

Water Supply Board Briefing

Water Operations Department

February 23, 2016

Water Supply Briefing



- California Water Supply
- Current Water Supply
- Water Supply Projections
- Water Supply Schedule

California Water Supply

California Water Supply

Automated Survey - Snow Water Equivalents



Provided by the California Cooperative Snow Surveys

Data For: 22-Feb-2016

% Apr 1 Avg. / % Normal for this Date



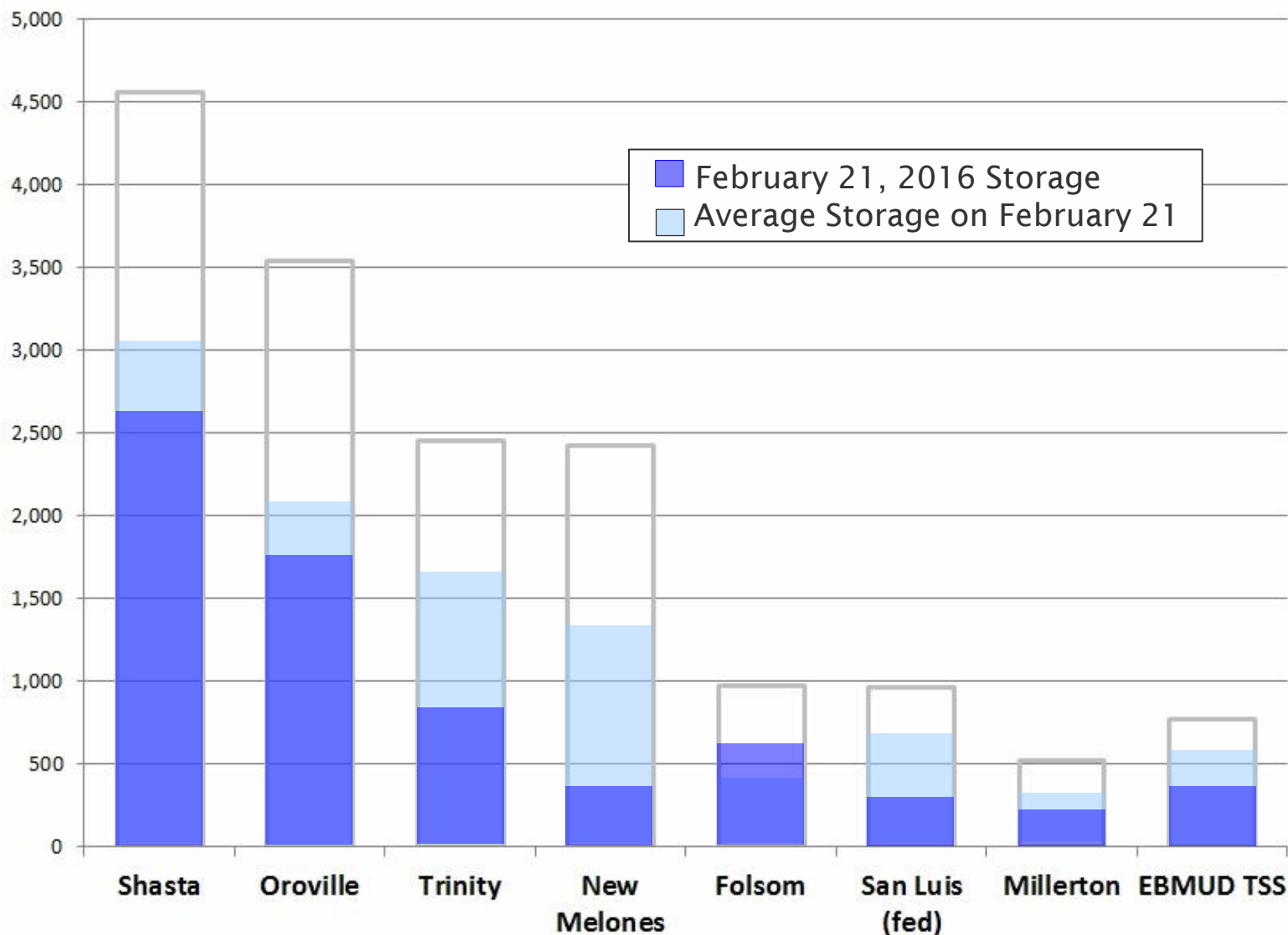
Automated Snow Measurements – Snow Water Equivalents

Year	% of Normal on February 22
2015	19%
2016	94%

- Snow station surveys conducted around February 1, 2016
- Manual readings confirm preliminary automated measurements

