

Staff Report

for the Board of Directors' Meeting of April 11, 2018

TO: Board of Directors

FROM: Chip Close, Water Operations Manager
Sue Sindt, Water Resources Superintendent

DATE: April 3, 2018

SUBJECT: Surplus Water Declaration

OPERATIONS

RECOMMENDATION:

Review current water supply conditions and make a surplus water declaration for 2018.

BACKGROUND:

District reservoir storage as of March 31st is 248,675 AF which is 137% of average for this time of year. The forecasted April – July runoff from the Department of Water Resources currently sits at 67% of average and PG&E has made at least 10,000 AF available as a preliminary contractual amount of water that is available for purchase if needed. April 1 availability from all sources is in excess of 300,000 acre feet.

Based on these factors, the District is above the 235,700 AF threshold for normal operations as established in the Drought Contingency Plan and has water which is surplus to the needs of lands within the District boundaries. Therefore staff is recommending the declaration of surplus water availability for the 2018 irrigation season.

BUDGETARY IMPACT:

No budgetary impact

/ac

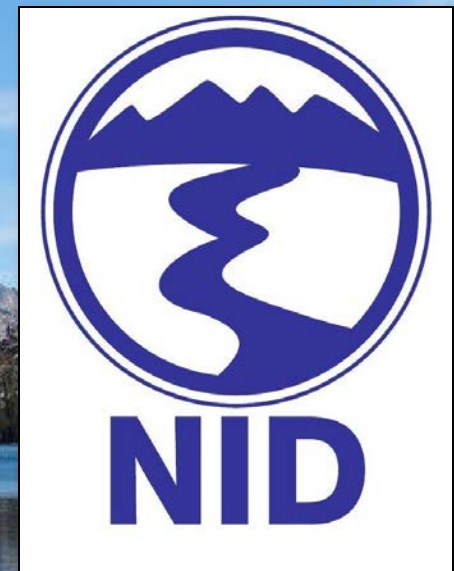
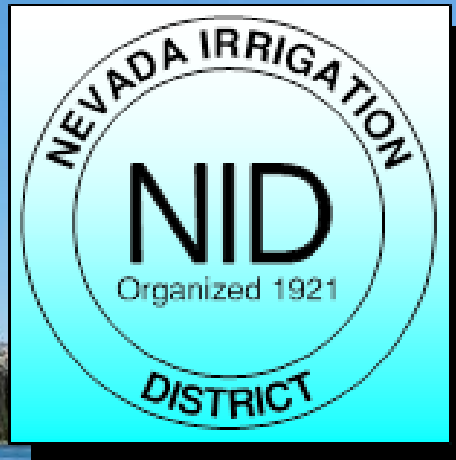
Attachment (1):

- Drought Contingency Plan Chart
- Water Supply PowerPoint

Water Availability Guidance

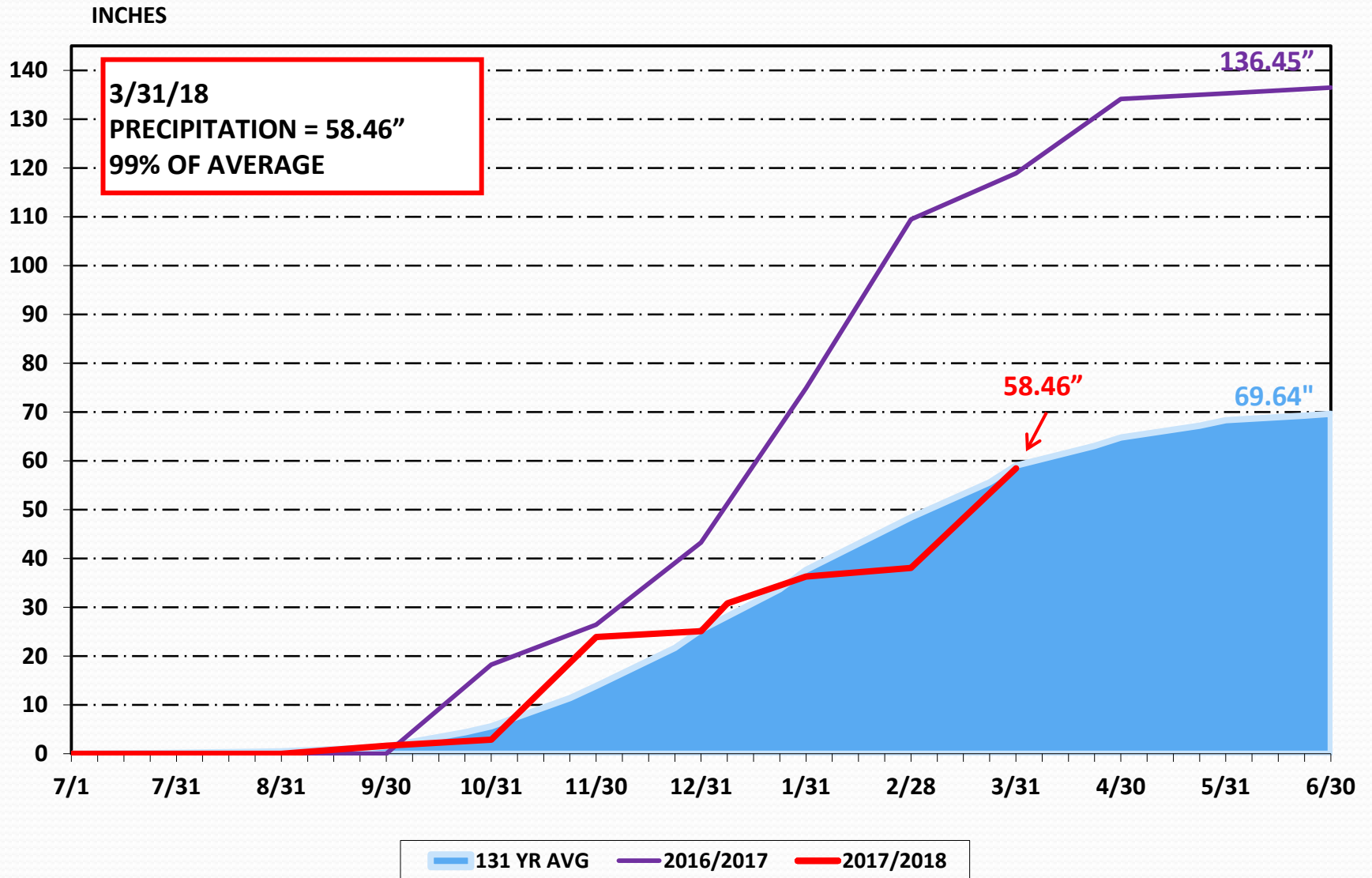
	Forecasted Available Supply April 1st	Demand Reduction Targets	Operational Changes	Rate Changes
Normal Operations	> 235,700	Encourage Conservation	Normal Operation	Standard Rates
Stage 1	235,700 to 205,700	10 – 20% Voluntary Usage Reduction	<ul style="list-style-type: none"> Leak repair receives higher priority Increase public outreach and drought awareness Target 75% of end of month October storage for carryover. 	Standard Rates
Stage 2	205,700 to 198,200	10 – 25% Mandatory Usage Reduction	<ul style="list-style-type: none"> Communicate mandatory reduction targets to retail customers Purchase of available Contract water to achieve a target carryover of 90,000 acre feet Distribution system flushing only for public health & safety Organize Drought Hardship Committee 	<ul style="list-style-type: none"> Implement Contract water purchase rates to reimburse the District for the costs associated with purchase of water above the 7,500 acre feet for normal operational needs. Charges to be reimbursed through the appropriate funding mechanisms. Water purchased will be utilized to meet carryover target.
Stage 3	198,200 to 175,700	25 - 40% Mandatory Usage Reduction	<ul style="list-style-type: none"> Purchase of available Contract water to achieve a target carryover of 80,000 acre feet 	<ul style="list-style-type: none"> Implement Contract water purchase rates Implement Conservation Rates as established in the Districts Rate Schedule
Stage 4	<175,700	> 40% Mandatory - Reductions based on available allotment and target carryover.	<ul style="list-style-type: none"> Purchase full allotment of Contract water to achieve target carryover of 78,000 acre feet 	<ul style="list-style-type: none"> Implement Contract water purchase rates Implement Conservation Rates as established in the Districts Rate Schedule

