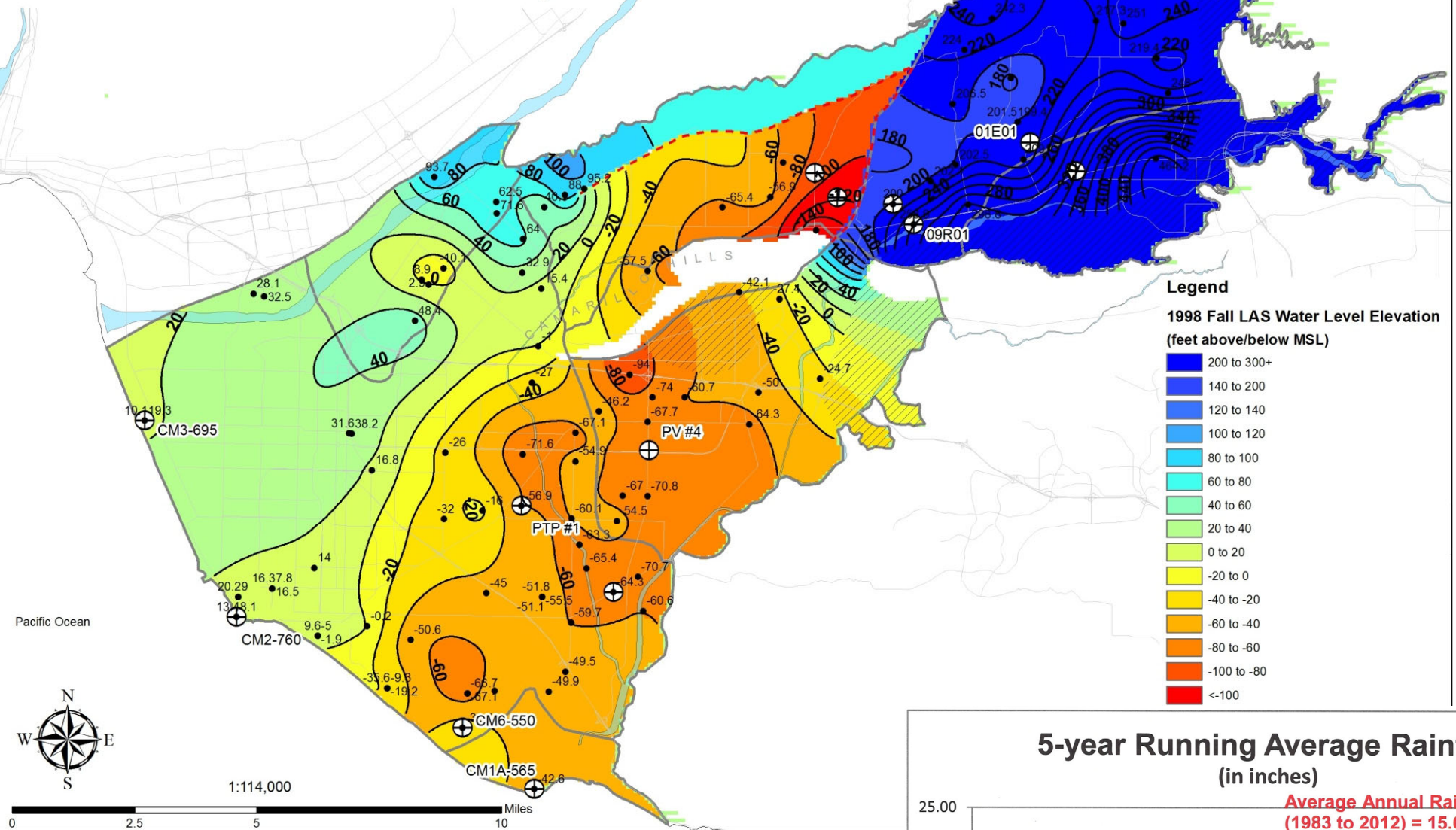
Fall 1996 Lower Aquifer System Potentiometric Surface Map



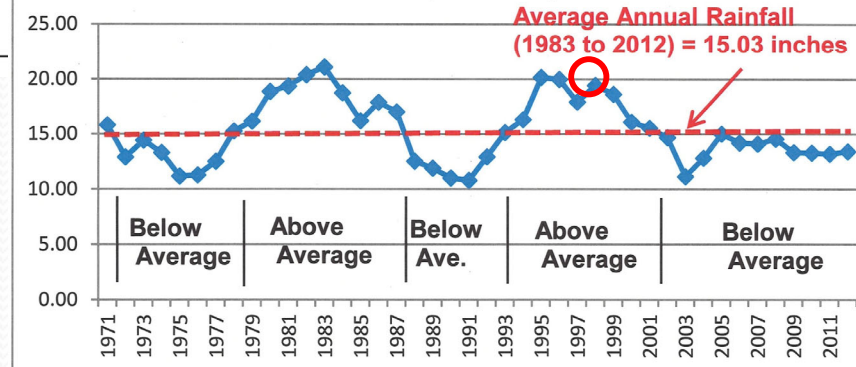
5-year Running Average Rainfall (in inches)