California Water Supply

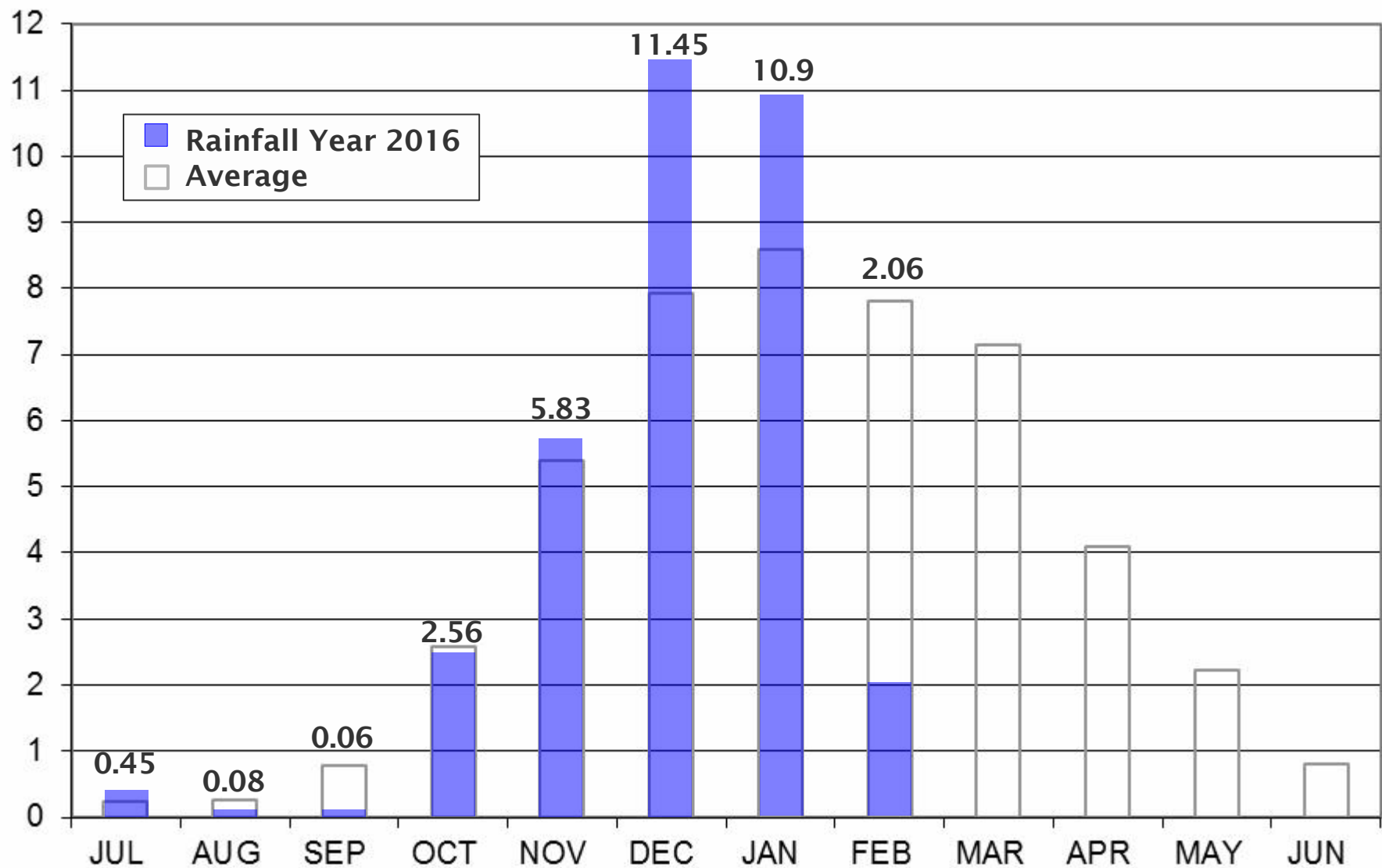
Reservoir Storage – February 21



Current Water Supply

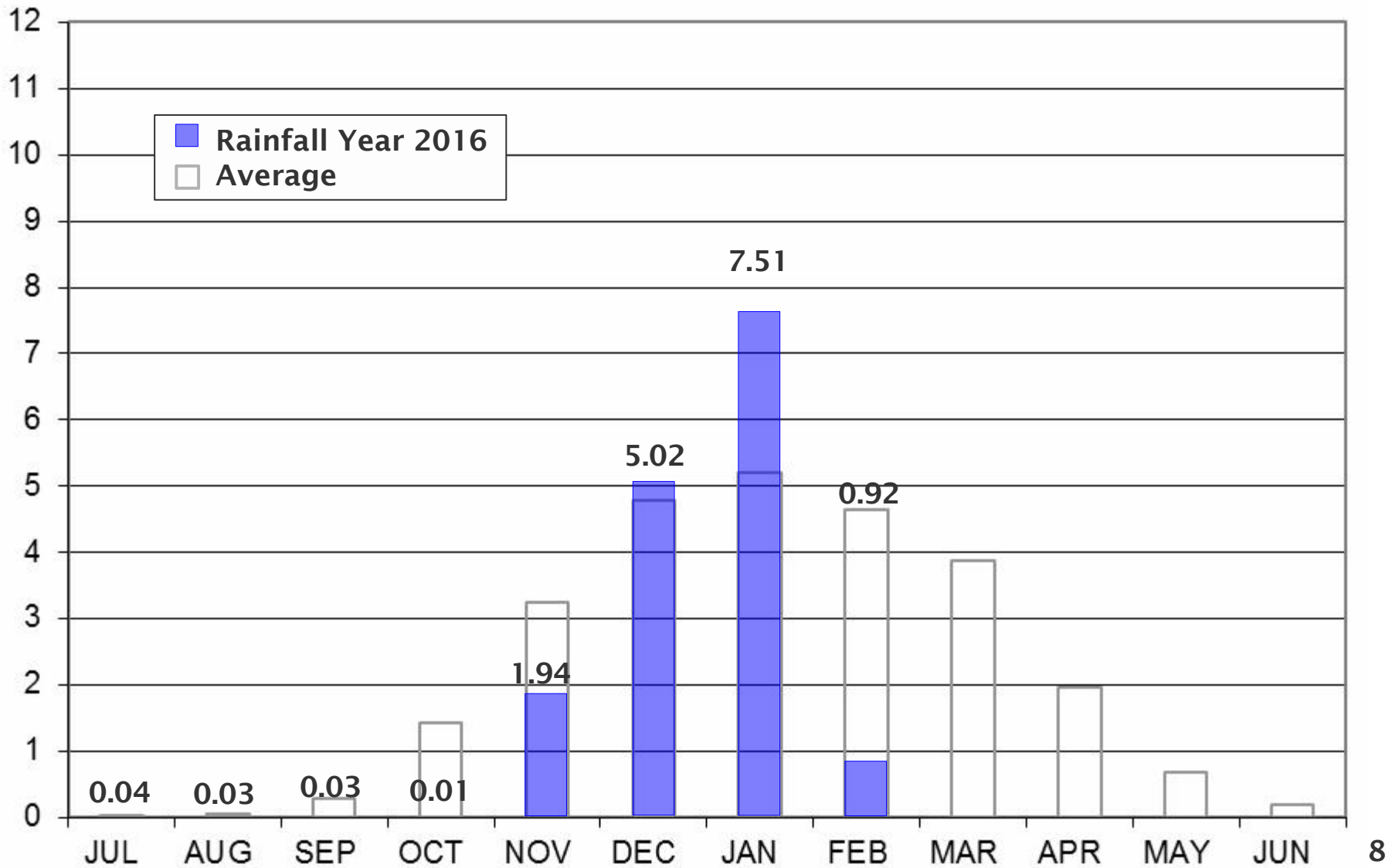
Current Water Supply

Mokelumne Precipitation



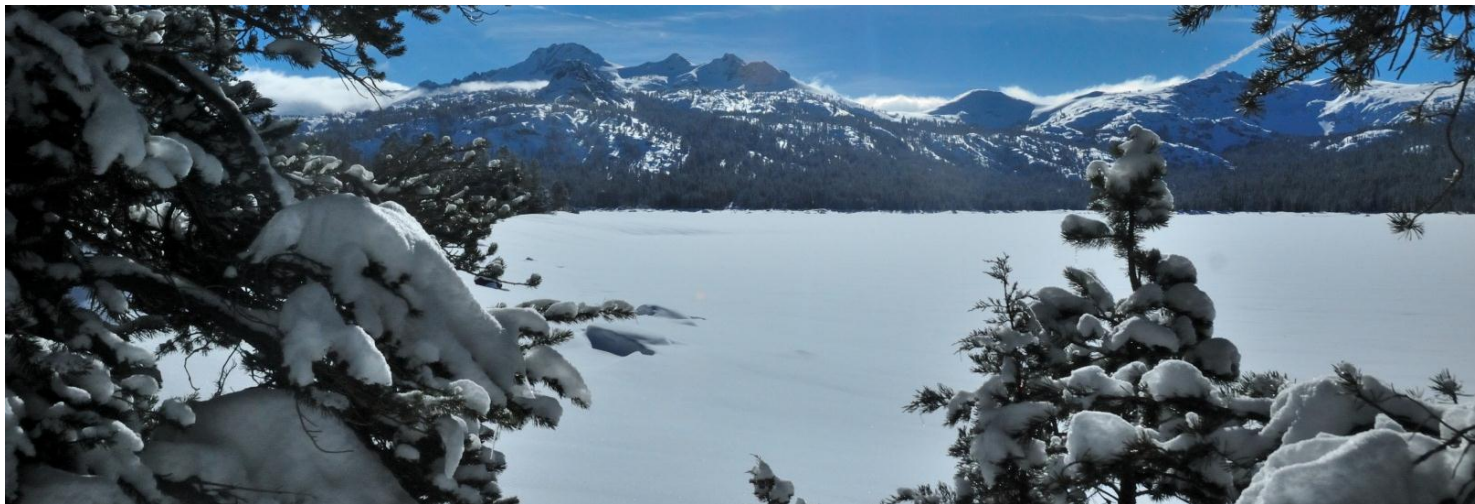
Current Water Supply

East Bay Precipitation



