



BASE LOADING ON THE STATE WATER PROJECT

SOUTHERN CALIFORNIA WATER DIALOGUE

MARCH 22, 2017

BOB TINCHER, M.S., P.E.

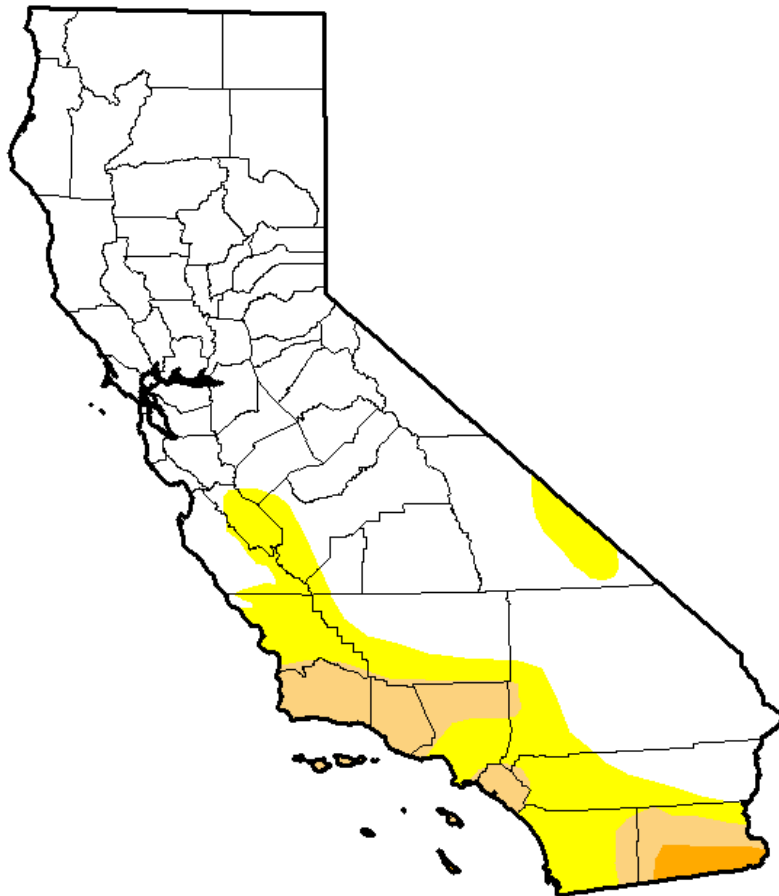
MANAGER OF WATER RESOURCES

SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT

IS THE DROUGHT OVER?

U.S. Drought Monitor California

March 14, 2017
(Released Thursday, Mar. 16, 2017)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	76.54	23.46	8.24	1.06	0.00	0.00
Last Week 3/7/2017	76.54	23.46	8.24	1.10	0.00	0.00
3 Months Ago 12/13/2016	12.16	87.84	73.04	60.27	42.80	21.04
Start of Calendar Year 1/3/2017	18.07	81.93	67.61	54.02	38.17	18.31
Start of Water Year 9/27/2016	0.00	100.00	83.59	62.27	42.80	21.04
One Year Ago 3/15/2016	0.43	99.57	93.28	73.64	55.31	34.74

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Brian Fuchs
National Drought Mitigation Center





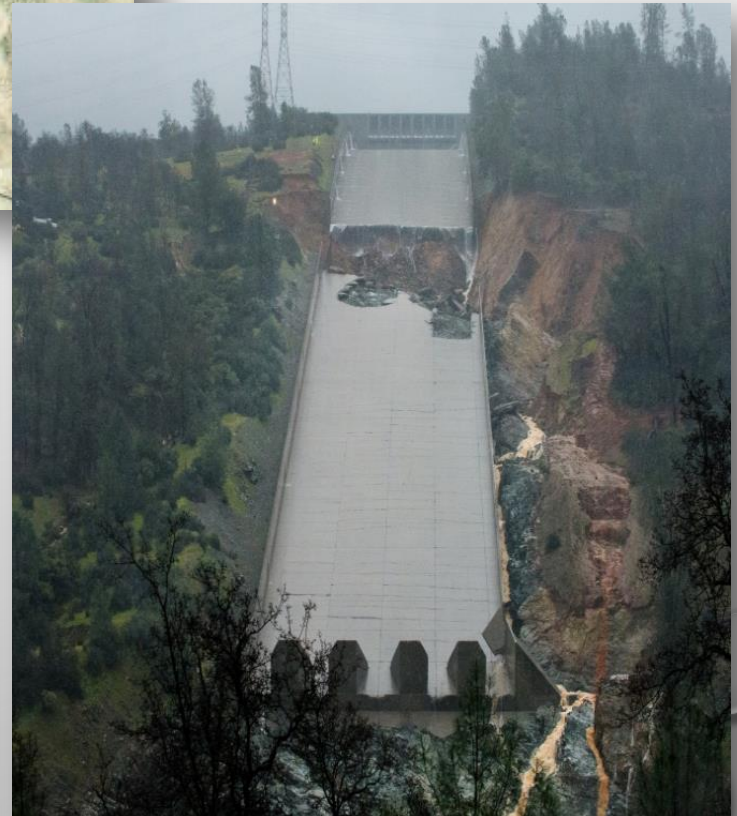
MAJOR FLOODING

Through Tuesday Night

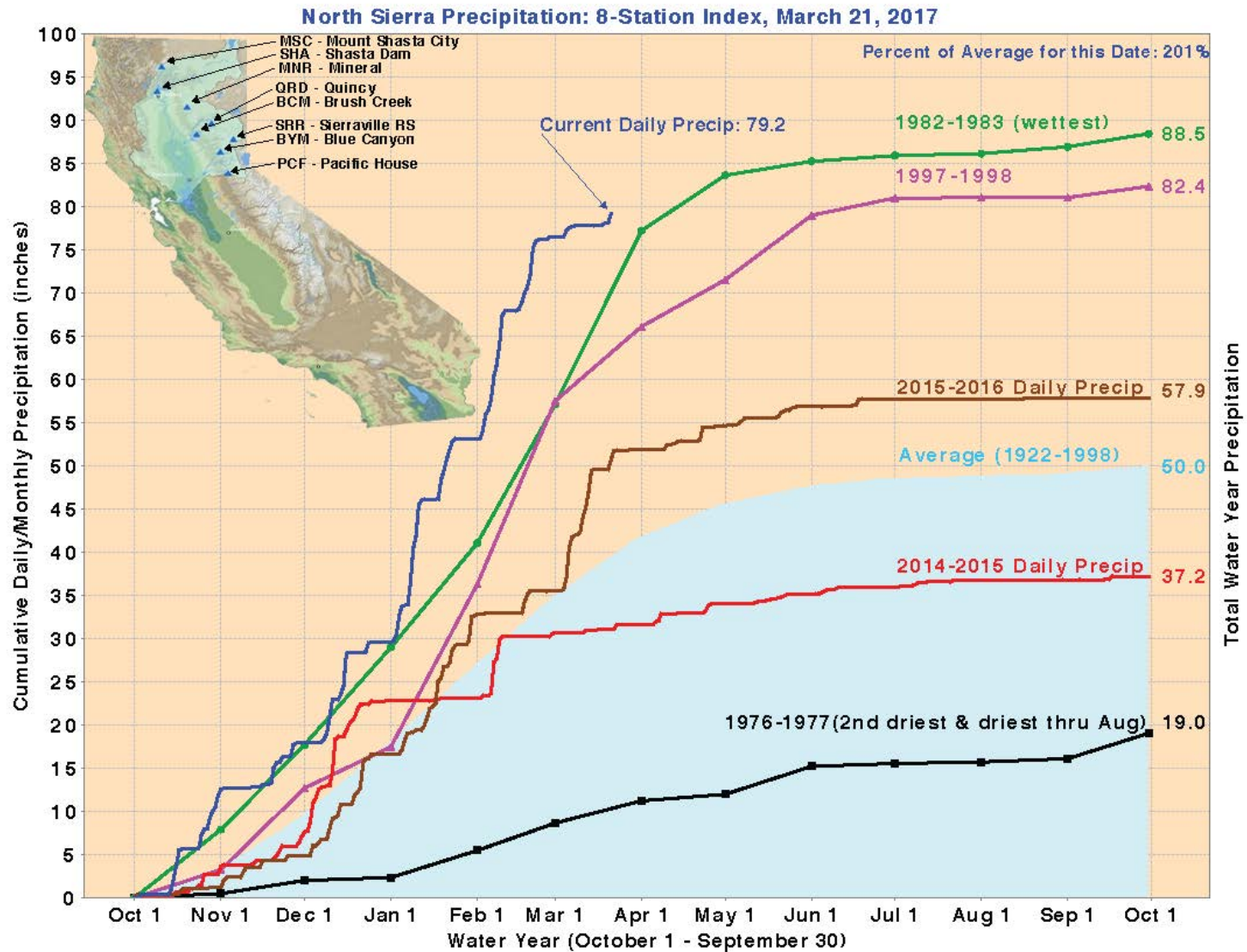
- Lives threatened
- Rivers overflow
- Property damage
- Mud and rock slides
- Melting snow