Nevada Irrigation District Water Supply Update April 11, 2018



Proudly serving portions of Nevada, Placer, and Yuba Counties

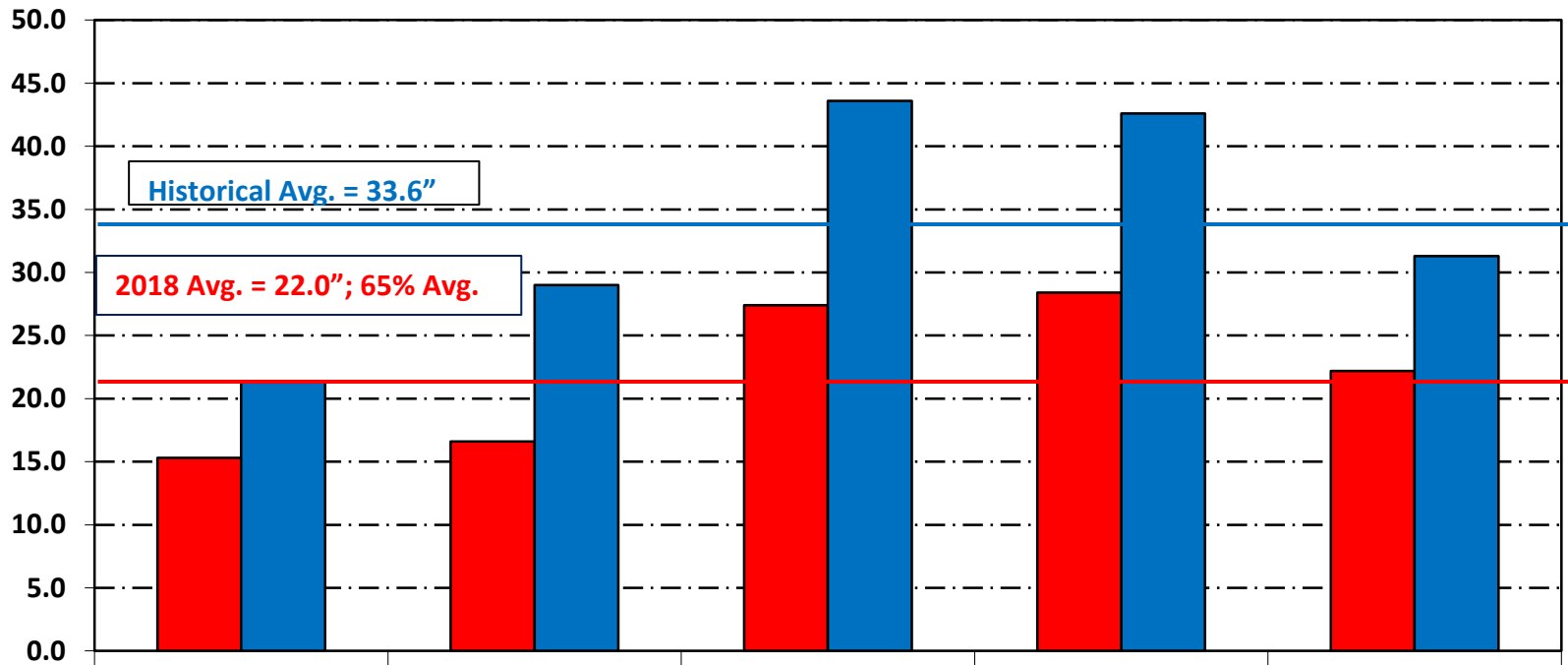
Bowman Lake Precipitation



NID Snow Survey

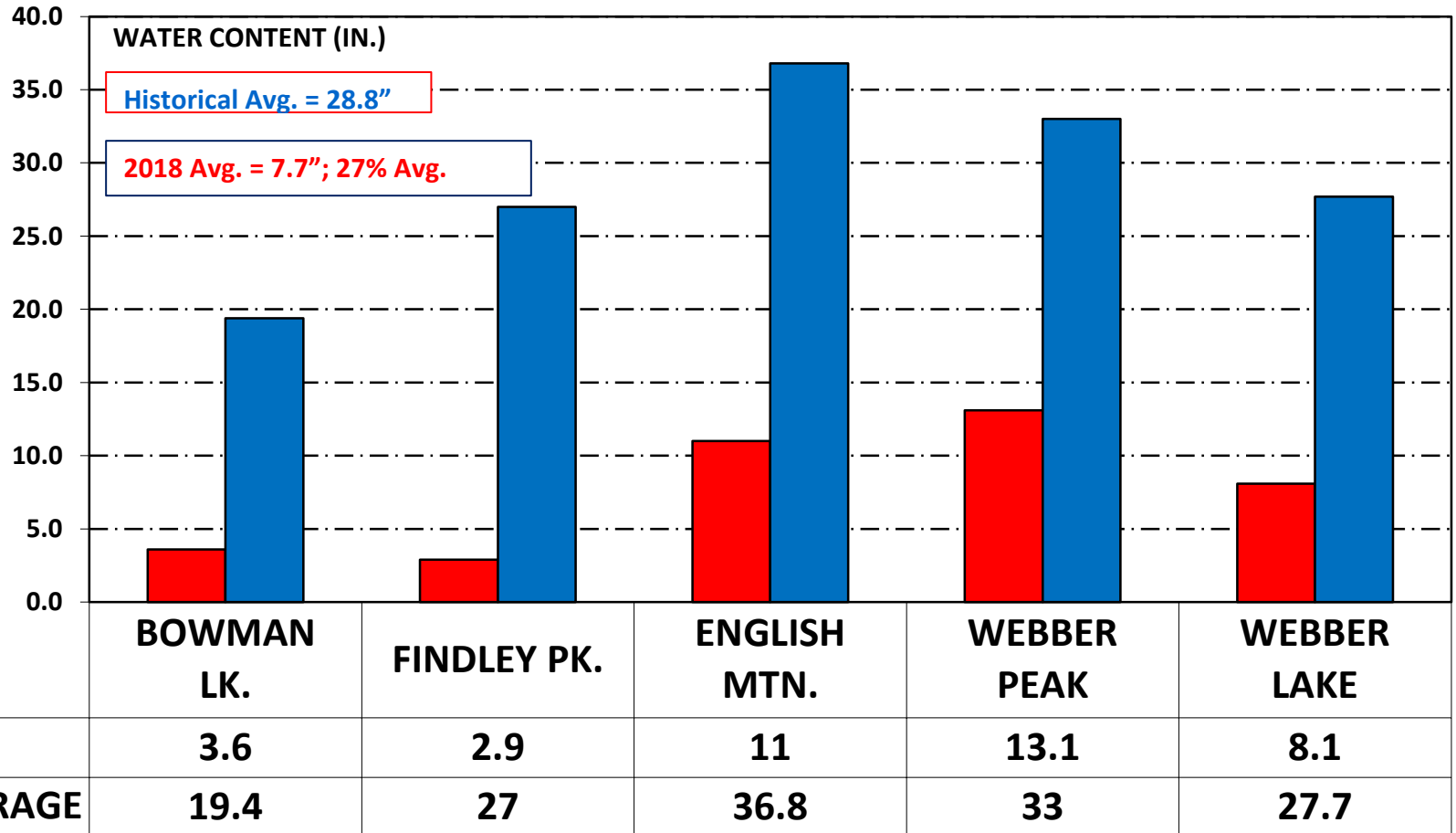
April 1, 2018

WATER CONTENT (IN.)