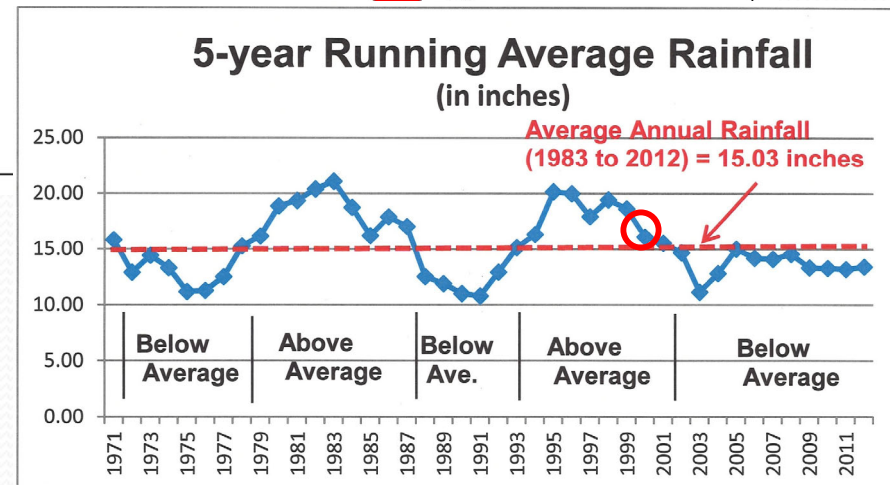
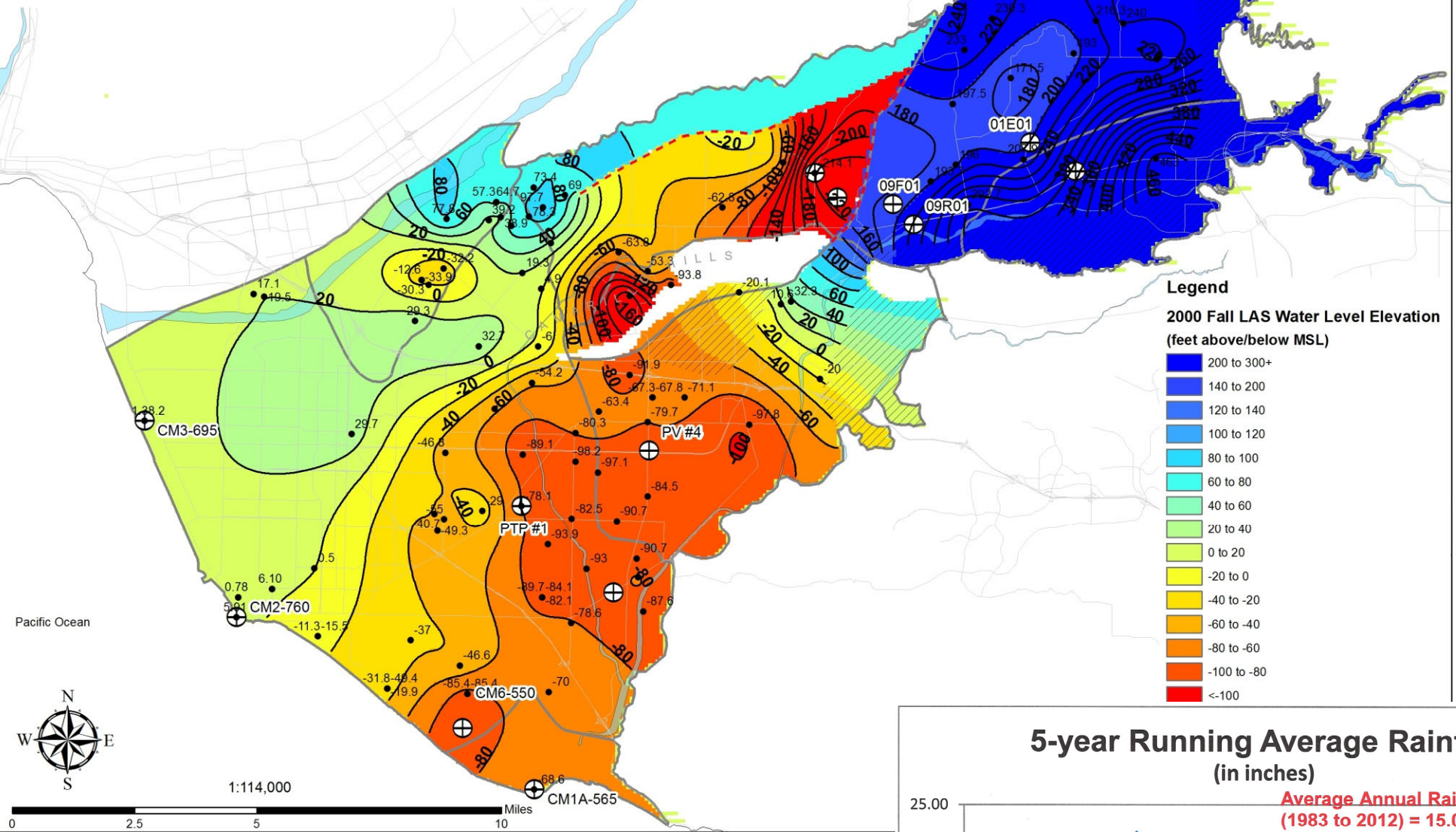
Fall 1998 Lower Aquifer System Potentiometric Surface Map