AccuWeather

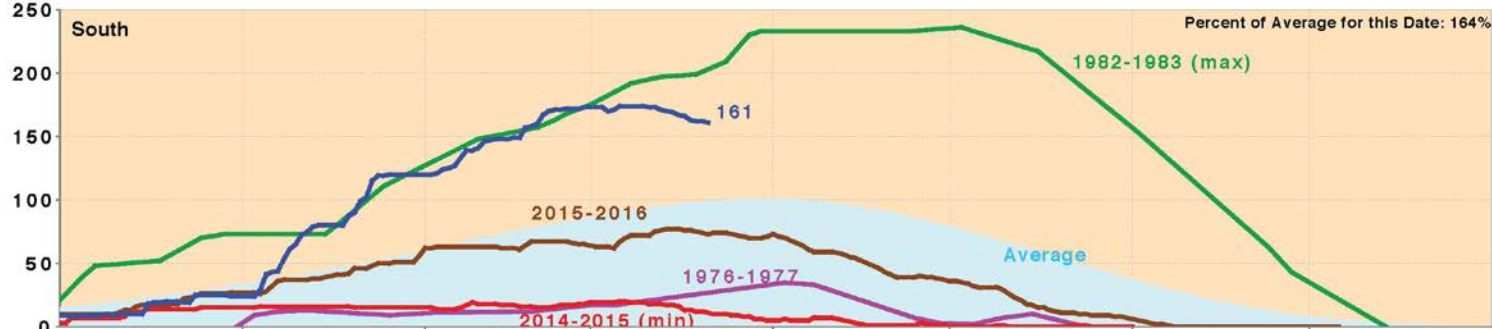
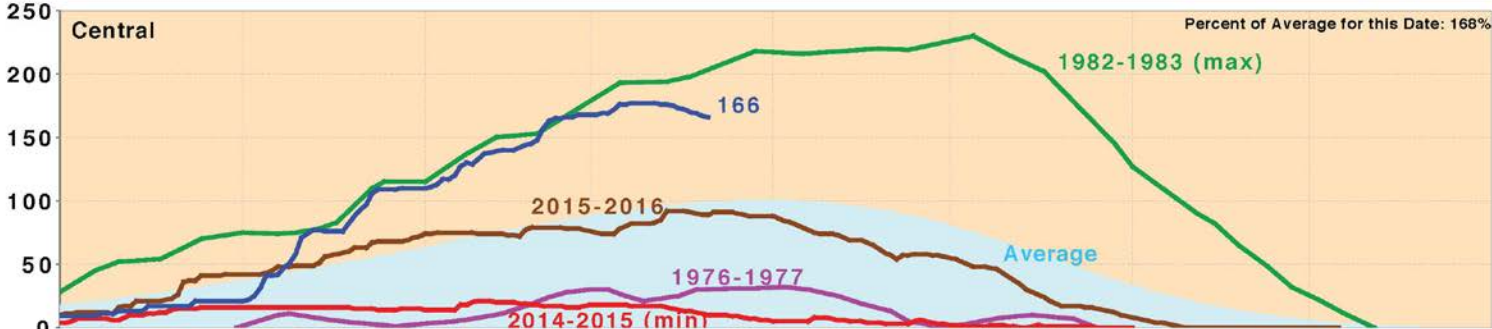
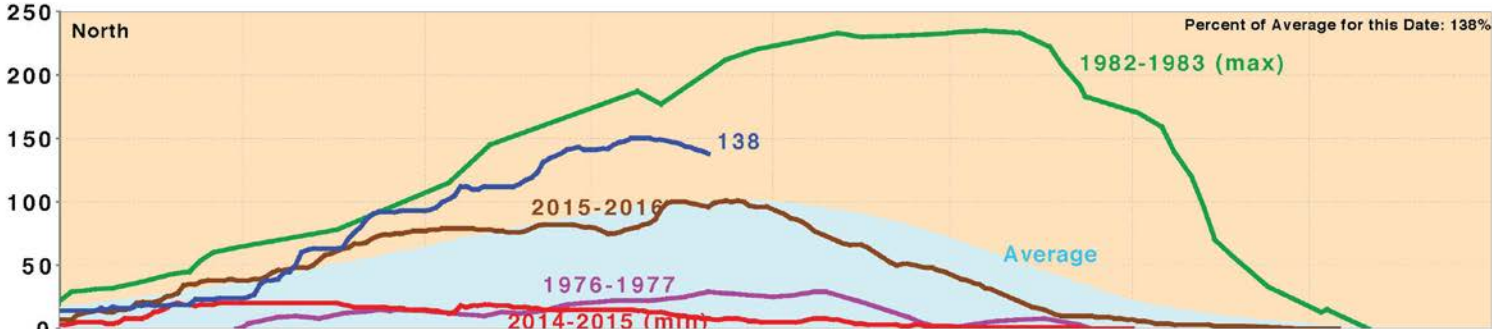


PRECIPITATION FOR SWP



SNOW FOR SWP

California Snow Water Content, March 21, 2017, Percent of April 1 Average



Statewide Percent of April 1: 156%

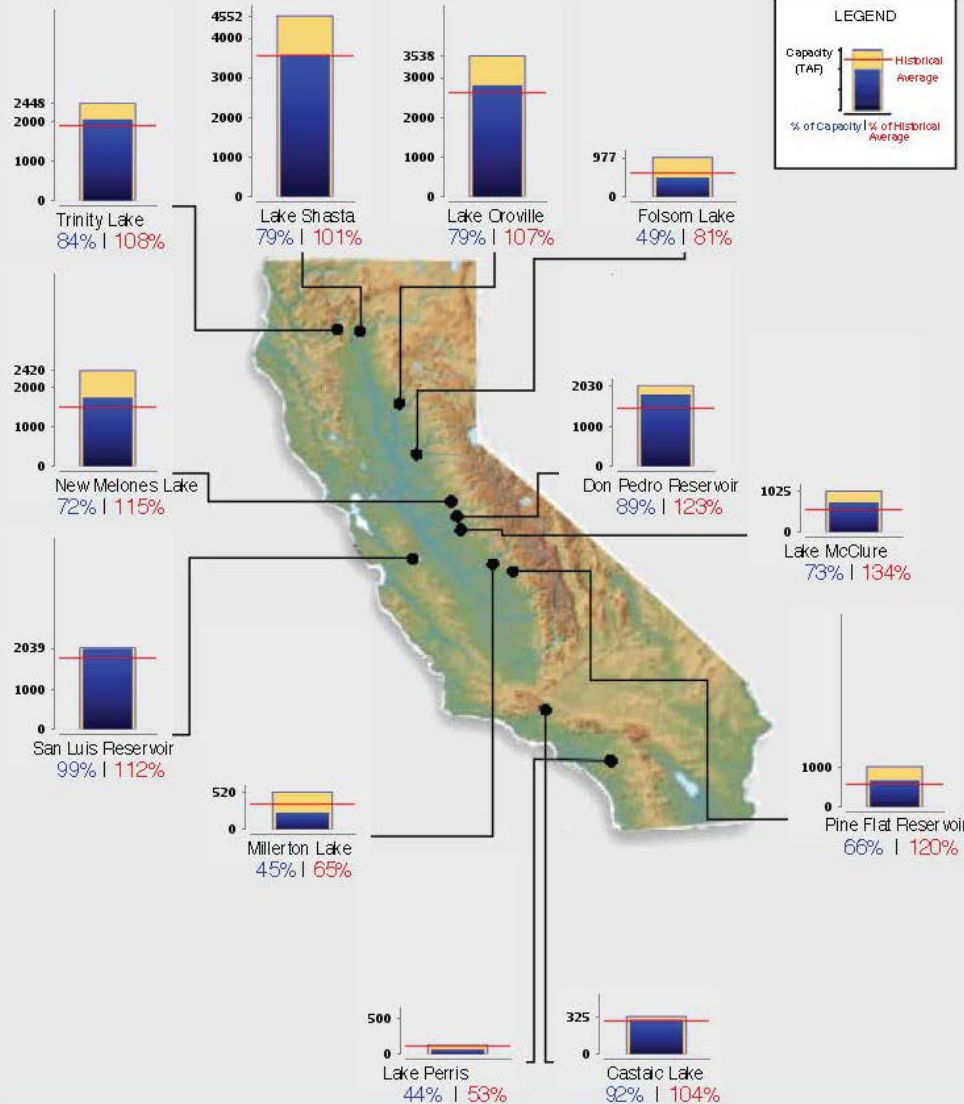
Statewide Percent of Average for Date: 158%