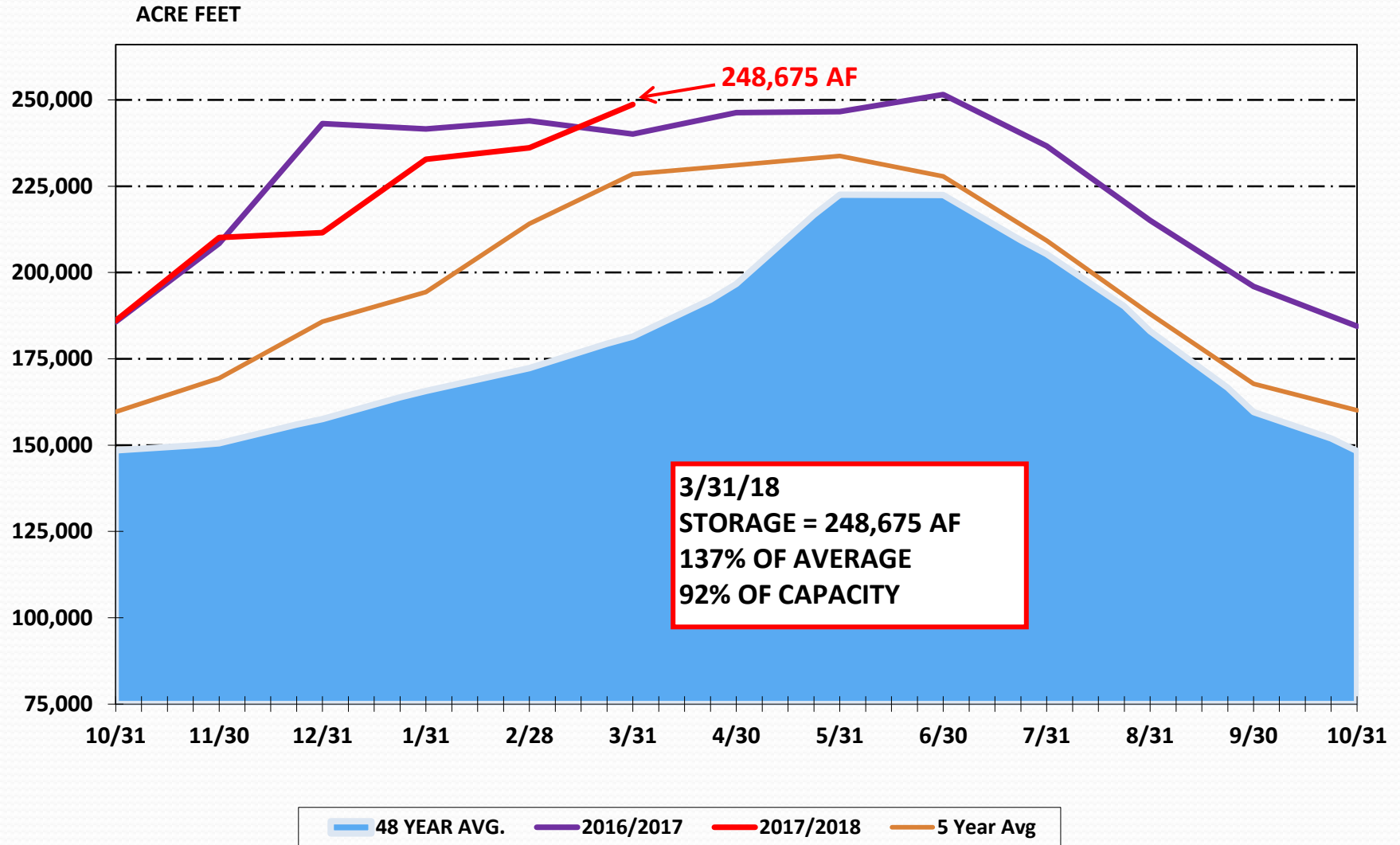


	BOWMAN LK.	FINDLEY PK.	ENGLISH MTN.	WEBBER PEAK	WEBBER LAKE
■ 2018	15.3	16.6	27.4	28.4	22.2
■ AVERAGE	21.3	29	43.6	42.6	31.3

NID Snow Survey March 1, 2018



NID Reservoir Storage



Water Supply Forecast

B-120 Water Supply Forecast Update Summary (posted on 03/29/18 12:30)