Current Water Supply

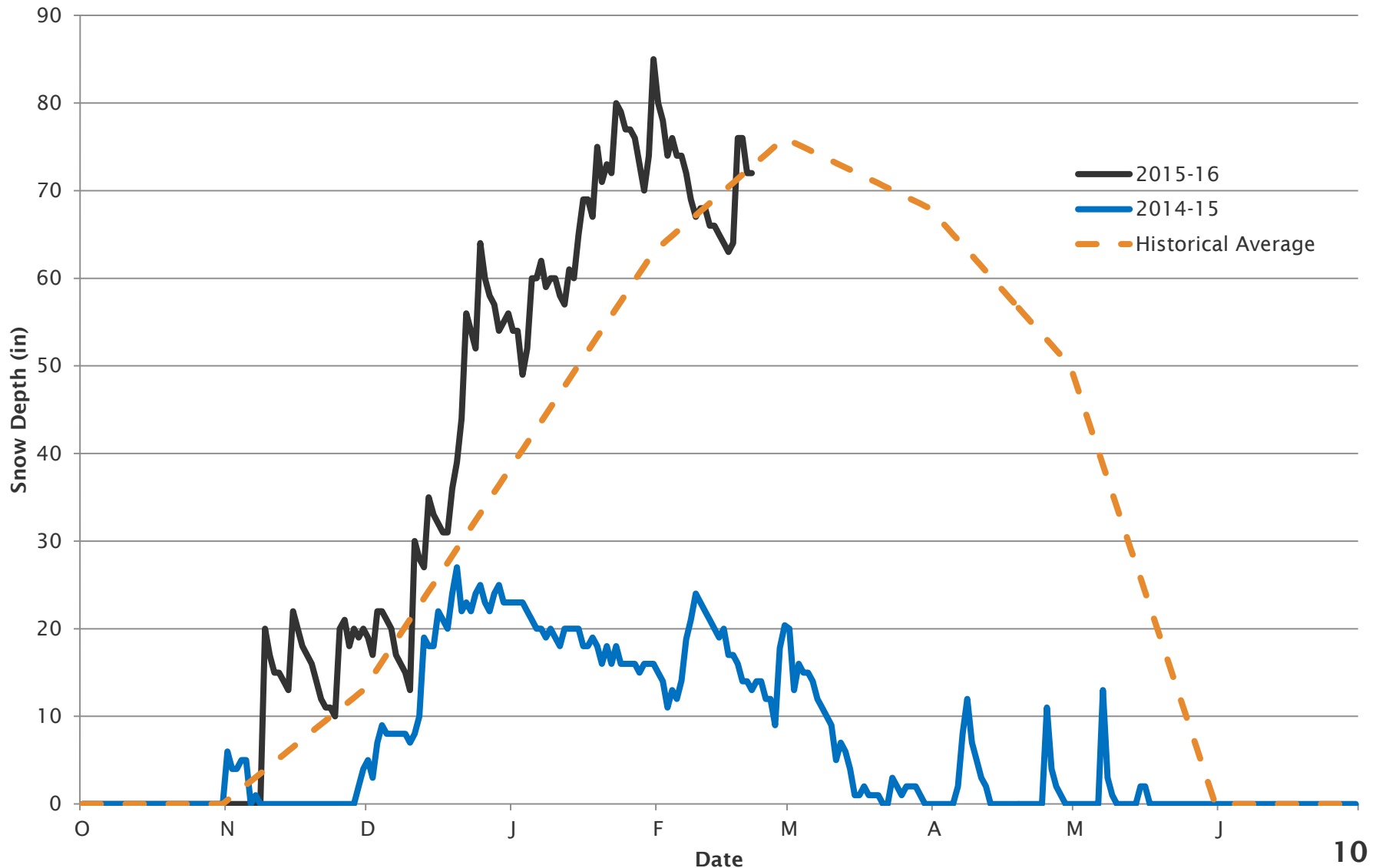
Precipitation & Snow



As of 2/21/2016	Cumulative Precipitation	% of Average
East Bay		
East Bay Watershed	15.48"	83%
Mokelumne Basin		
4-Station Average	33.39"	105%
Caples Lake Snow Depth	72"	99%
Caples Lake Snow Water Content	27.84"	110%