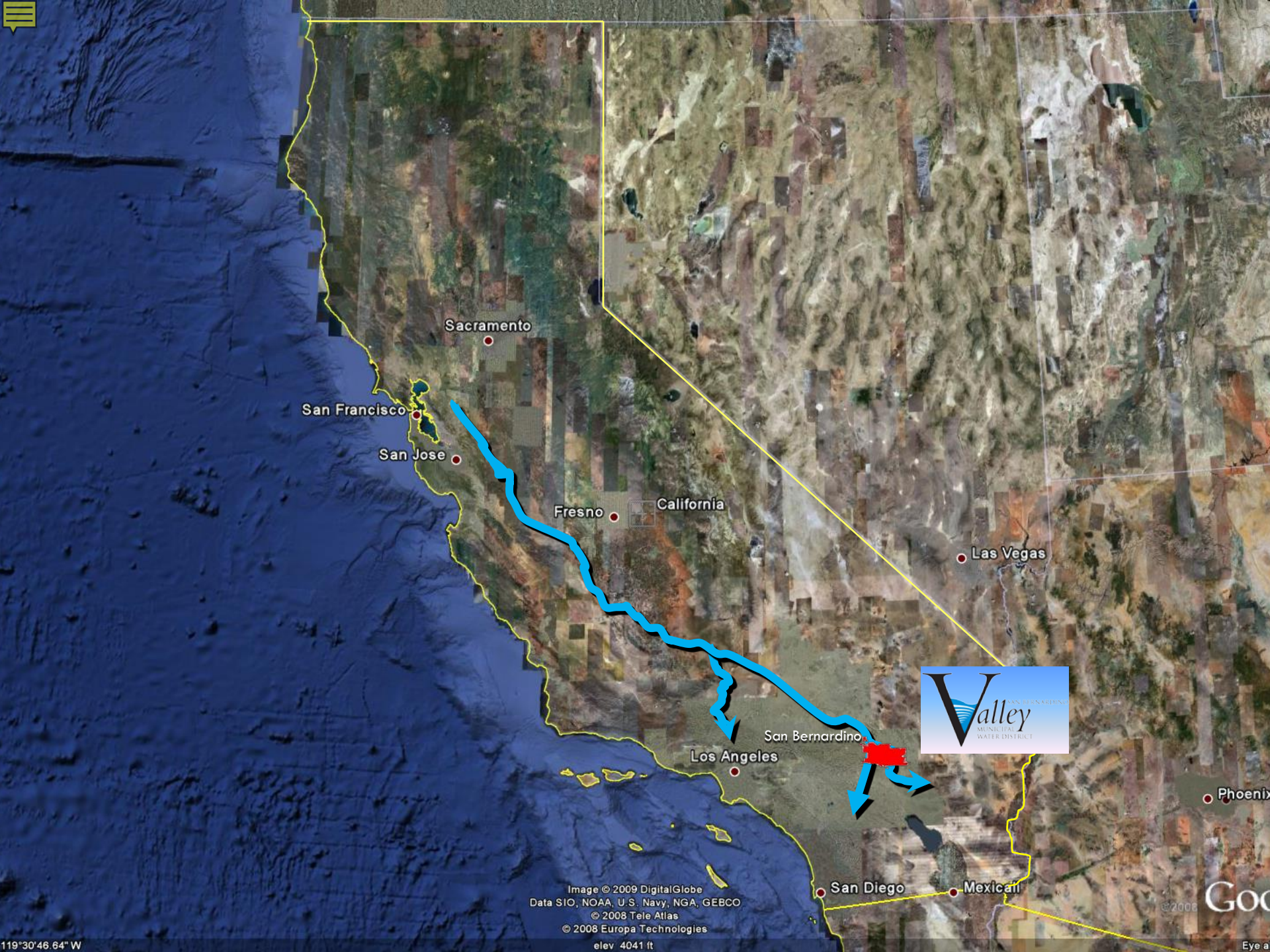


Reservoir Conditions

Ending At Midnight - March 20, 2017

CURRENT RESERVOIR CONDITIONS





Sacramento

San Francisco

San Jose

Fresno

California

Los Angeles

San Bernardino

San Diego

Mexican

Las Vegas

Phoenix

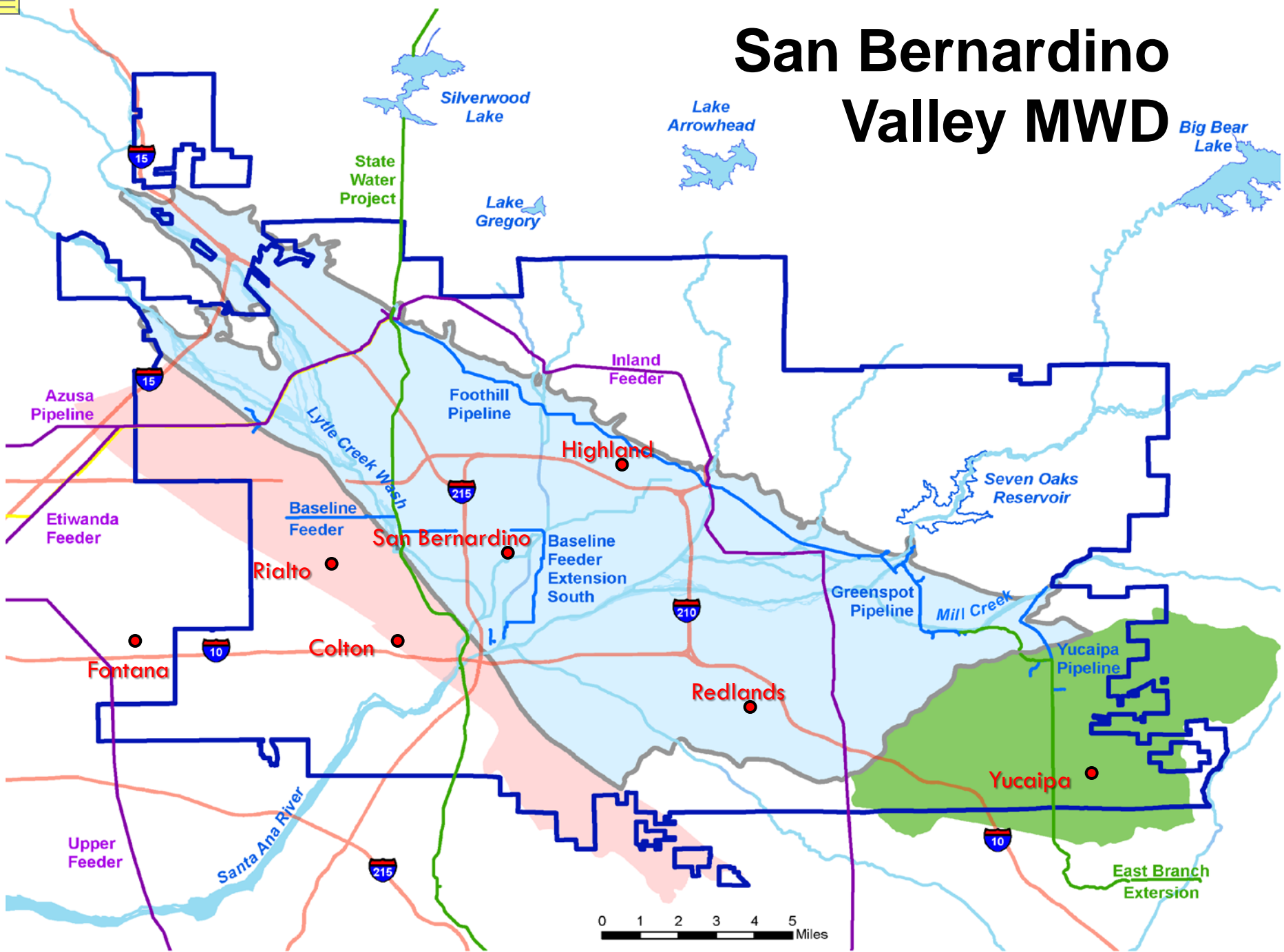


Image © 2009 DigitalGlobe
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
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elev 4041 ft

