



Water Supply Update

Southern California Water Dialogue
May 25, 2016



MWD Service Area

Imported Supplies

Local Supplies

Colorado River Aqueduct Supply

- Annual aqueduct capacity: 1.25 MAF
- 242 miles of aqueduct
- 550 TAF basic apportionment

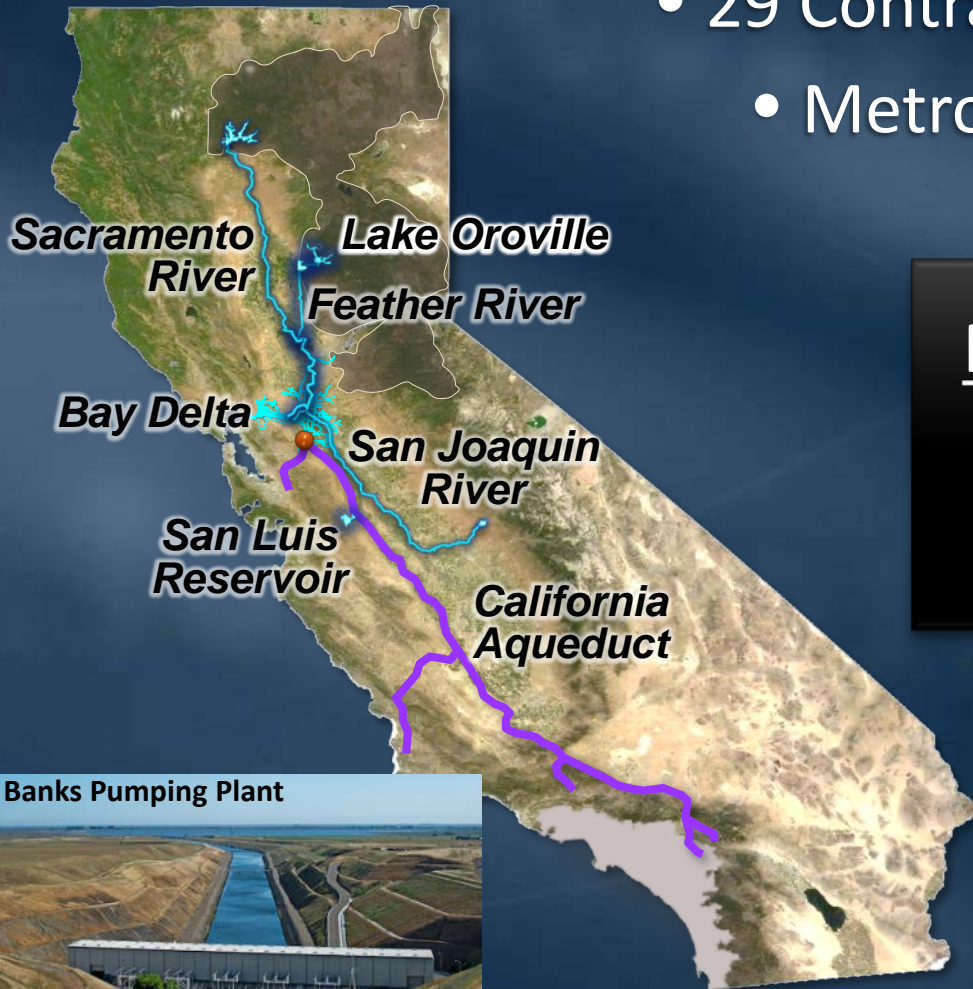
Range of Deliveries
past 15 years:
0.44 – 1.25 MAF