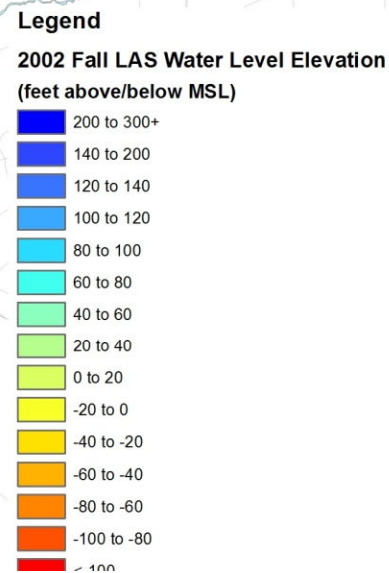
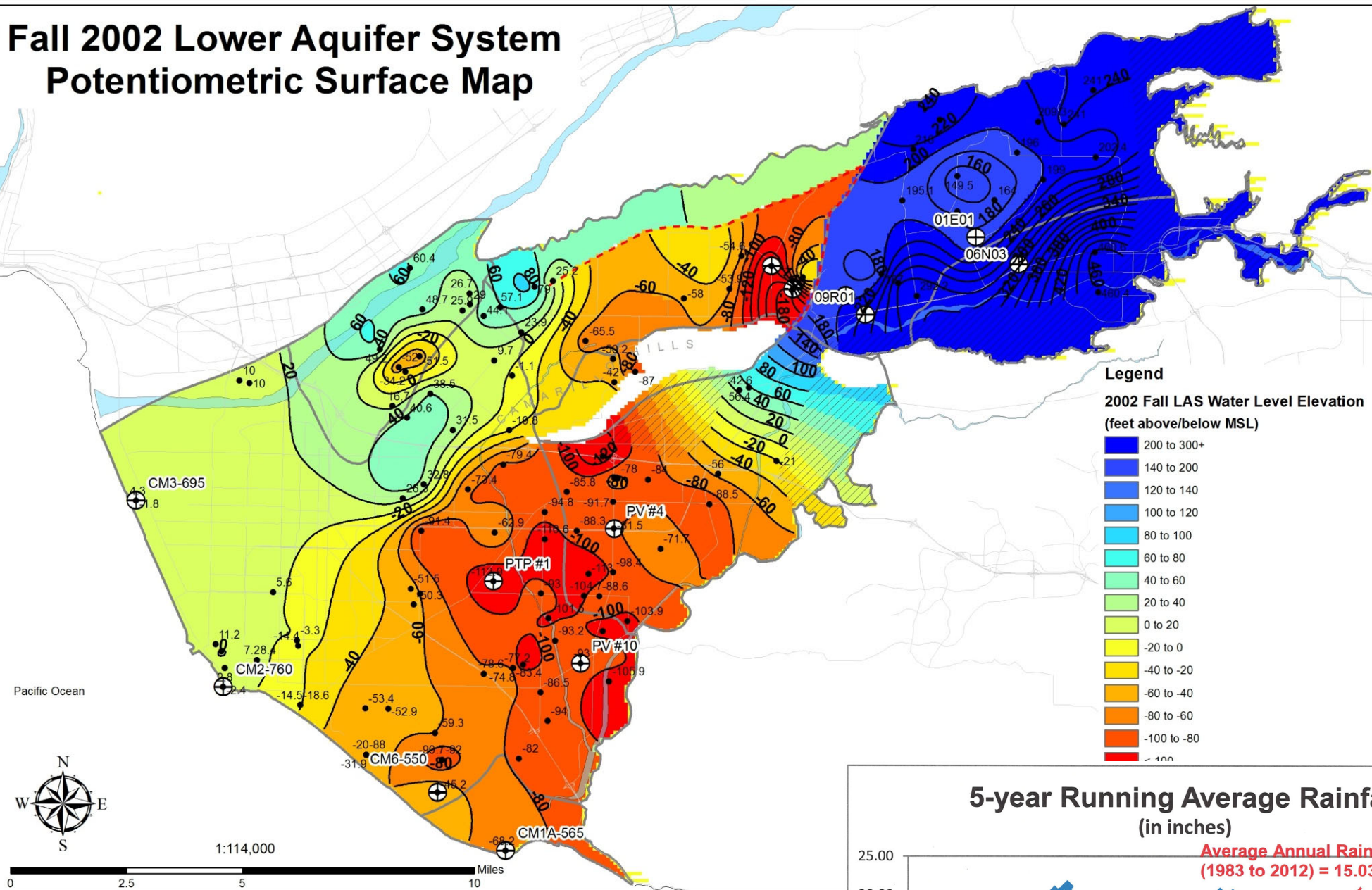
5-year Running Average Rainfall (in inches)



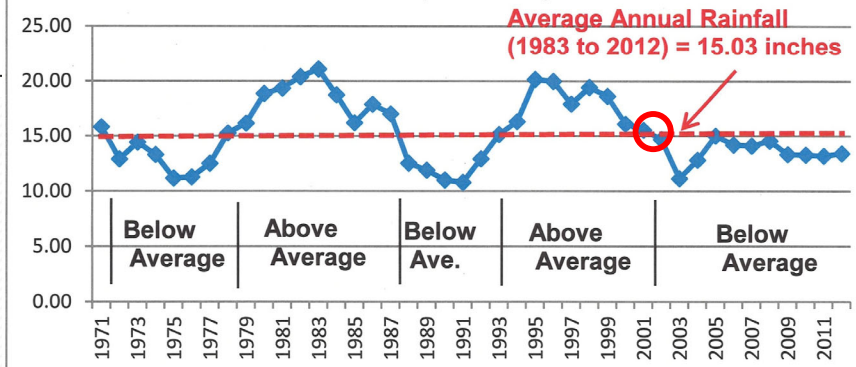
Fall 2000 Lower Aquifer System Potentiometric Surface Map