Department of Water Resources

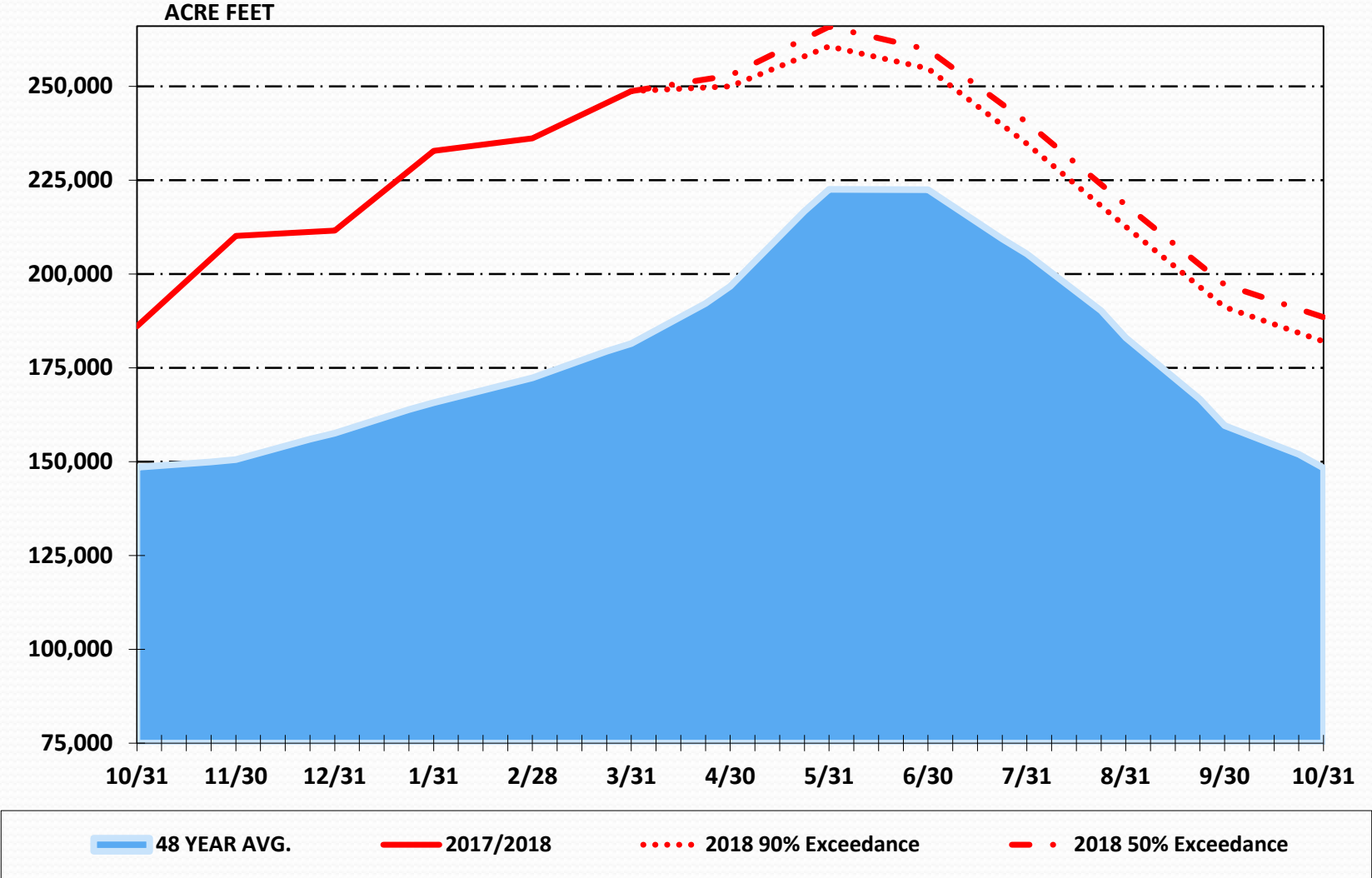
WATER SUPPLY FORECAST UPDATE

2018 April-July Unimpaired Runoff

April-July Forecast Updates for March 2018 (in thousands of acre-feet):

Watershed and Percentiles	Mar 1		Mar 13		Mar 20		Mar 27	
	AJ Vol	% Avg	AJ Vol	% Avg	AJ Vol	% Avg	AJ Vol	% Avg
Shasta Lake, Total Inflow Average = 1,756								
90% Exceedance	940	54%	1,010	58%	1,080	62%	1,130	64%
50% Exceedance	1,250	71%	1,300	74%	1,370	78%	1,400	80%
10% Exceedance	1,510	86%	1,550	88%	1,620	92%	1,650	94%
Feather River at Oroville Average = 1,704								
90% Exceedance	390	23%	540	32%	700	41%	790	46%
50% Exceedance	610	36%	800	47%	1,000	59%	1,120	66%
10% Exceedance	810	48%	1,030	60%	1,260	74%	1,390	82%
Yuba River near Smartsville Average = 968								
90% Exceedance	260	27%	330	34%	400	41%	460	48%
50% Exceedance	400	41%	490	51%	570	59%	650	67%
10% Exceedance	520	54%	620	64%	700	72%	790	82%

2018 Storage Forecast



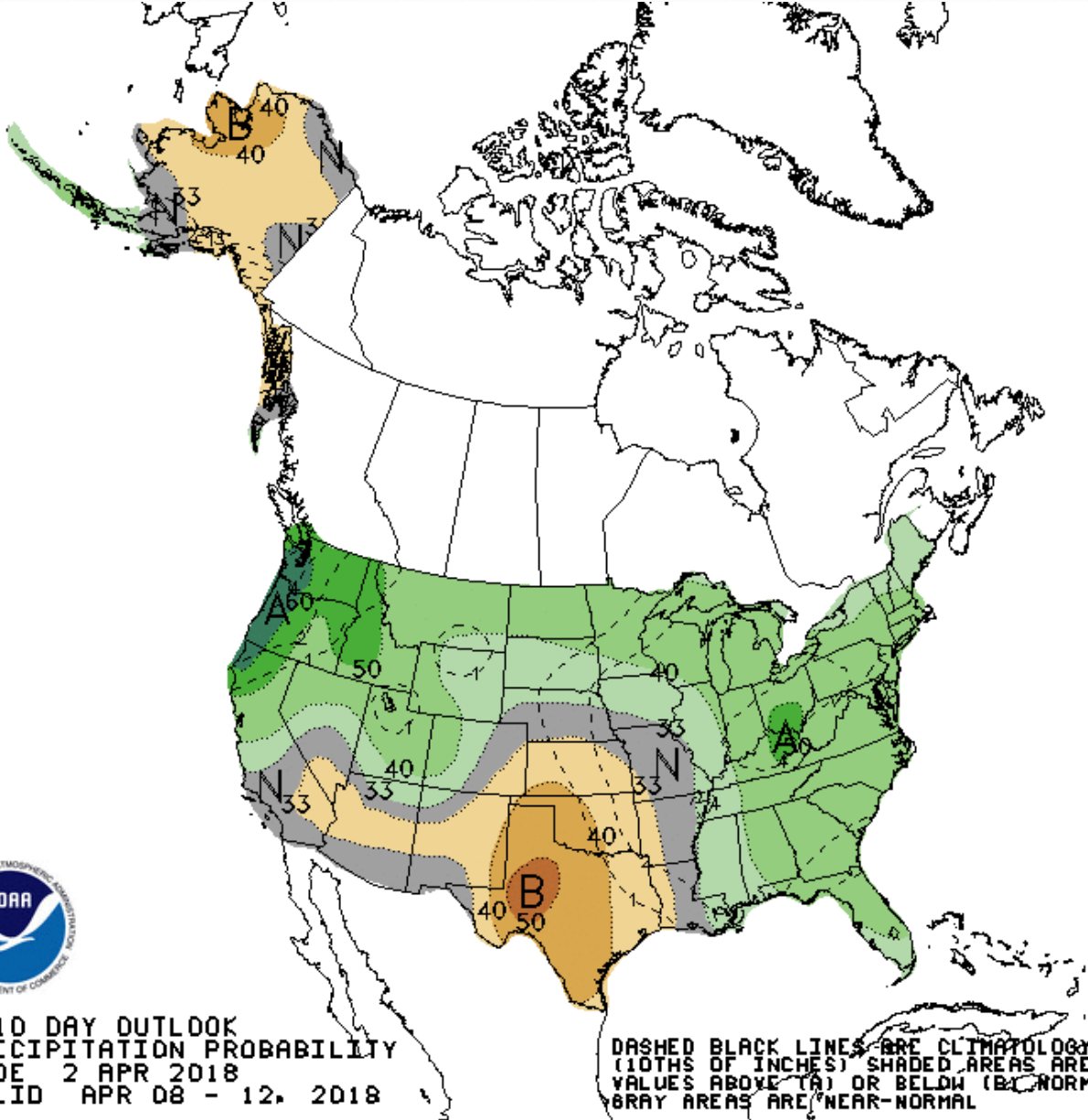
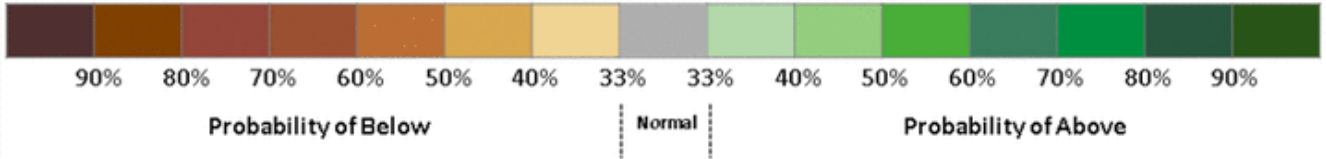
Status