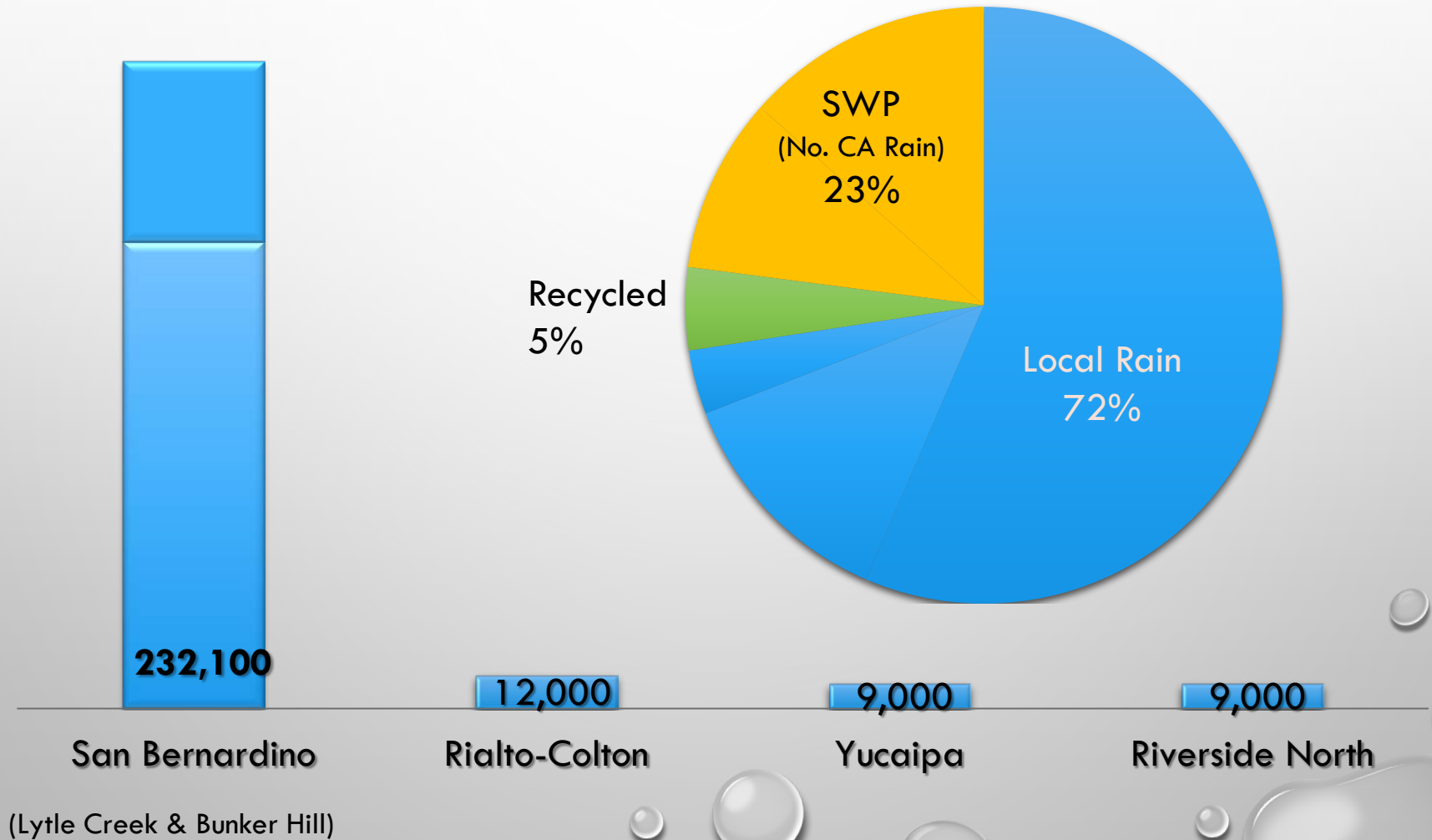
119°30'46.64" W

© 2008
Goo
Eye

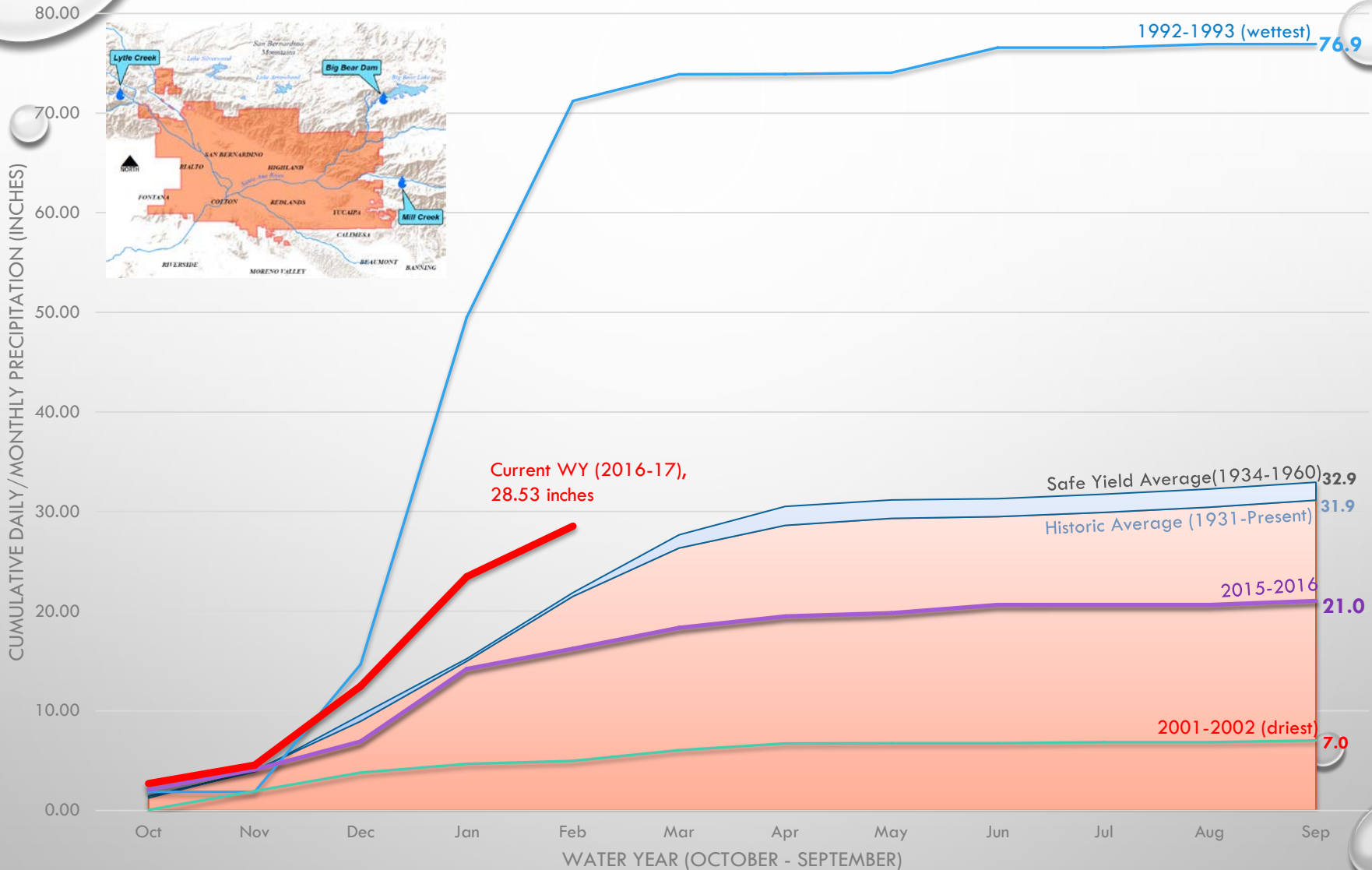
San Bernardino Valley MWD



WATER RESOURCES



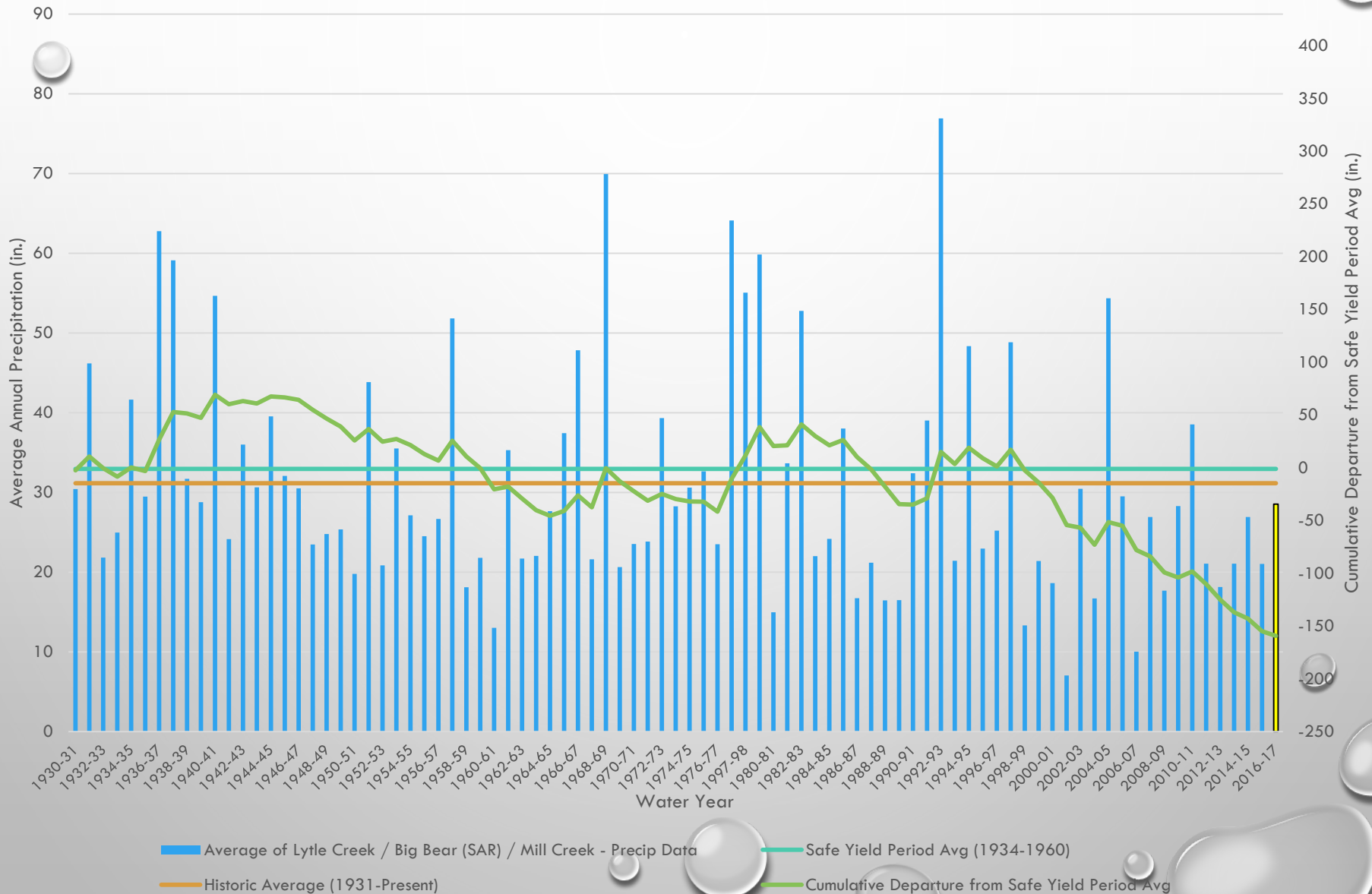
San Bernardino Basin Area Three Station Precipitation Index