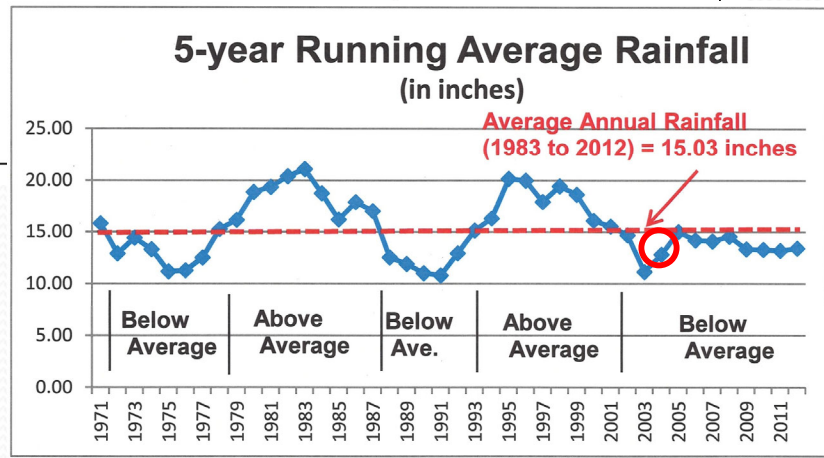
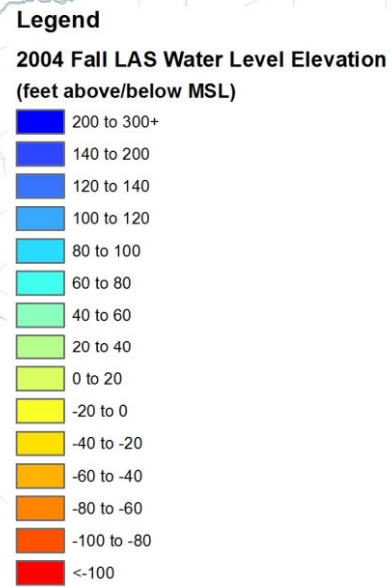
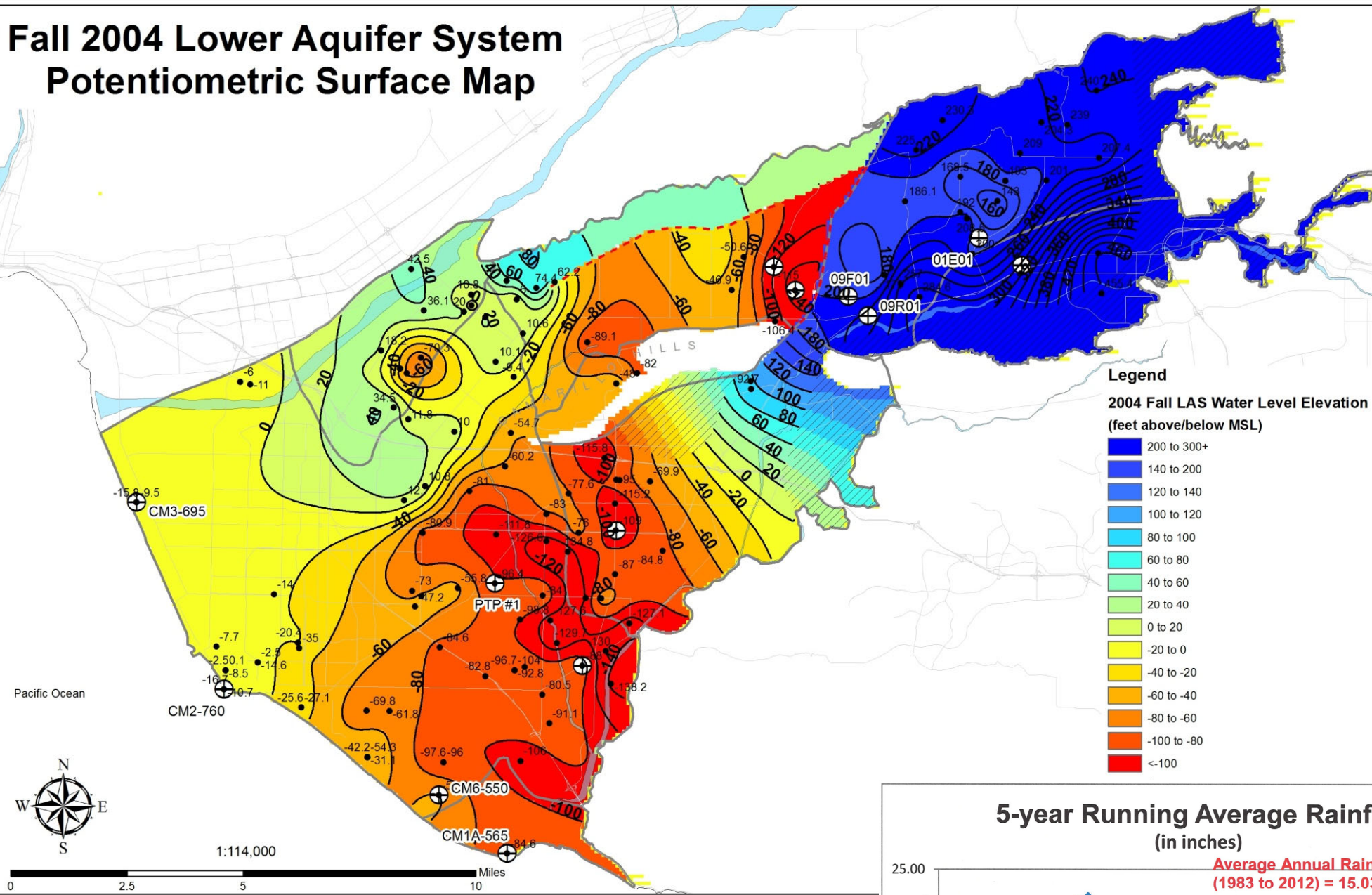
Fall 2002 Lower Aquifer System Potentiometric Surface Map



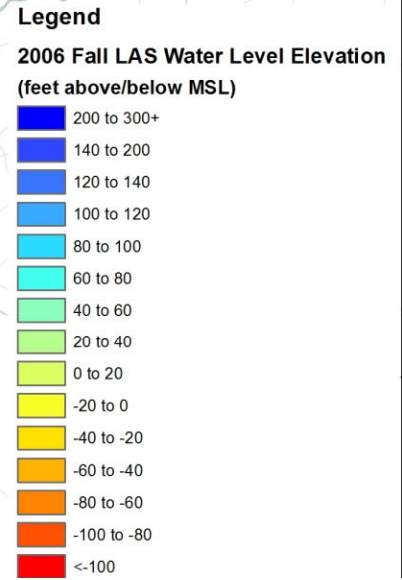
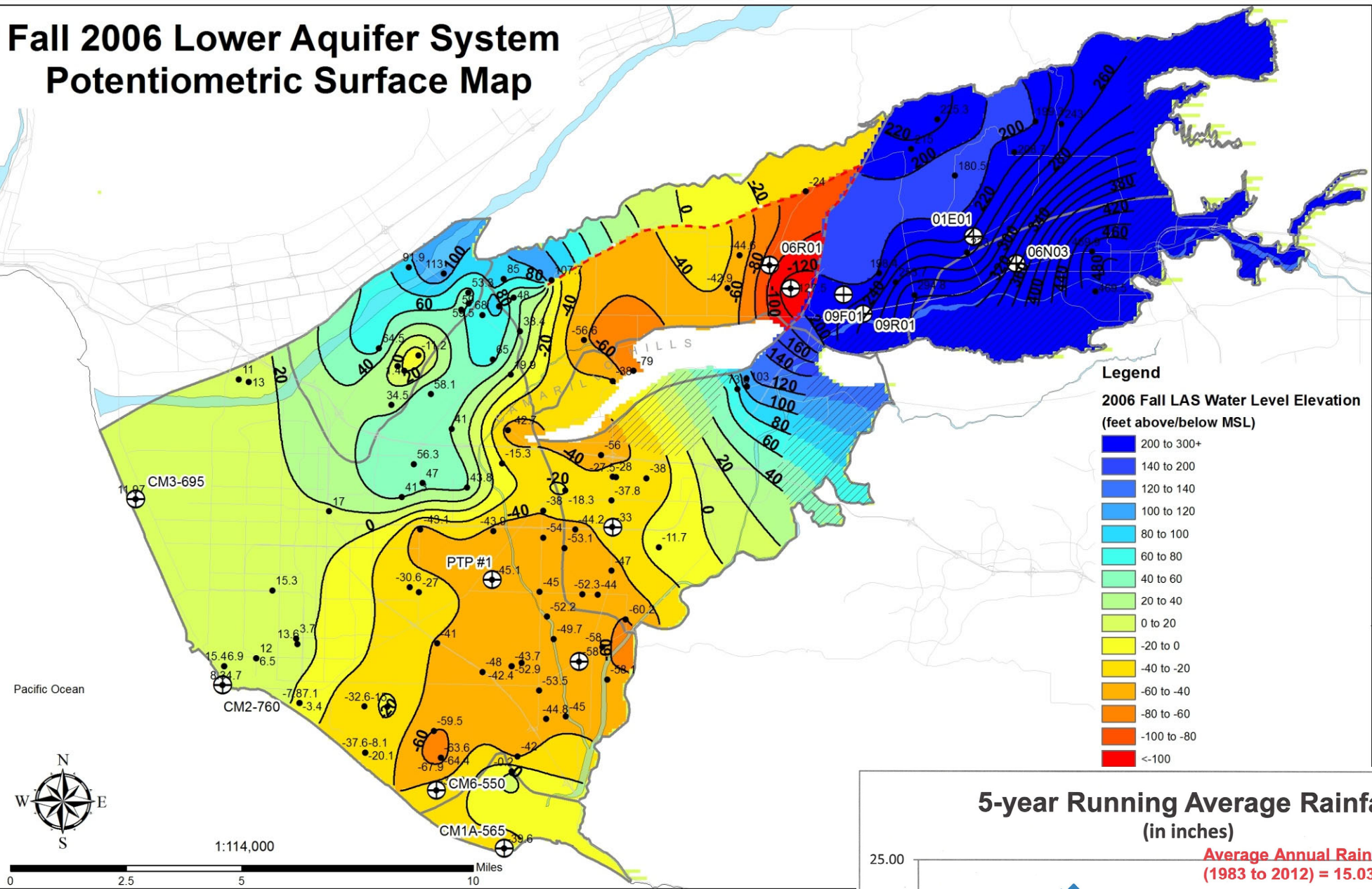
5-year Running Average Rainfall (in inches)