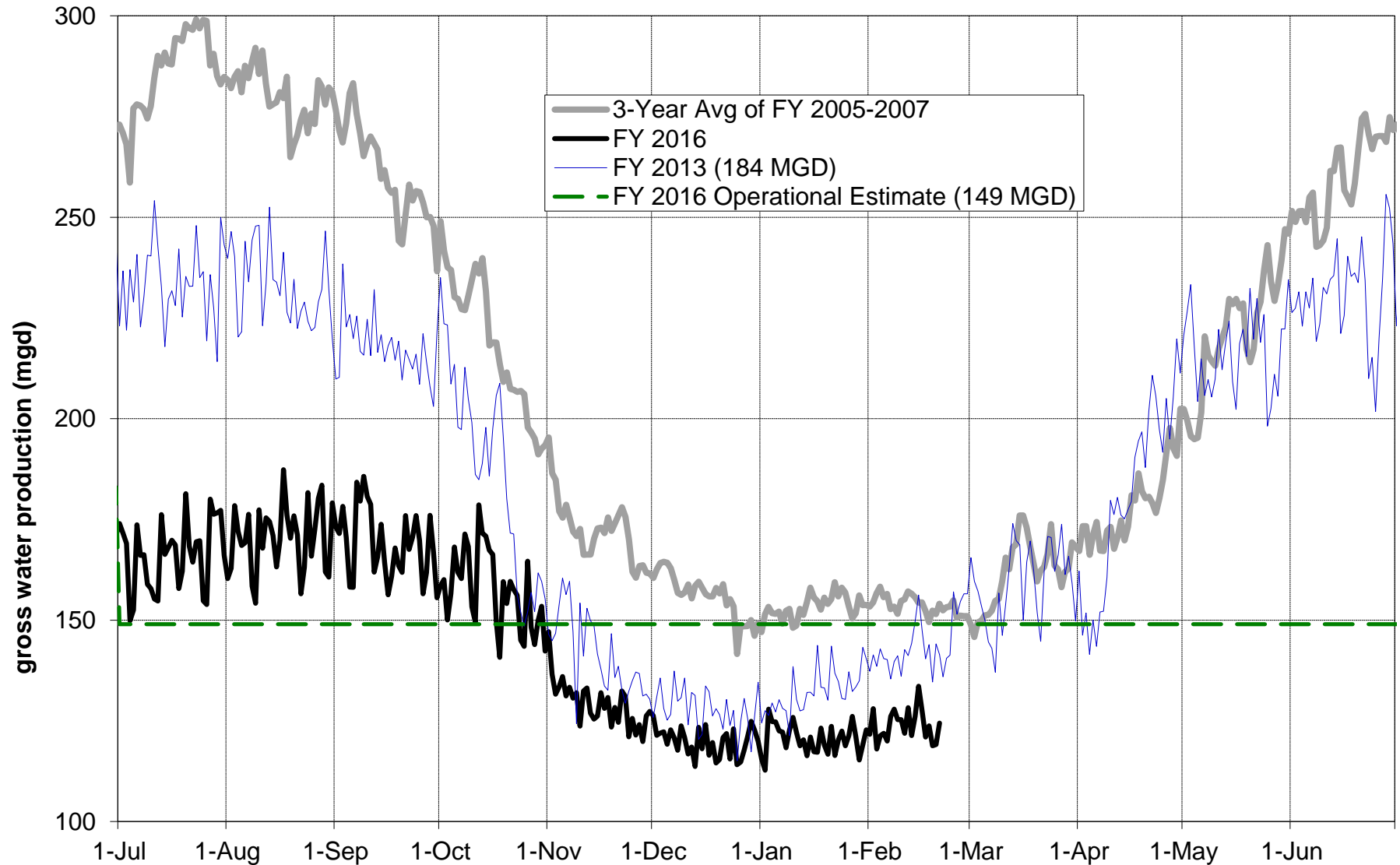
Current Water Supply

Caples Lake Snow Depth



Current Water Supply

Gross Water Production



Current Water Supply

Water Savings



12 Month Average	12 Month Running Average Savings Rate (2013 Baseline)
CY 2015	22%
Feb 22, 2015-Feb 21, 2016	23%

Current Water Supply

Reservoir Storage



As of 2/21/16	Current Storage	Percent of Average	Percent of Capacity
Pardee	178,250 AF	101%	90%
Camanche	98,580 AF	37%	24%
East Bay	121,840 AF	91%	80%
Total System	398,670 AF	69%	52%

Water Supply Projections

Water Supply Projections

(Runoff Projections as of February 22, 2016)



Forecast	Annual Runoff	Total System Storage (on Sept 30, 2016)
No Rain To-Come	380 TAF	385 TAF