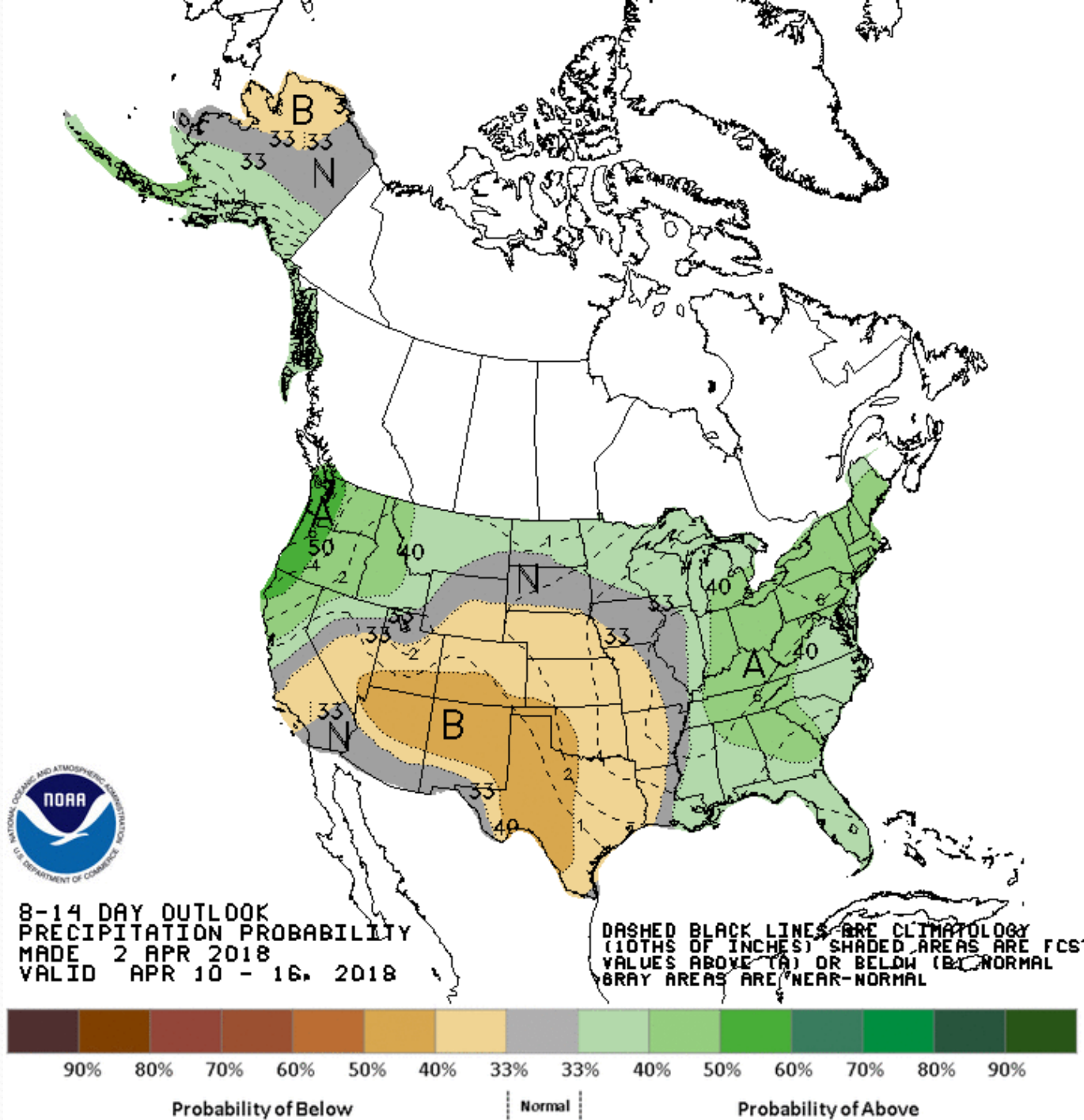
- ▶ April 1 availability is in excess of 300,000AF from all District sources
 - ▶ Normal operations per NID Drought Contingency Plan
- ▶ Have received permission to close spill gates at Jackson Meadows prior to May 1 if necessary
- ▶ Carryover storage estimated at 188,000 AF (130% avg.)
- ▶ Recommend surplus declaration

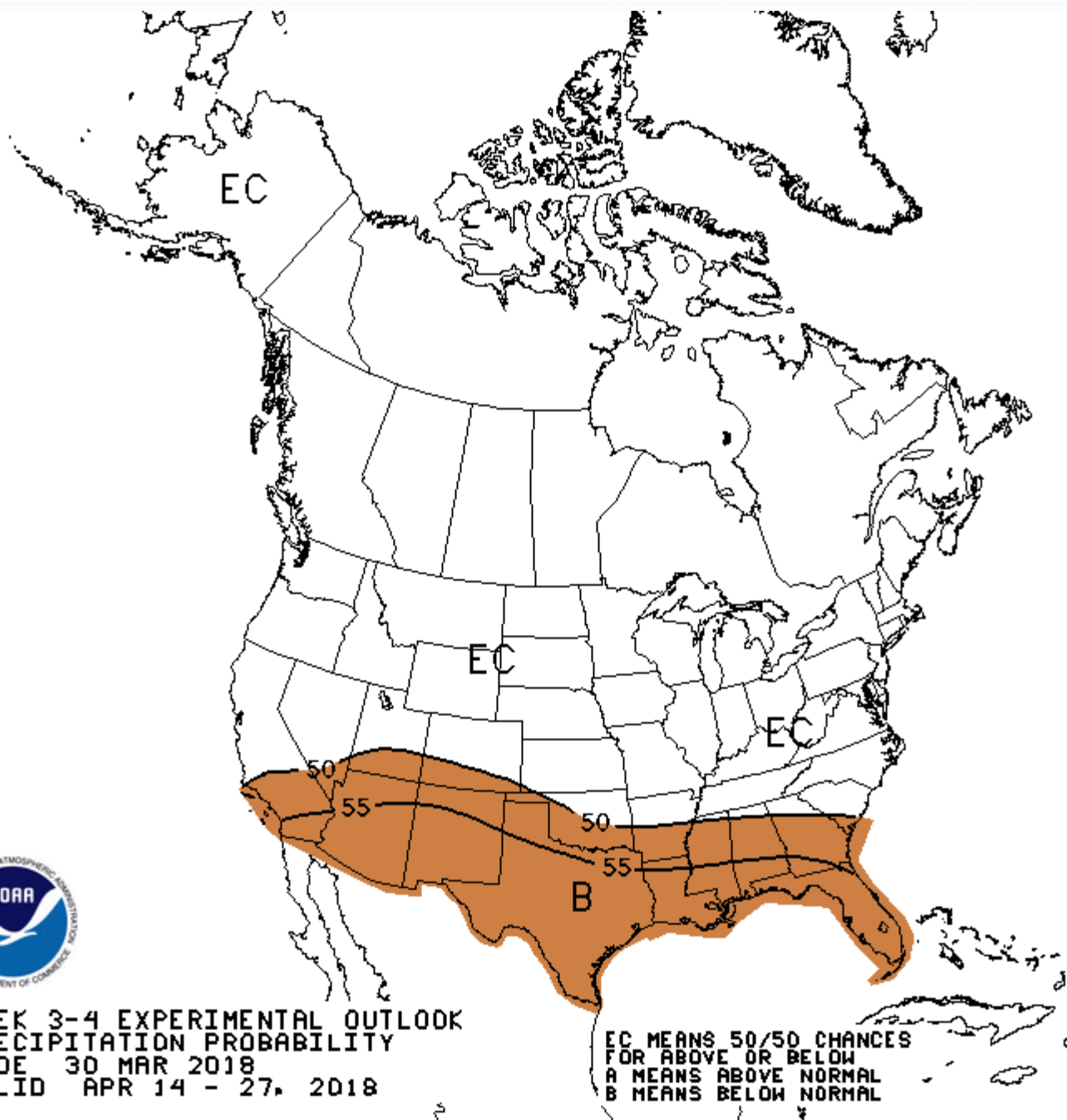


6-10 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 2 APR 2018
VALID APR 08 - 12, 2018