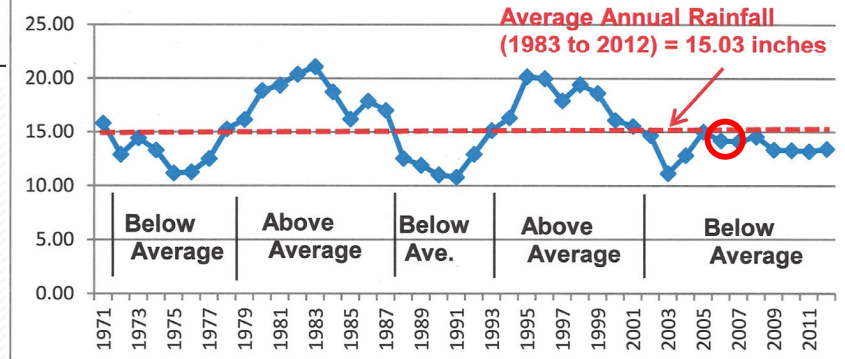
Fall 2004 Lower Aquifer System Potentiometric Surface Map



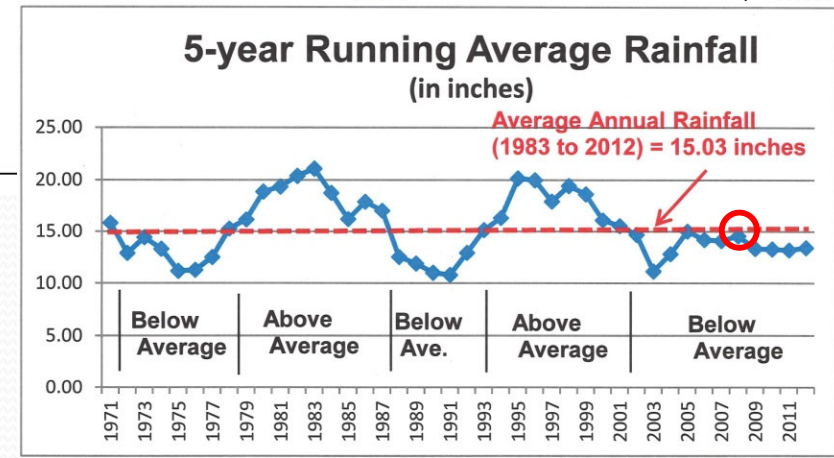
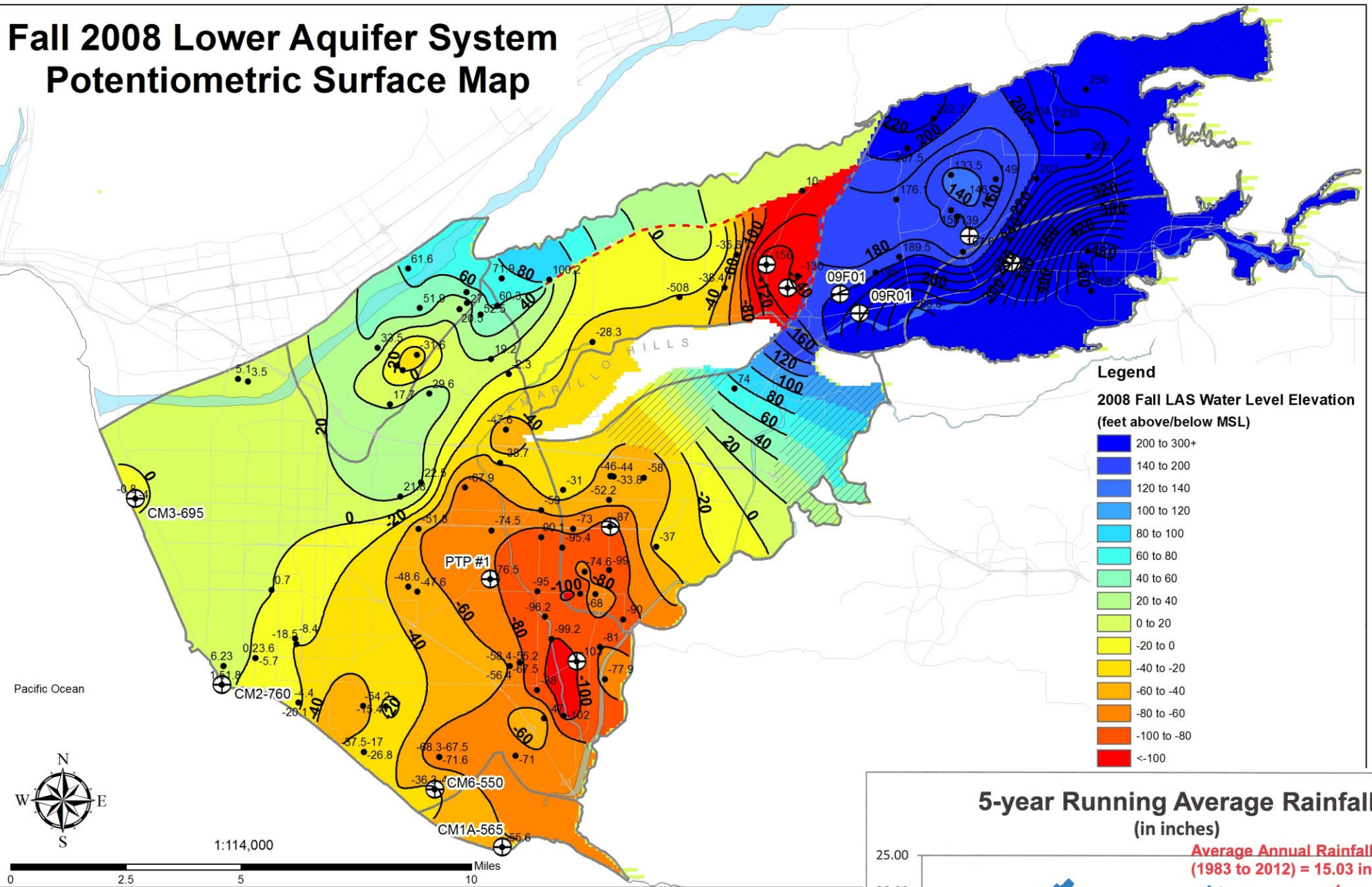
Fall 2006 Lower Aquifer System Potentiometric Surface Map