95% Exceedance (9.5 of 10 years are wetter)	540 TAF	455 TAF
90% Exceedance (9 of 10 years are wetter)	570 TAF	485 TAF
50% Exceedance (5 of 10 years are wetter)	710 TAF	625 TAF
10% Exceedance (1 of 10 years is wetter)	1,020 TAF	630 TAF
Average Year	745 TAF	630 TAF

Adoption of DMP Guidelines



DMP Guidelines

- Include four stages of drought
- Allow for rationing $>15\%$ in extreme situations

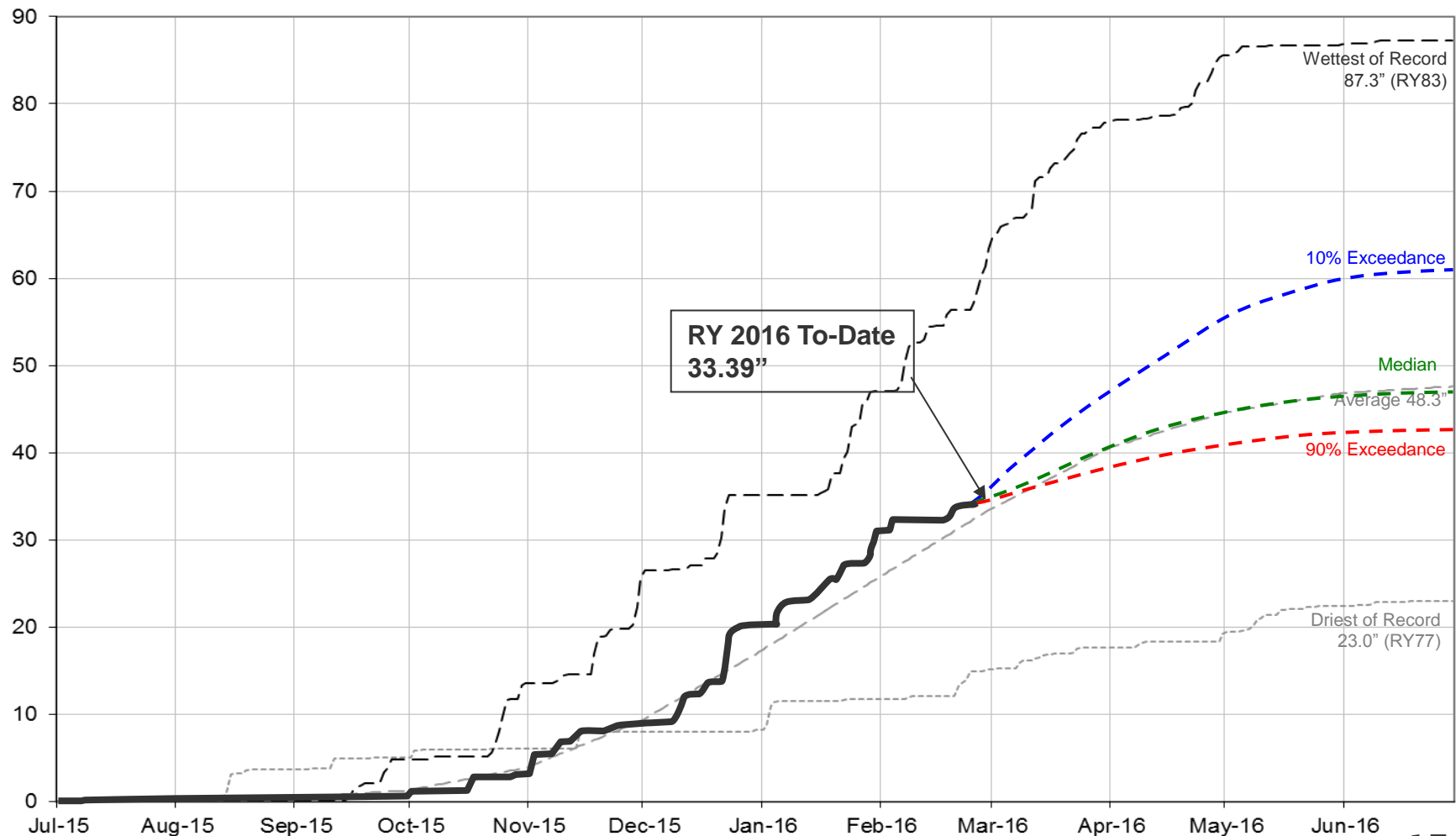
Stage		Projected Total System Storage (TAF)	Quantity of Supplemental Supply Needed (TAF)	Customer Demand Reduction
0	Normal	500 or more	0	Wise Water Use
1	Moderate	500 - 425	0	Voluntary 0-15%
2	Significant	425 - 390	0-35	Voluntary 0-15%
3	Severe	390 - 325	35-65	Mandatory up to 15%
4	Critical	<325	>65	Mandatory $\geq 15\%$