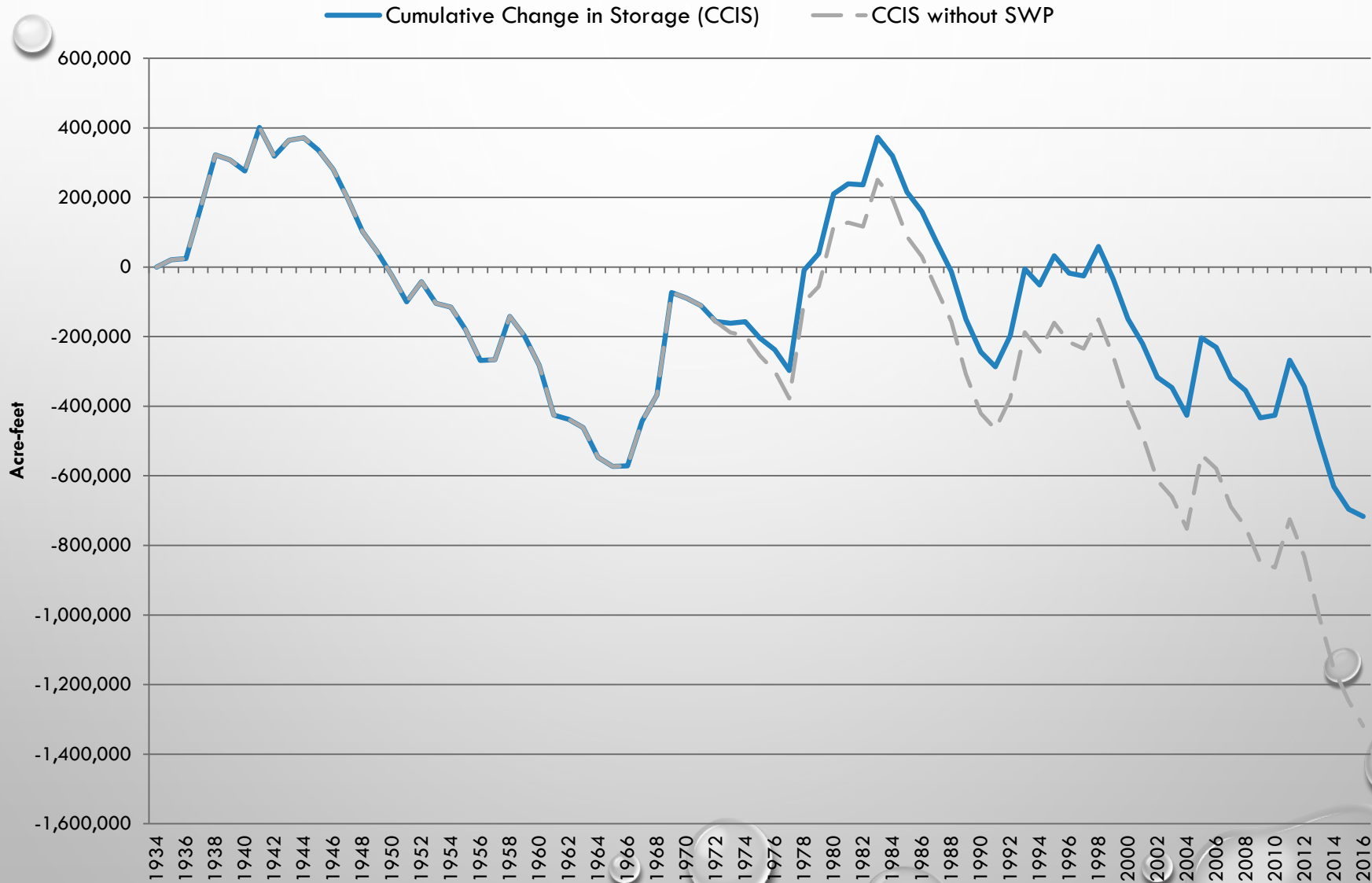
Historic Average (1931-Present)
 Safe Yield Average(1934 - 1960)
 2016-17

STILL BELOW AVERAGE FOR THE YEAR

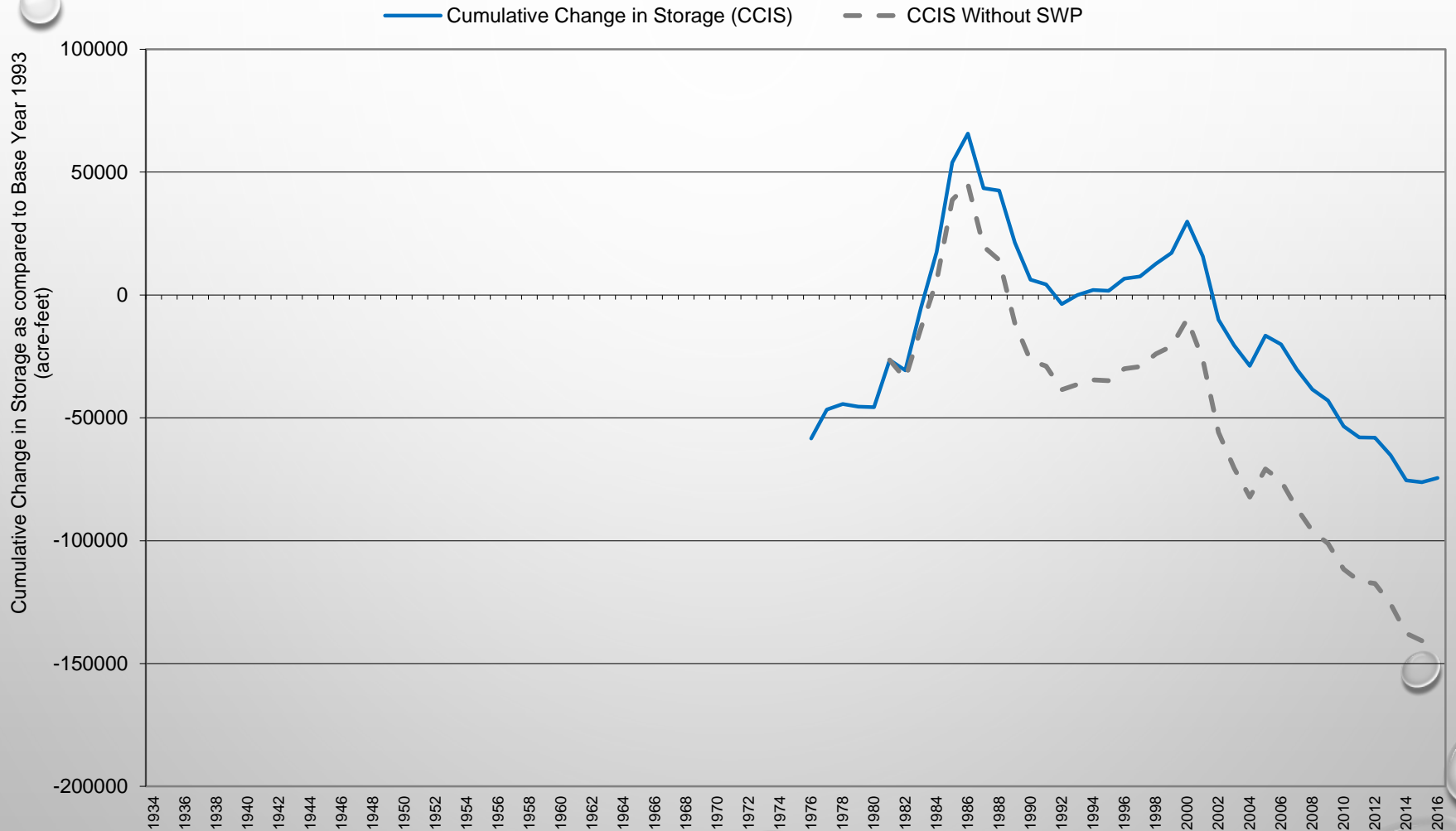
San Bernardino Basin Area Three Station Precipitation Index