DASHED BLACK LINES ARE CLIMATOLOGY
(10THS OF INCHES). SHADED AREAS ARE FCS
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL





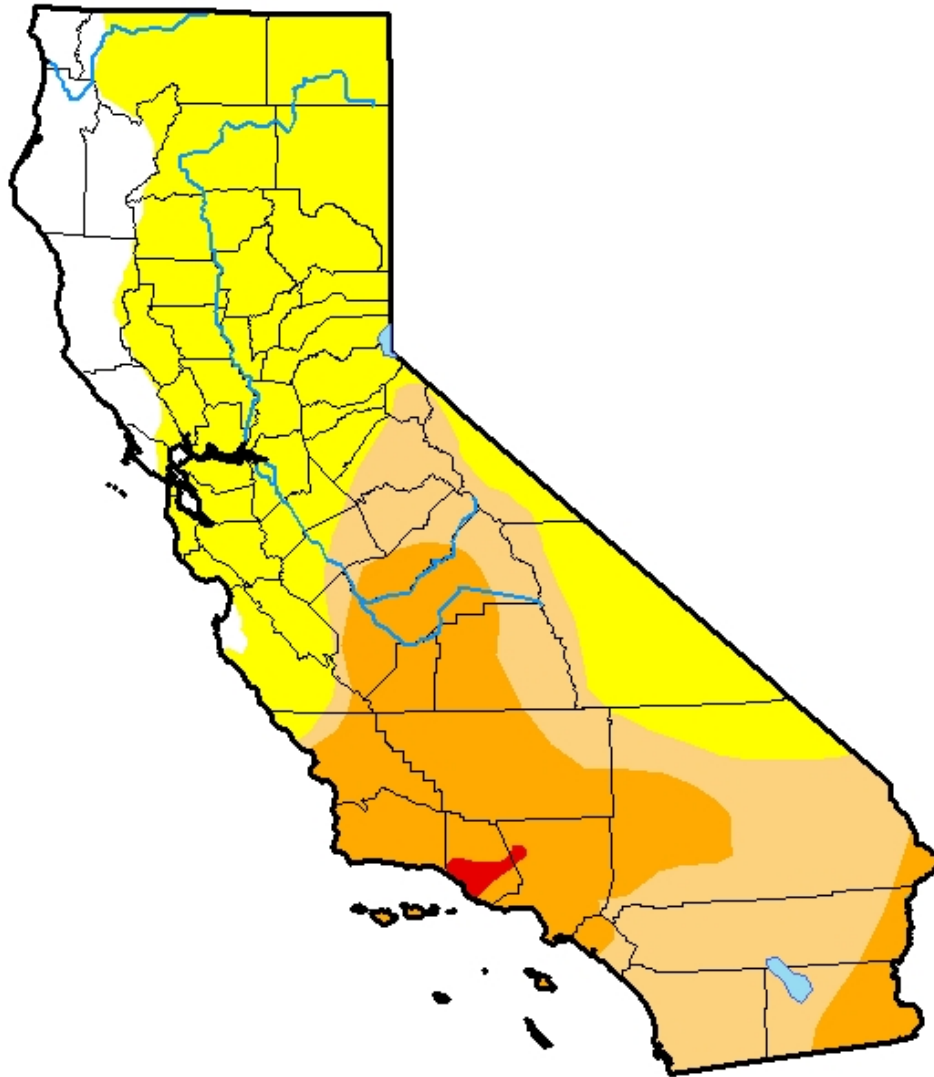


WEEK 3-4 EXPERIMENTAL OUTLOOK
 PRECIPITATION PROBABILITY
 MADE 30 MAR 2018
 VALID APR 14 - 27, 2018

EC MEANS 50/50 CHANCES
 FOR ABOVE OR BELOW
 A MEANS ABOVE NORMAL
 B MEANS BELOW NORMAL

U.S. Drought Monitor California

March 6, 2018
(Released Thursday, Mar. 8, 2018)
Valid 7 a.m. EST



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:

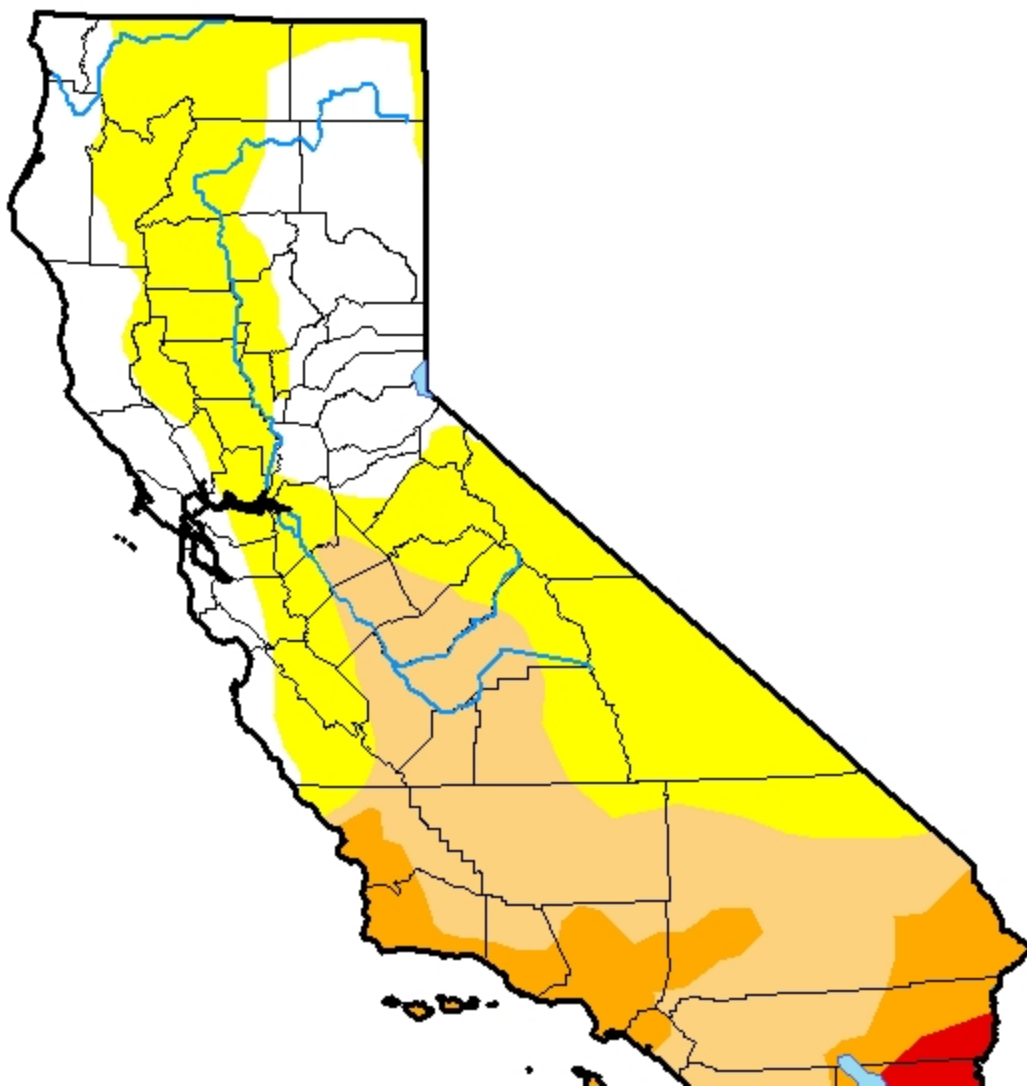
Richard Tinker
CPC/NOAA/NWS/NCEP



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor California

March 27, 2018
(Released Thursday, Mar. 29, 2018)
Valid 8 a.m. EDT



Intensity:

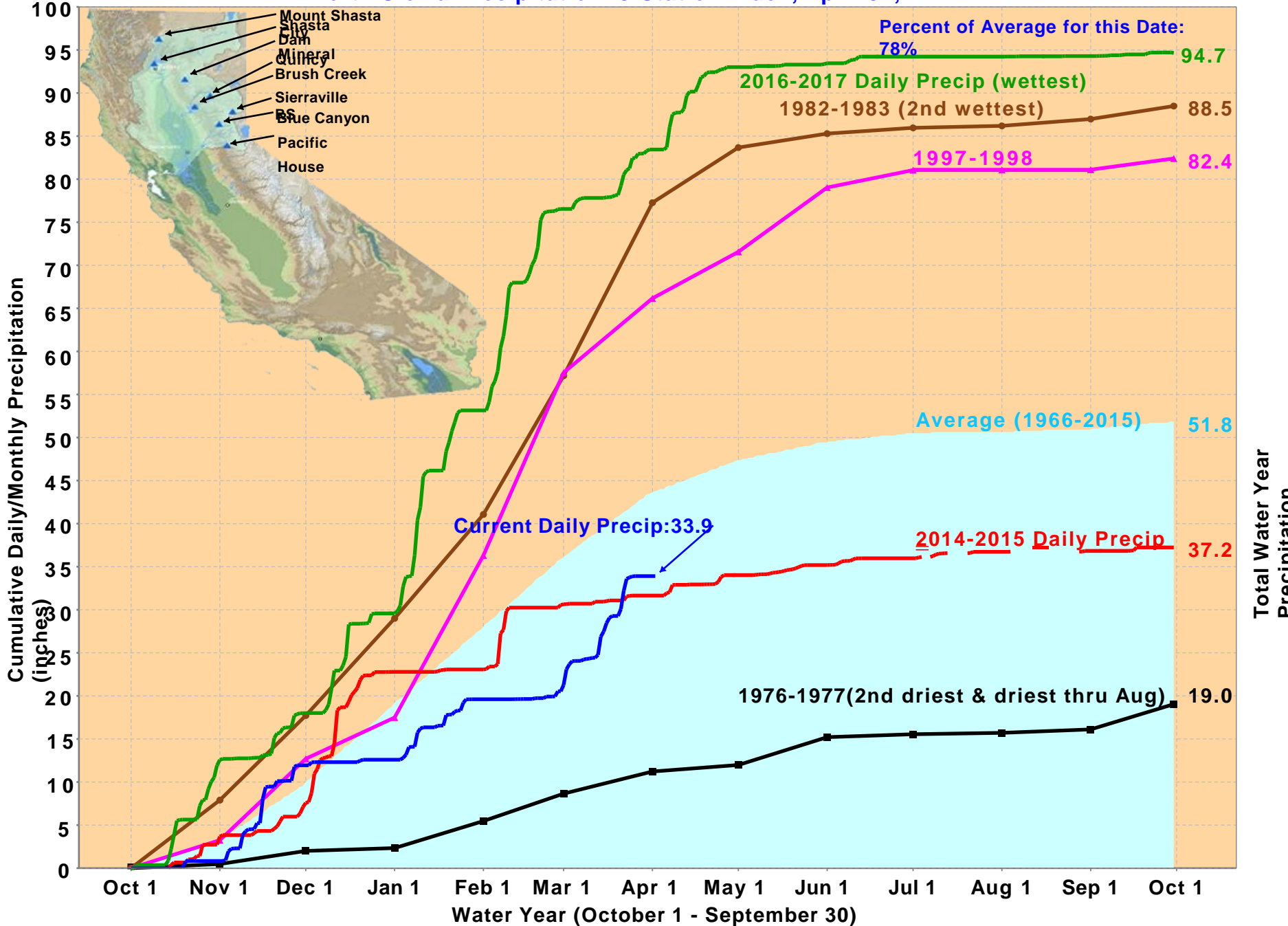
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information, see the accompanying text summary for forecast statements.

Author:

Chris Fenimore
NCEI/NESDIS/NOAA

North Sierra Precipitation: 8-Station Index, April 02,





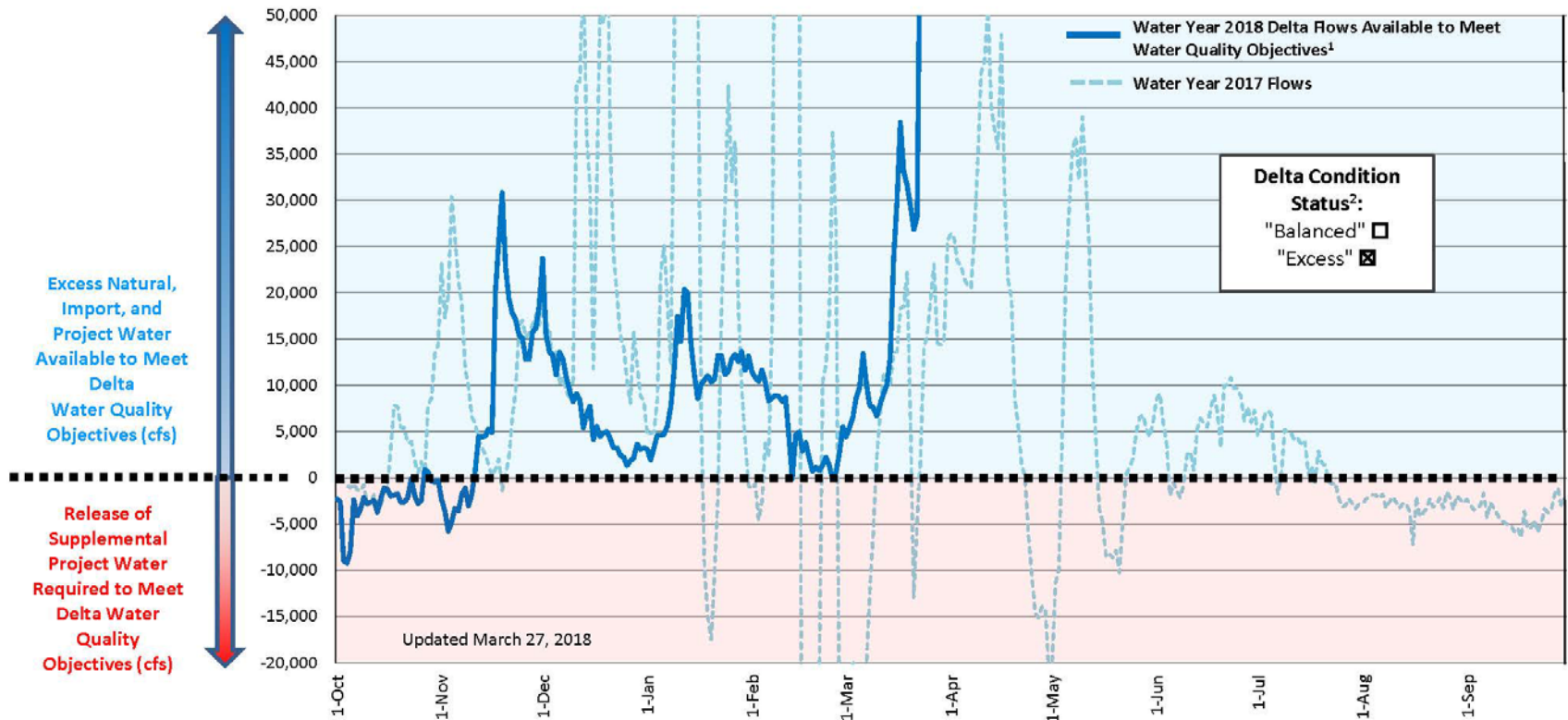
TERM 91 CURTAILMENT

WATER YEAR 2018 (October 1, 2017 through September 30, 2018)

Term 91 Curtailment:

- In Effect
- Not in Effect

For permits and licenses with Term 91, water is generally available to divert when the plotted line is in the blue area. No water is available - and diversion may be curtailed - when the plotted line is in the red area AND "Balanced" is marked.



EXPLANATION: Permit and license holders having Term 91 as a condition of their water right, must cease diversions under the permit or license when notified by the State Water Board. A Term 91 Curtailment Notice is triggered when; (i) Supplemental Project Water is needed to meet water quality objectives, and (ii) the Delta is in "Balanced Condition." Supplemental Project Water describes the net storage releases from Shasta, Folsom and Oroville reservoirs, plus water imported from the Trinity River CVP facilities, when they collectively exceed total Delta exports plus Carriage Water calculated from the Delta Export Index. The Delta is referred to as in Balanced Condition when the Projects are required to release previously stored water to meet water quality objectives in the Delta. The graph plots a daily calculation of Supplemental Project Water and depicts Delta conditions. When the "Balanced" box is checked, and the graph indicates that regular flows through the Delta are insufficient so that Supplemental Project Water must be released, a notice of curtailment may be issued.

¹ Source: <http://www.usbr.gov/mp/cvo/vungvari/term91.pdf>

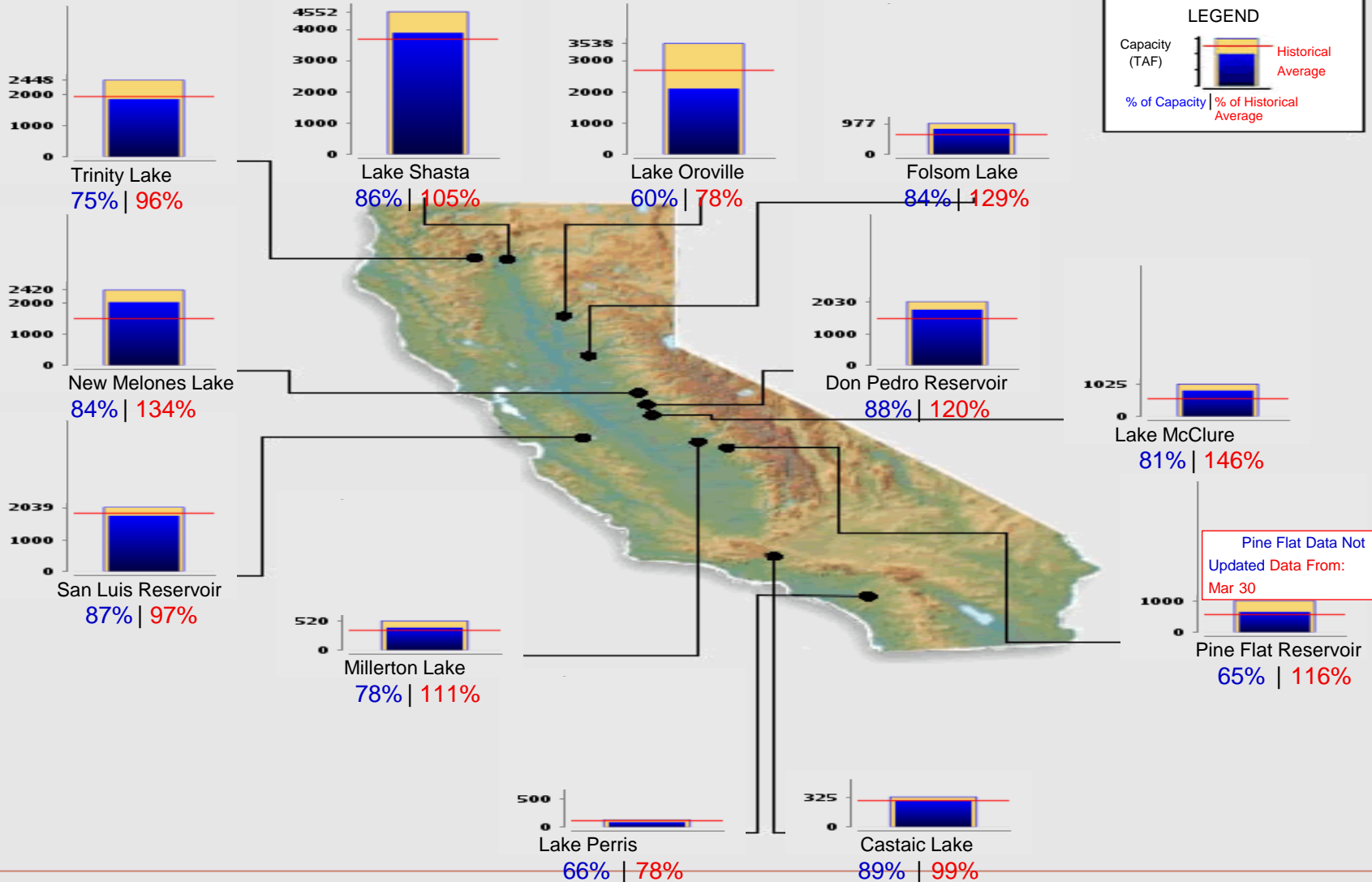
² Source: <http://www.usbr.gov/mp/cvo/vungvari/coanew.pdf>



Reservoir Conditions

Ending At Midnight - April 1, 2018

CURRENT RESERVOIR CONDITIONS



Summary

- ▶ District April 1 availability is in excess of 300,000AF from all sources
 - ▶ Normal operations per NID Drought Contingency Plan
- ▶ Carryover storage estimated at 188,000 AF (130% avg.)
- ▶ Precipitation has made a marked improvement in March
- ▶ Snowpack now > 60%
- ▶ Statewide reservoirs are full
- ▶ Staff recommends surplus declaration