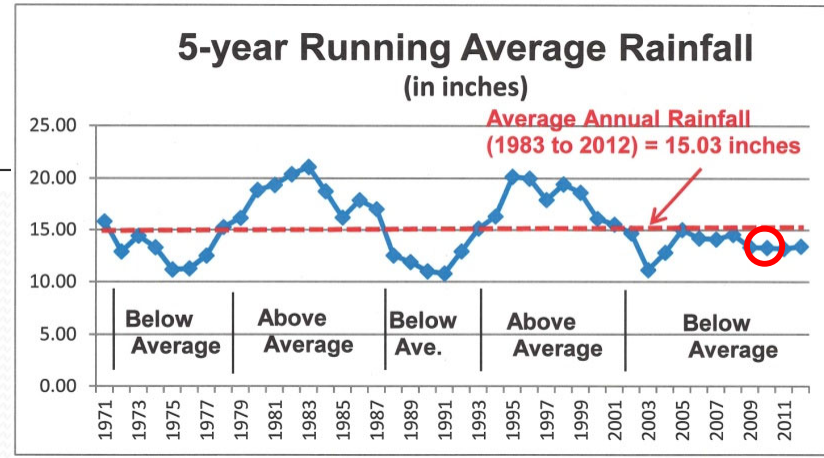
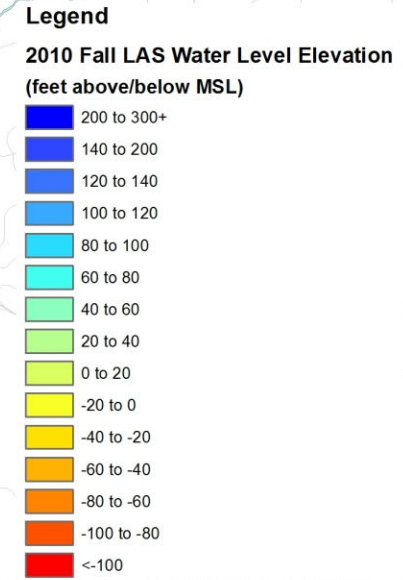
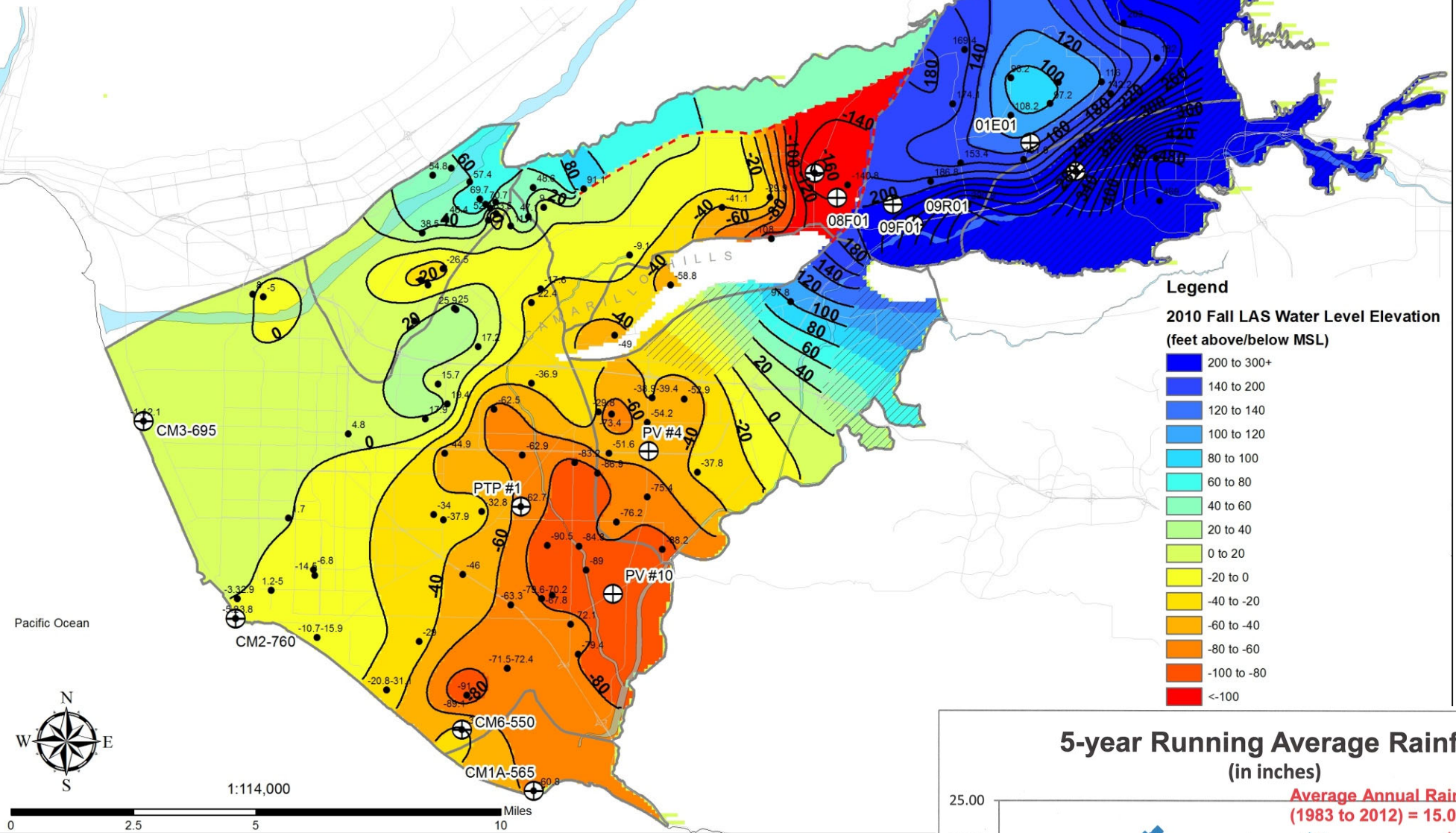
5-year Running Average Rainfall (in inches)