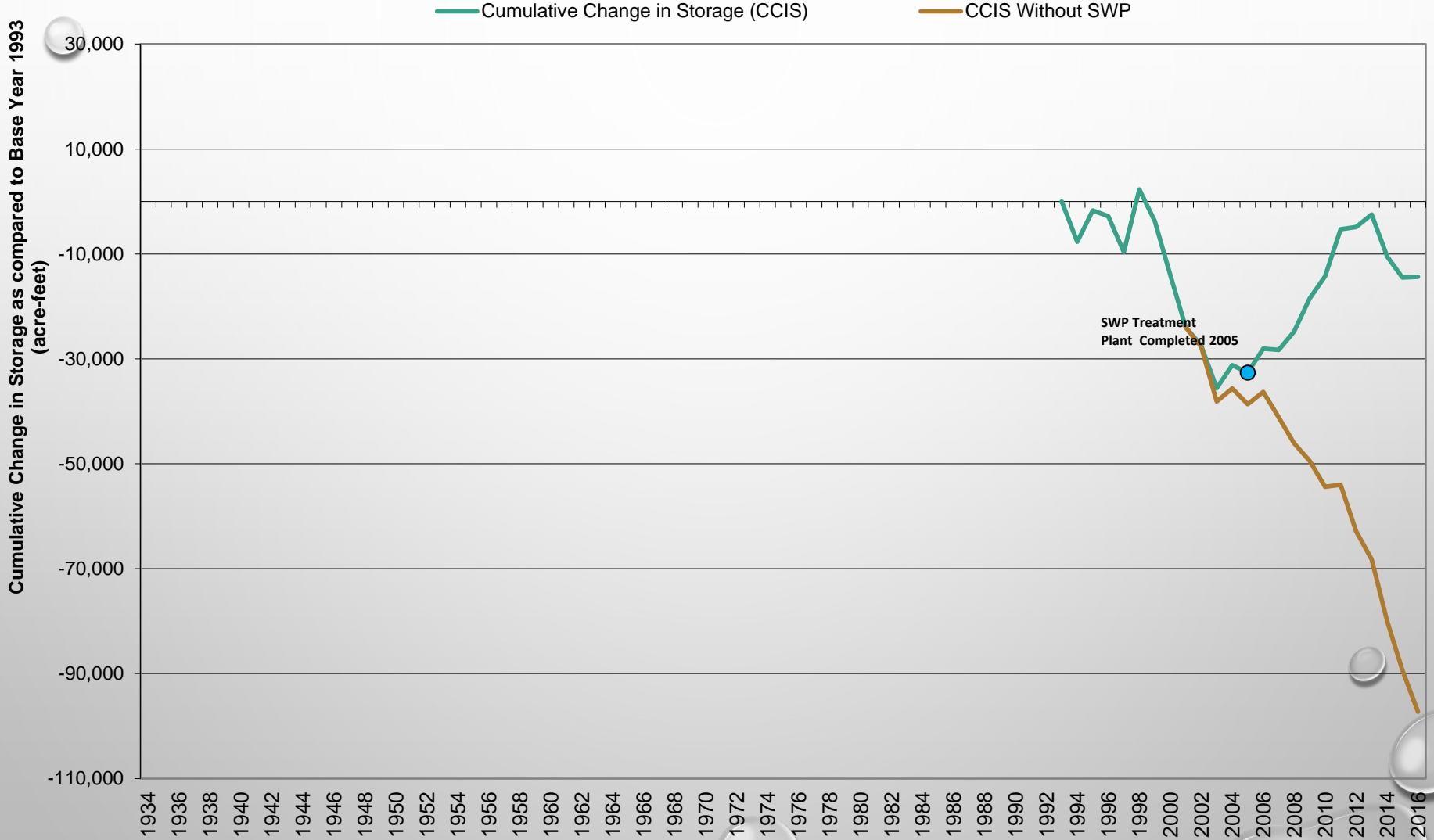
Cumulative Change in Storage for the SBBA with and without SWP Water



Cumulative Change in Storage for the Rialto-Colton Basin with and without SWP Water



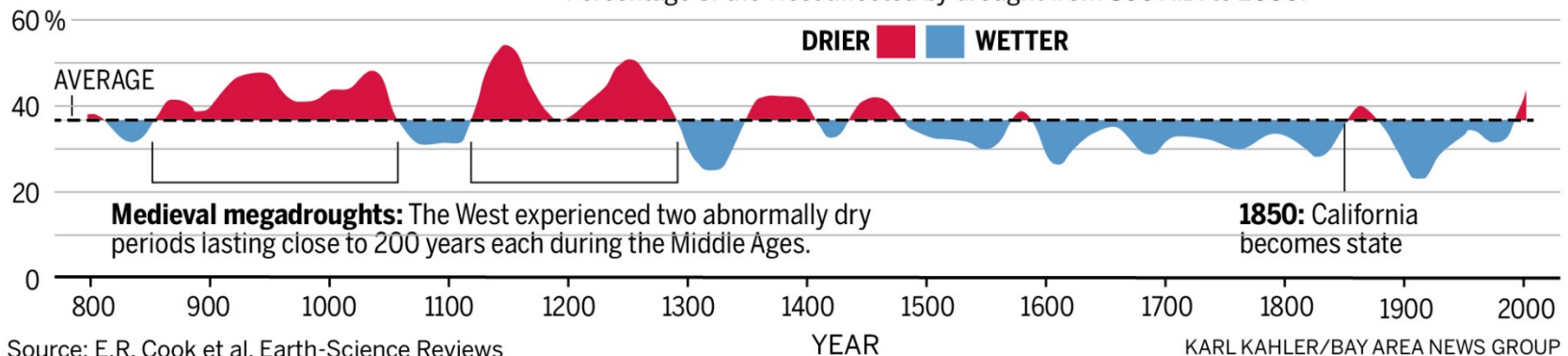
Cumulative Change in Storage for the Yucaipa Basin with and without SWP Water



WHAT IF DROUGHTS LAST LONGER?

A 200-year drought?

Evidence from tree rings shows that drought was historically much more widespread in the American West than now, while the 20th century was wetter than normal. Percentage of the West affected by drought from 800 A.D. to 2000:



OWOW WATERSHED-SCALE WATER MANAGEMENT CONCEPTS



Introduced “exchange” concept of “replacement” water to upper/middle watershed for recycled water staying in river