Water Supply Projections

Mokelumne Precipitation Rainfall Year 2016

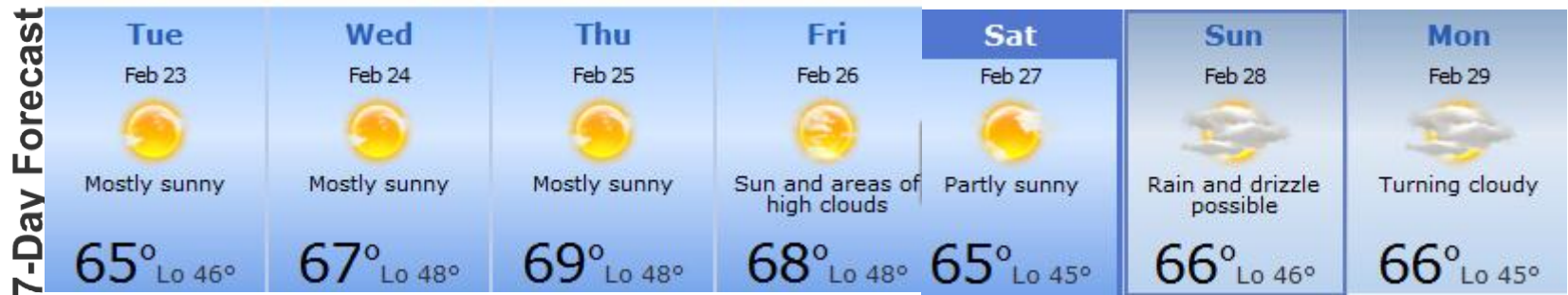


Mokelumne 4-Station Average Precipitation (in)
Rainfall Year 2016 Projection



Current Water Supply

Mokelumne Precipitation – February Fail



Accuweather.com at Pioneer, CA

How Dry is February 2016?

February 2016

Mokelumne 4-Station Average
Precipitation (through February 21st)

2.06"

Top 5 Driest Februaries

Year	Mokelumne 4-Station Average Precipitation
1953	0.48"
1964	0.53"
1988	0.54"
1967	0.83"
2013	0.85"

Water Supply Projections

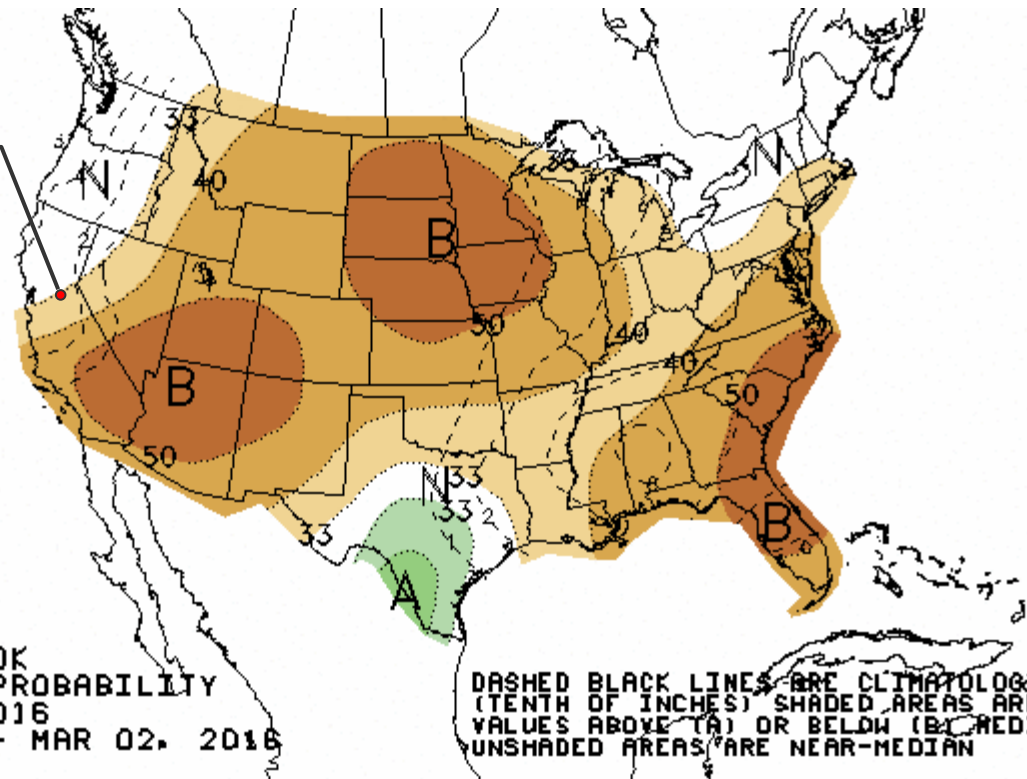
10-Day NOAA Precipitation Probability Estimate