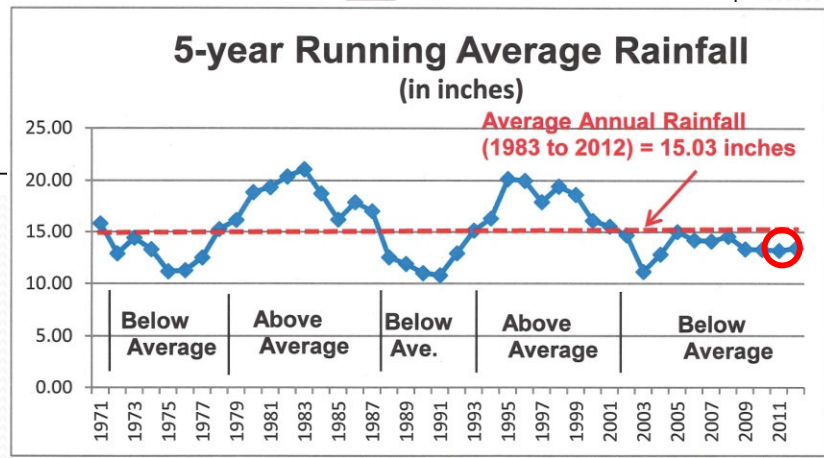
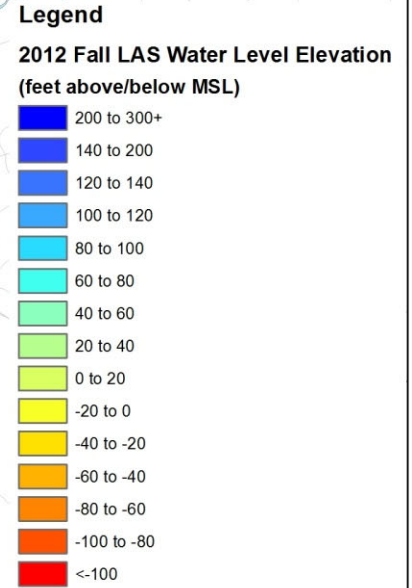
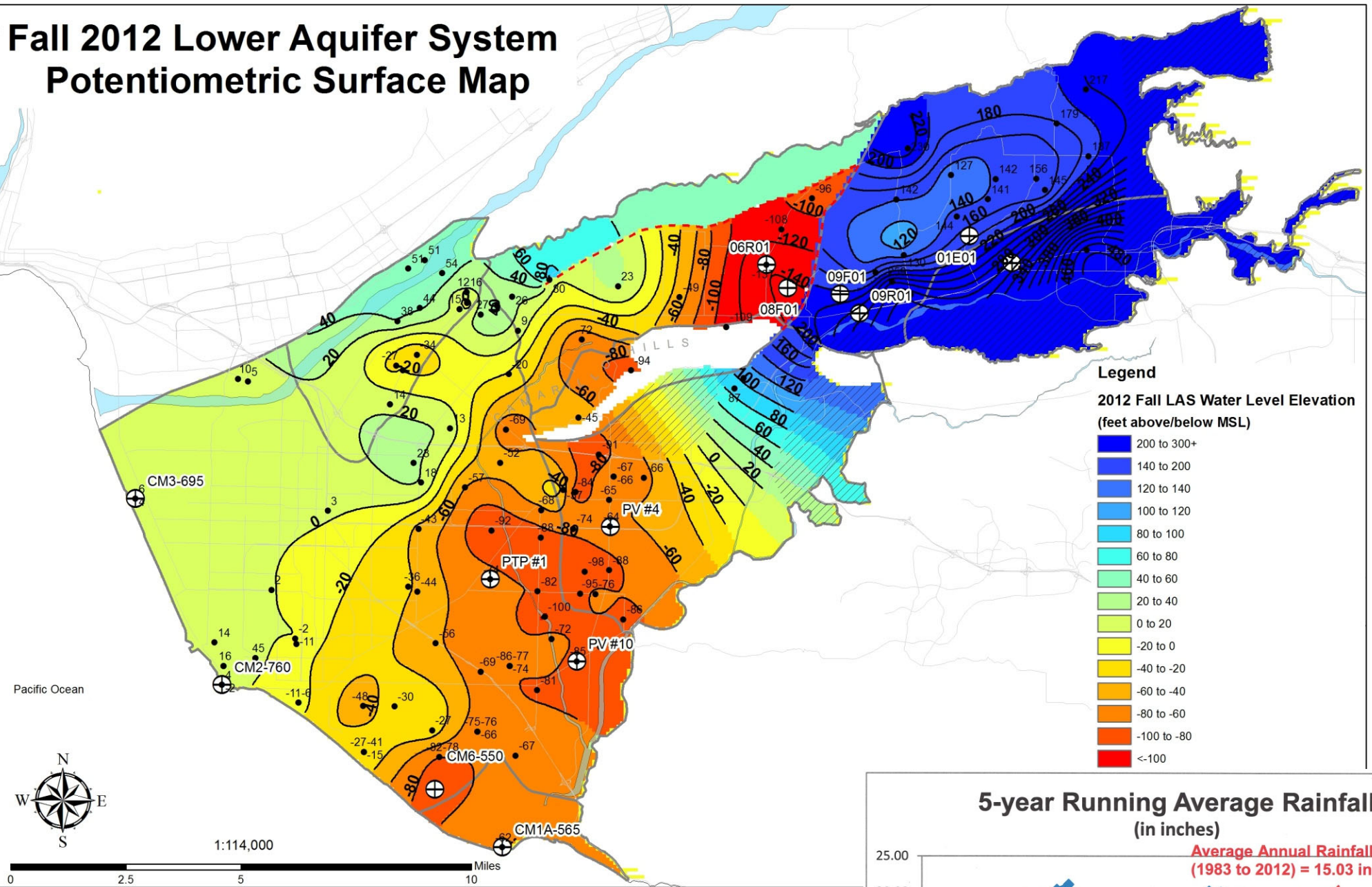
Fall 2008 Lower Aquifer System Potentiometric Surface Map