State Water Project Supply



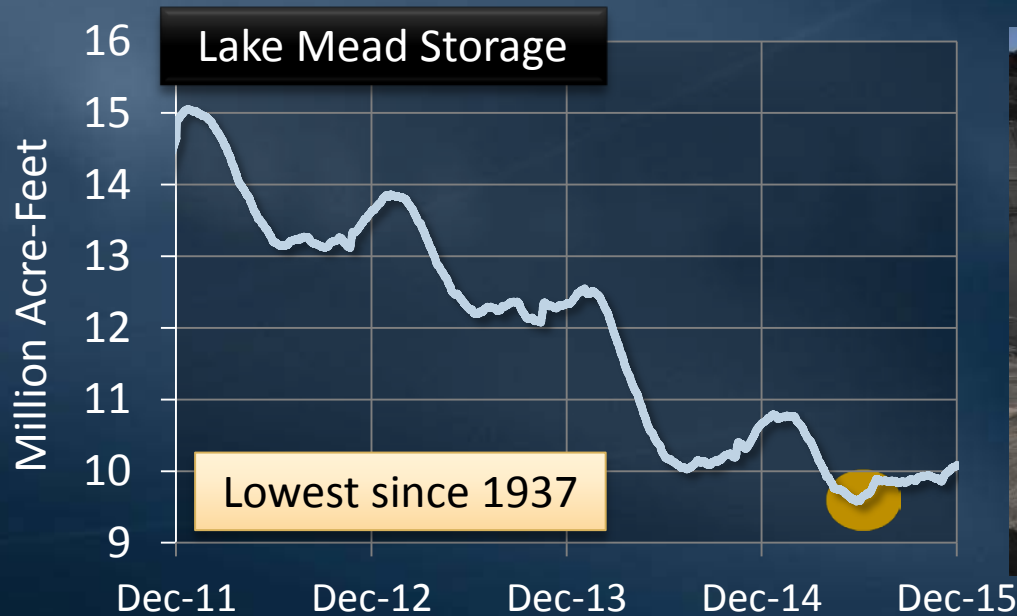
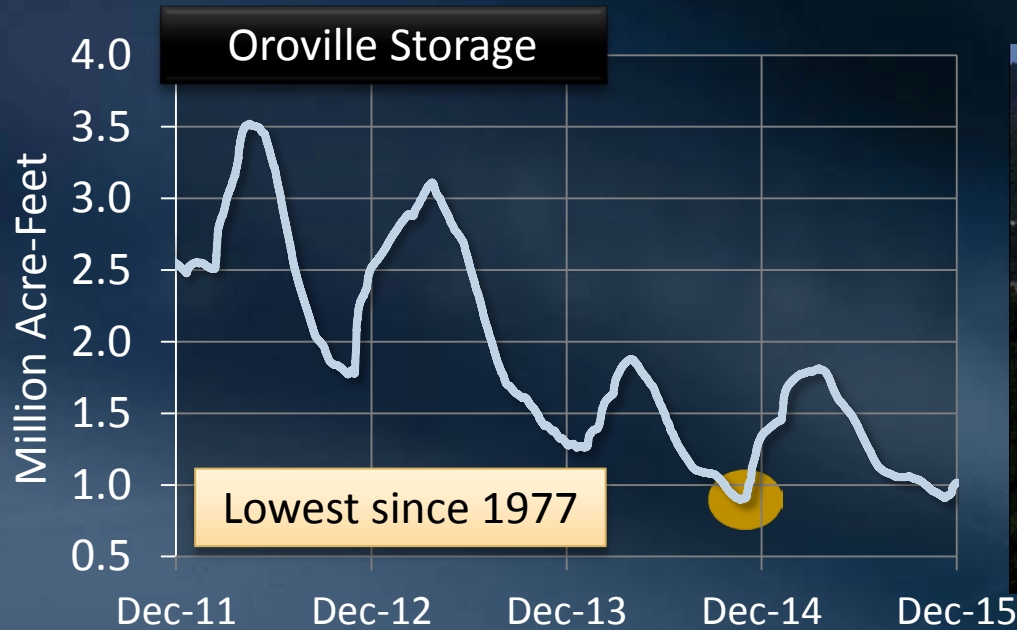
- Total Contract Supplies: 4.2 MAF
- 29 Contractors
 - Metropolitan largest (1.9 MAF)