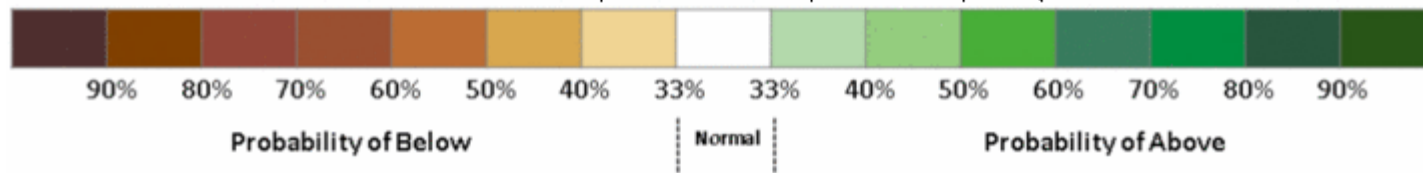
**33 to 40% Increased
Chance of Below-
Normal Precipitation
In the Mokelumne
Watershed**



6-10 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 21 FEB 2016
VALID FEB 27 - MAR 02, 2016



DASHED BLACK LINES ARE CLIMATOLOGY
(TENTH OF INCHES) SHADED AREAS ARE FCS
VALUES ABOVE (A) OR BELOW (B) MEDIAN
UNSHADED AREAS ARE NEAR-MEDIAN