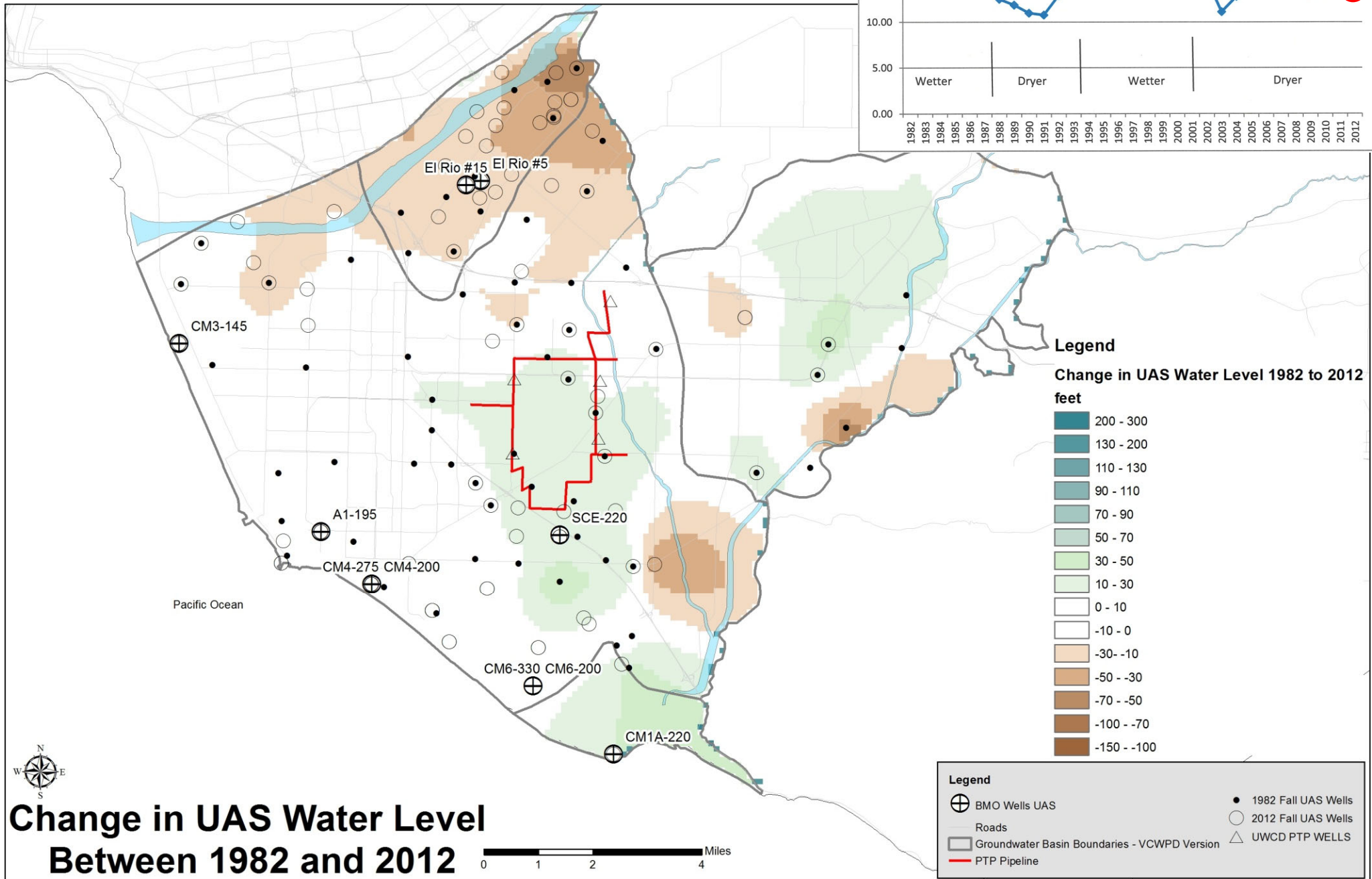
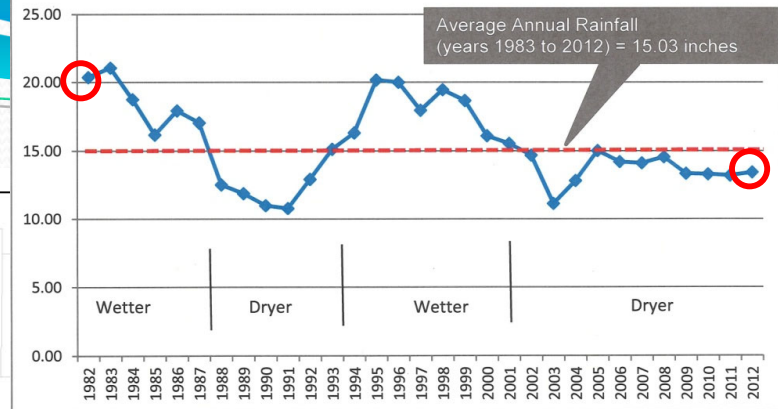
Fall 2010 Lower Aquifer System Potentiometric Surface Map



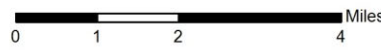
Fall 2012 Lower Aquifer System Potentiometric Surface Map



5-year Running Average Rainfall (in inches)



Change in UAS Water Level Between 1982 and 2012



Change in Water Level Elevation Between 1982 and 2012