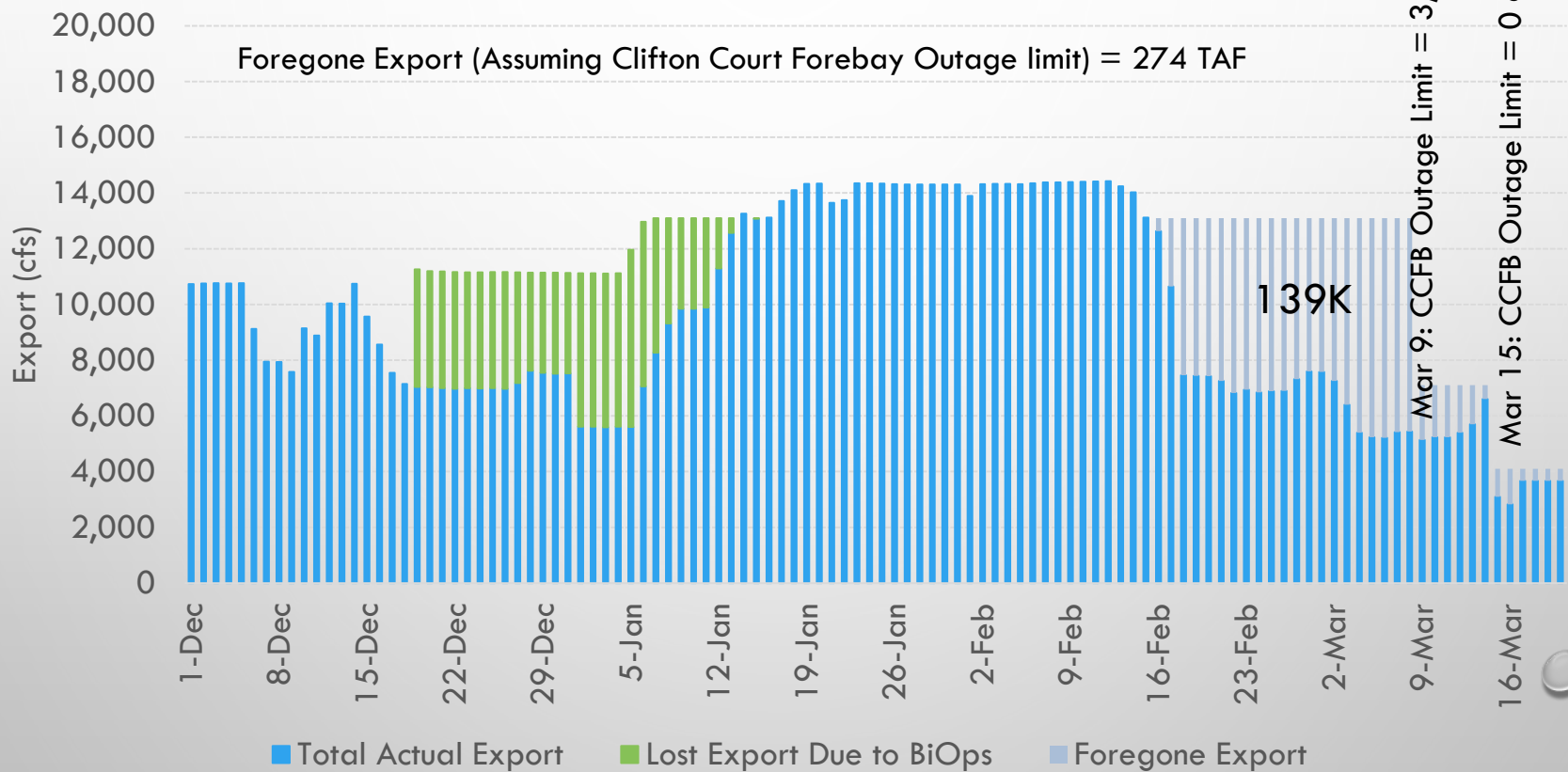
Watershed Exchange Program (40,000 AFY Evaluation)

“Base Load” off of imported water

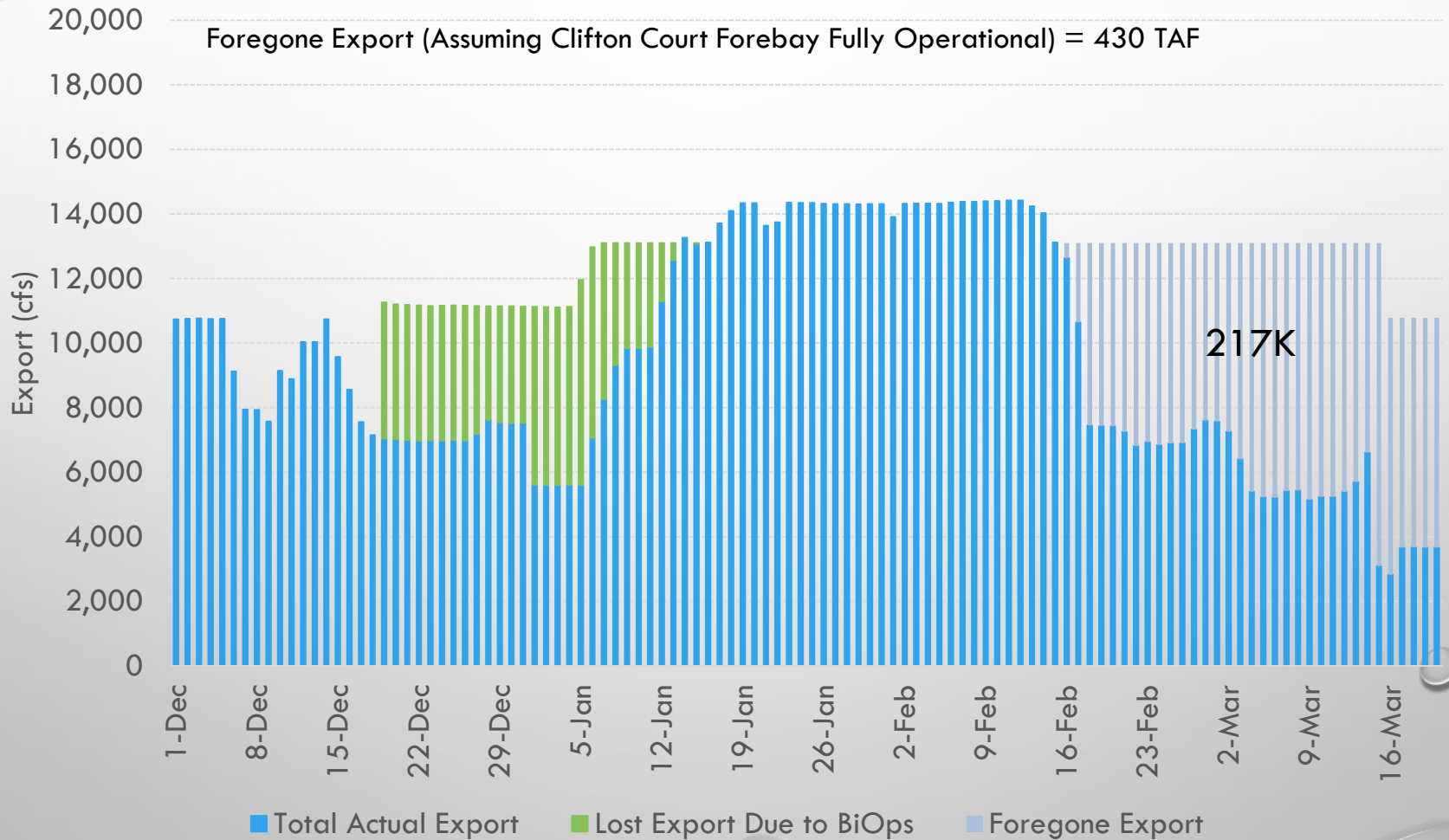
Wet Year Storage Program (120,000 AF Evaluation)

Enhanced Water Conservation at Prado Dam (10,000 AF Evaluation)

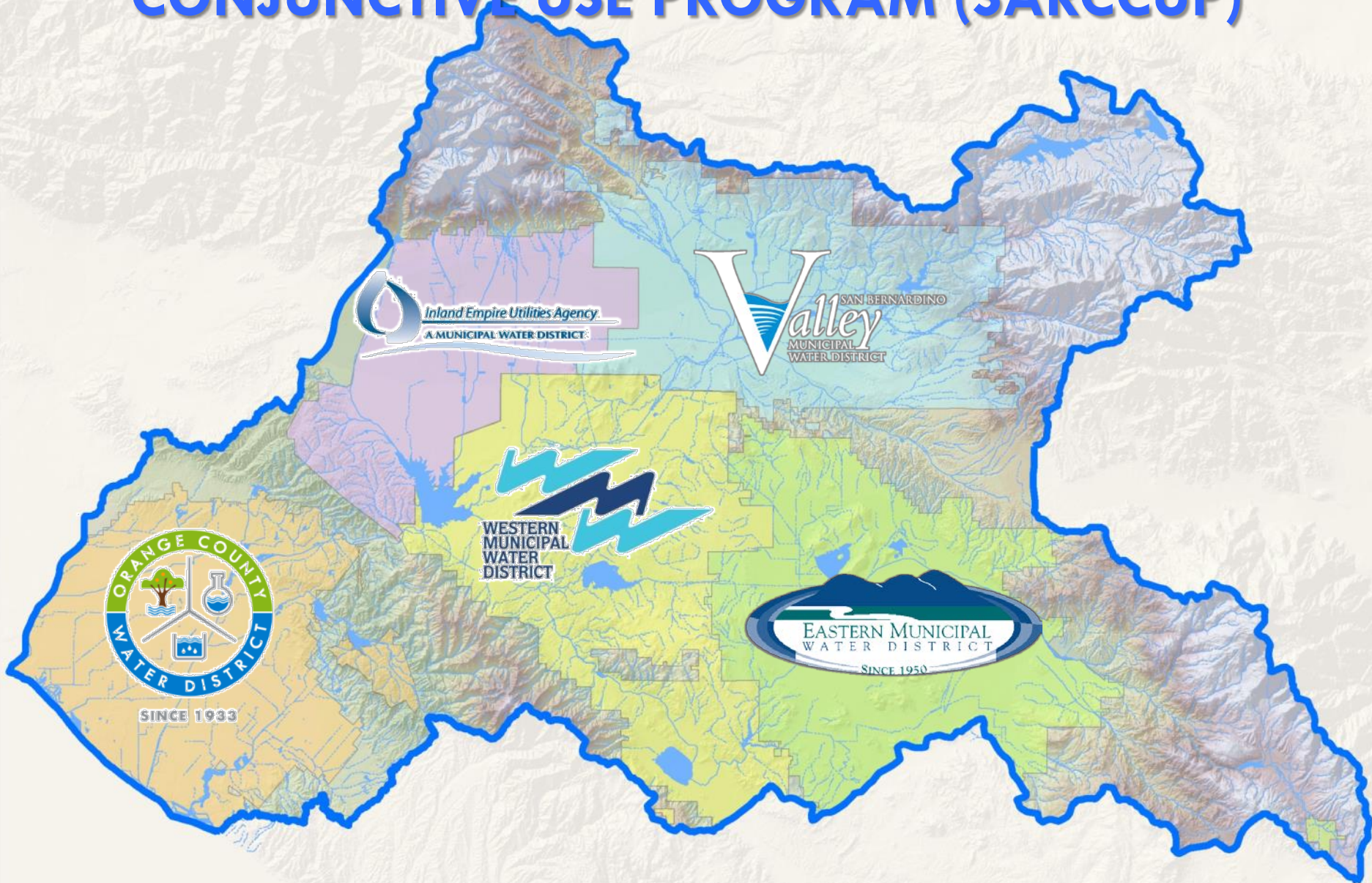
Lost Export Due to BiOps and Foregone Export: Water Year 2016-17