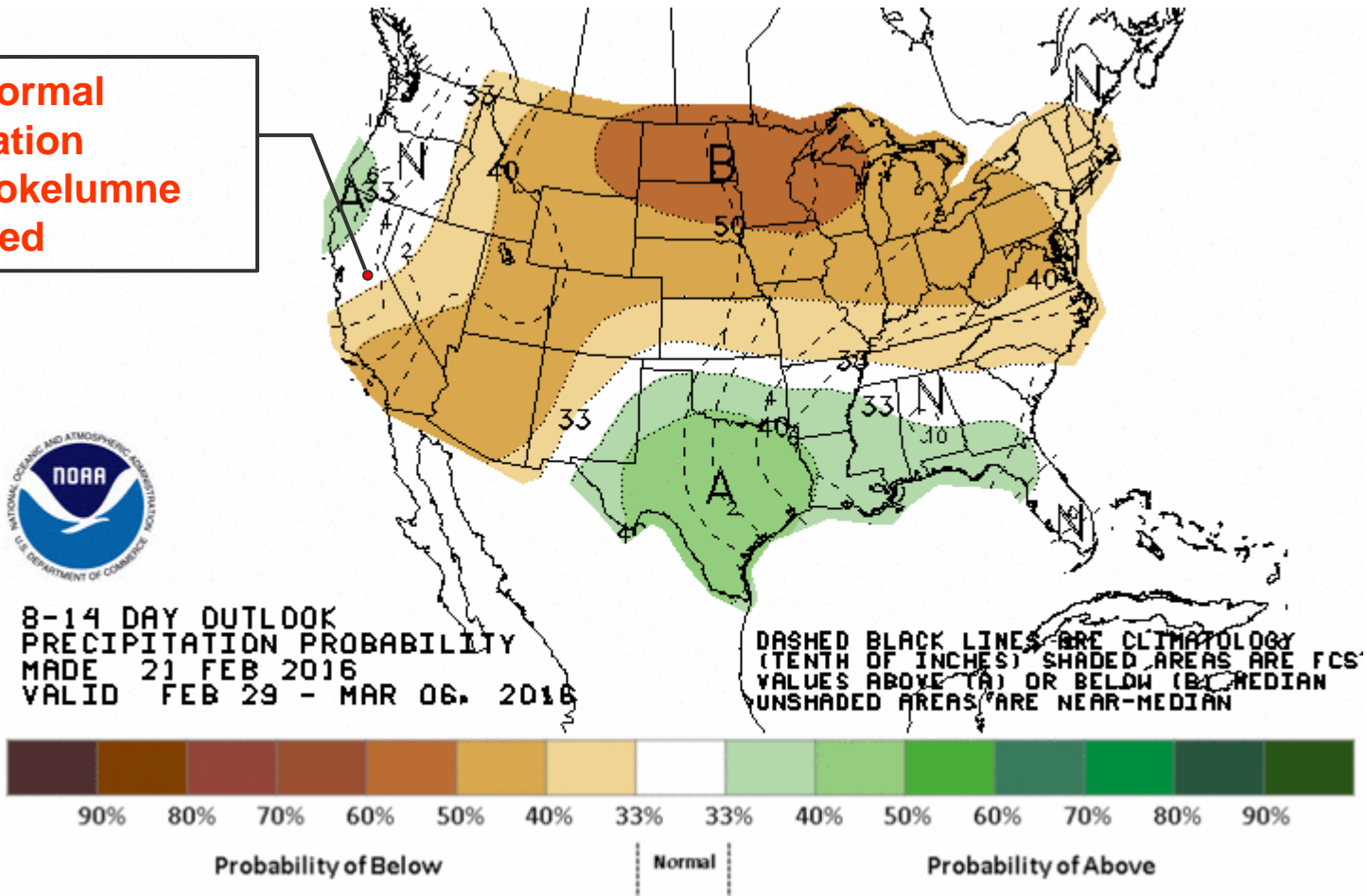


Water Supply Projections

14-Day NOAA Precipitation Probability Estimate



**Likely Normal
Precipitation
In the Mokelumne
Watershed**



Water Supply Projections

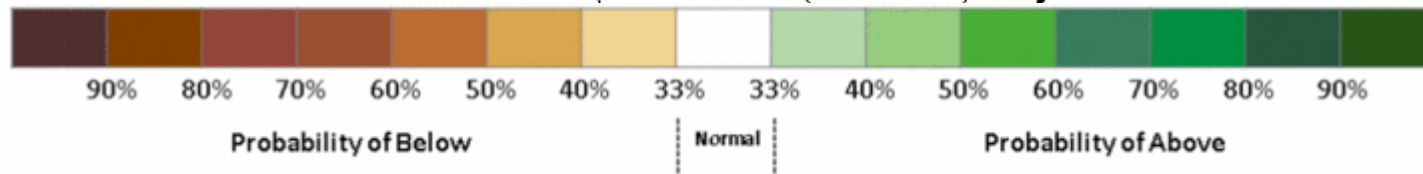
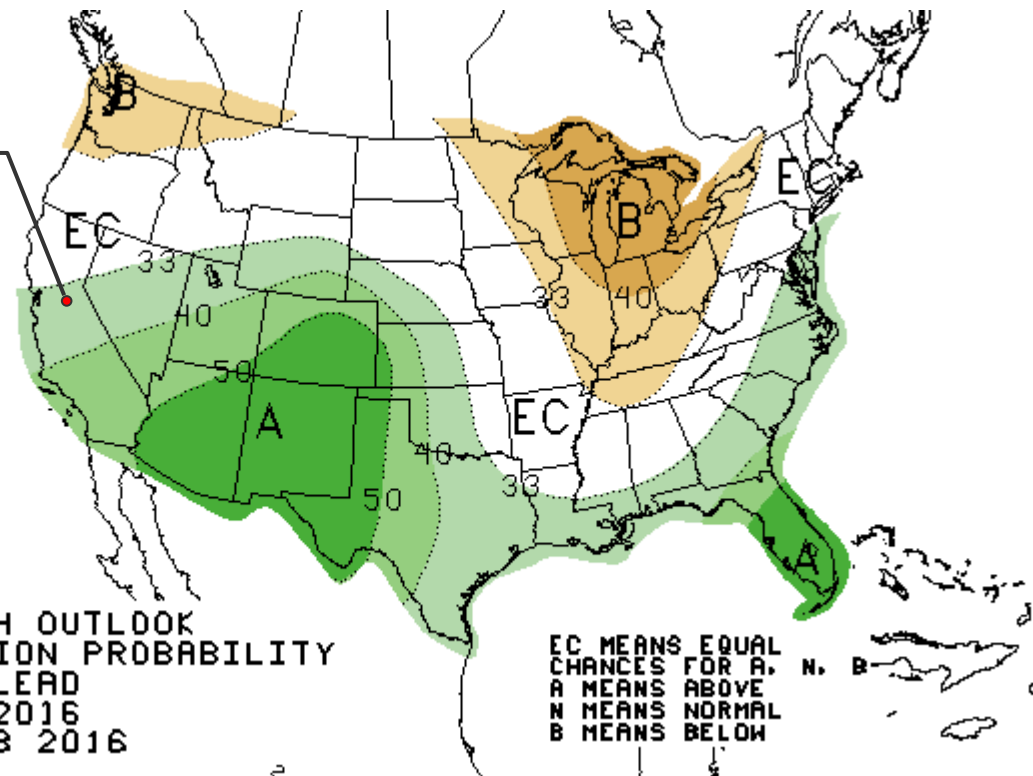
3-Month NOAA Precipitation Probability Estimate



**33 to 40% Increased
Chance of Above-
Normal Precipitation
In the Mokelumne
Watershed**



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID MAM 2016
MADE 18 FEB 2016



Water Year 2016

As of February 22, 2016



- Mokelumne River basin runoff is 146 TAF
- Projected end of water year storage is 485– 630 TAF (90% - 10% exceedance)
- Mokelumne River watershed season to date precipitation is 105% of average
- East Bay watershed season to date precipitation is 83% of average
- Precipitation accumulation season – 67% complete (33% remaining)

Water Year 2016

Water Supply Schedule



Date	Activity
Feb 2	<ul style="list-style-type: none">• DWR February Snow Survey
Feb 23	<ul style="list-style-type: none">• Drought Financial Impacts
Mar 1	<ul style="list-style-type: none">• DWR March Snow Survey
Mar 20	<ul style="list-style-type: none">• USBR Initial Allocation
February to April	<ul style="list-style-type: none">• Water Supply Updates• Continue public outreach
April 1	<ul style="list-style-type: none">• DWR April Snow Survey
April 26	<ul style="list-style-type: none">• Water Supply Availability and Deficiency Report• Consider approval of Freeport use



Looking Forward



January



February



March???

Hoping for Normal Precipitation to Add to Our Normal Snowpack