Lost Export Due to BiOps and Foregone Export: Water Year 2016-17



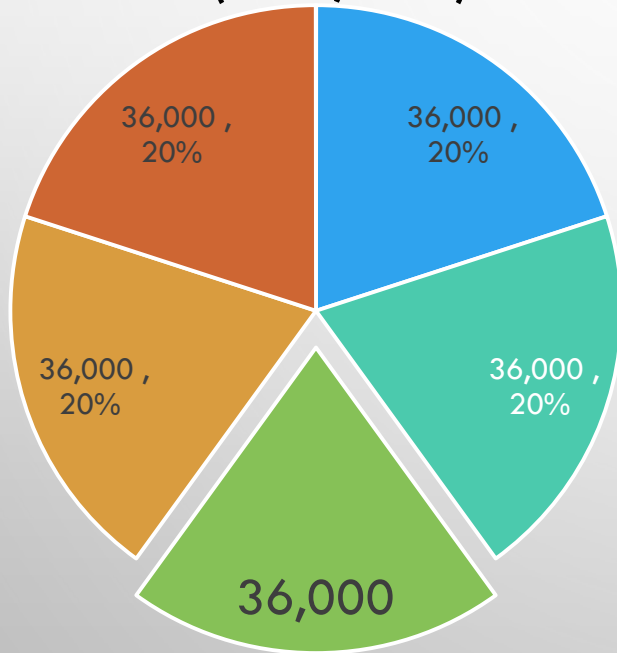
SANTA ANA RIVER CONSERVATION AND CONJUNCTIVE USE PROGRAM (SARCCUP)



SARCCUP

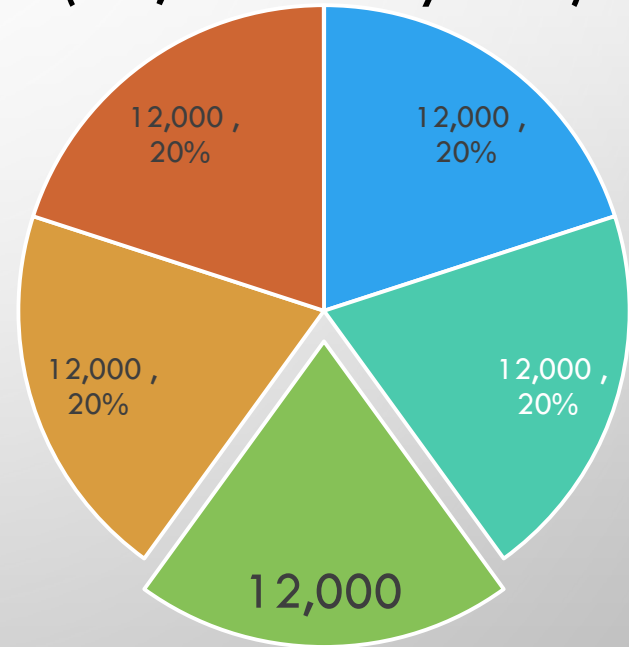
Storage

(180,000)



Dry Year Yield

(60,000 x 3 years)

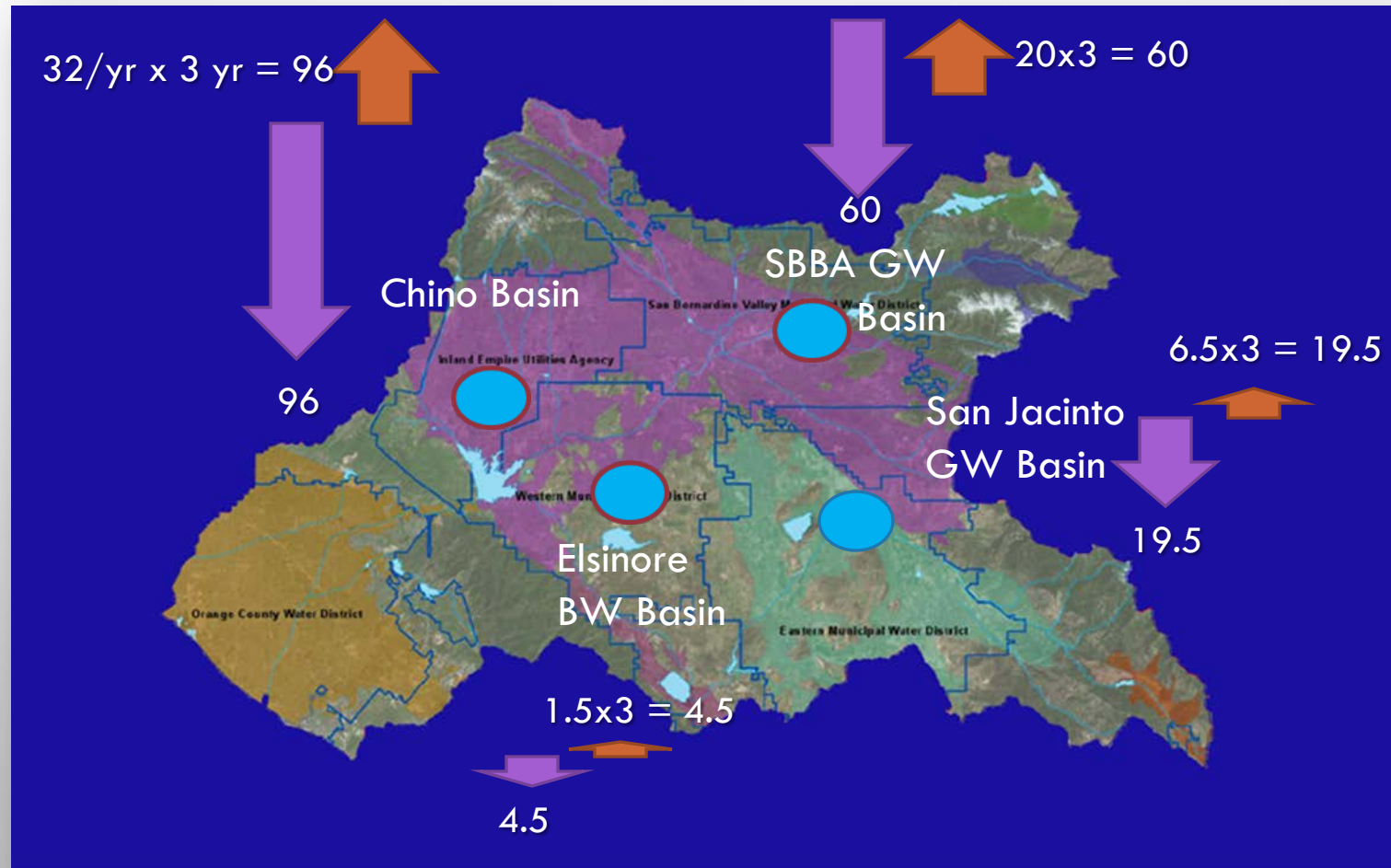


■ EMWD ■ IEUA ■ OCWD ■ SBVMWD ■ WMWD

■ EMWD ■ IEUA ■ OCWD ■ SBVMWD ■ WMWD

SARCCUP GROUNDWATER BANK, PHASE 1

(1,000's AF)



Lost Export Due to BiOps and Foregone Export:
Water Year 2016-17

**How do we get Southern California,
us, to base load off of our
investment in the SWP in wet years?**