Range of deliveries to
MWD past 15 years:
0.6 – 1.8 MAF

We Entered This Water Year In
The Midst of Severe Drought

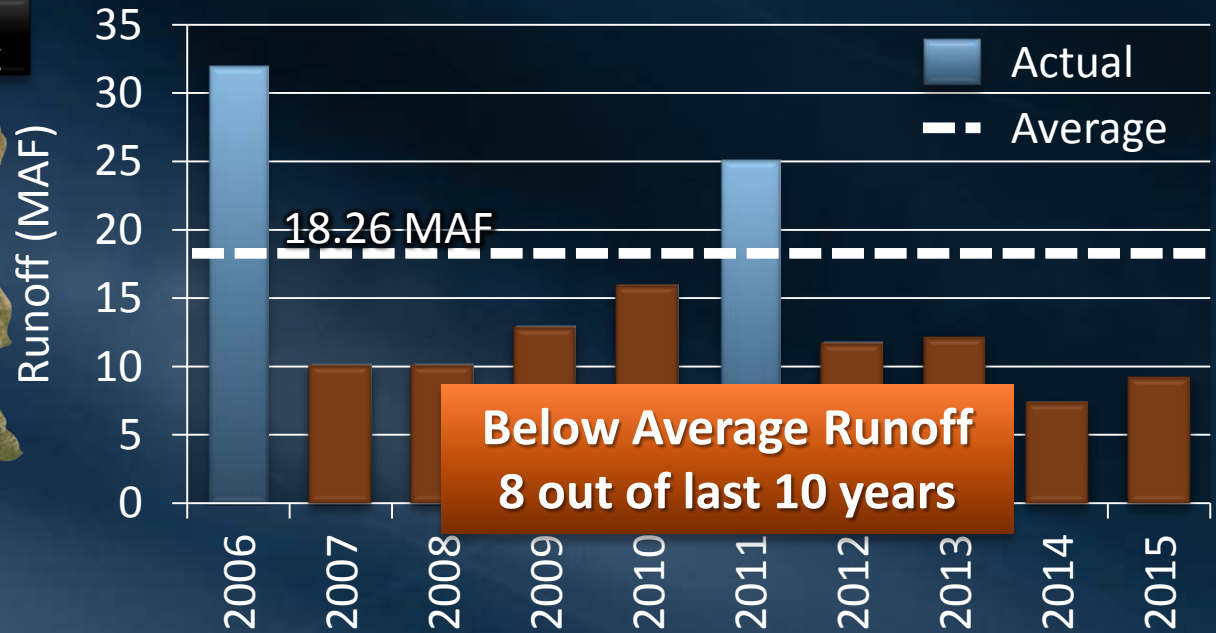
Record Low Reservoir Storage



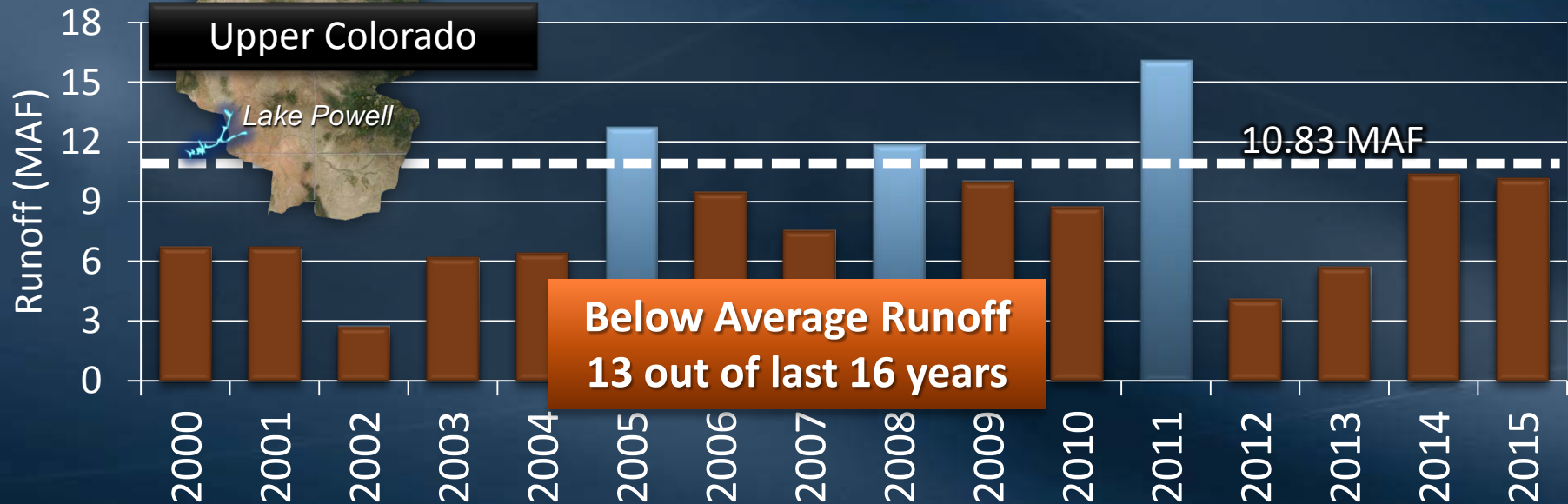
Allen J. Schaben / Los Angeles Times

Several Years of Low Runoff

Northern Sierra



Upper Colorado



Unprecedented Low Snowpack in CA



Randall Benton / Sacramento Bee

April 1, 2015



Randall Benton / Sacramento Bee

Unprecedented State Action Mandatory Cuts

Executive Department
State of California



EXECUTIVE ORDER B-29-15

WHEREAS on January 17, 2014, I proclaimed a State of Emergency to exist throughout the State of California due to severe drought conditions; and

WHEREAS on April 25, 2014, I proclaimed a Continued State of Emergency to exist throughout the State of California due to the ongoing drought; and

WHEREAS California's water supplies continue to be severely depleted despite a limited amount of rain and snowfall this winter, with record low snowpack in the Sierra Nevada mountains, decreased water levels in most of California's reservoirs, reduced flows in the state's rivers and shrinking supplies in underground water basins; and

WHEREAS the severe drought conditions continue to present urgent challenges including: drinking water shortages in communities across the state, diminished water for agricultural production, degraded habitat for many fish and wildlife species, increased wildfire risk, and the threat of saltwater contamination to fresh water supplies in the Sacramento-San Joaquin Bay Delta; and

WHEREAS a distinct possibility exists that the current drought will stretch into a fifth straight year in 2016 and beyond; and

WHEREAS new expedited actions are needed to reduce the harmful impacts from water shortages and other impacts of the drought; and

WHEREAS the magnitude of the severe drought conditions continues to present threats beyond the control of the services, personnel, equipment, and facilities of any single local government and require the combined forces of a mutual aid region or regions to combat; and

WHEREAS under the provisions of section 8558(b) of the Government Code, extreme peril to the safety of persons and property continue to exist due to the drought conditions with which local

Unprecedented State Action Mandatory Cuts

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ISSUED
1-APR-2015

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WHEREAS under the provisions of section 8558(b) of the Government Code, the extreme drought conditions with which local governments are faced pose a grave peril to the safety of persons and property continue to exist throughout the State of California;

What's old is new again: Brown called for 25% water cuts in the 1970s



Gov. Jerry Brown, center, in 1977, discussing California's water crisis at Los Angeles City Hall with L.A. Mayor Tom Bradley, right, and state Assemblyman Eugene Gualco (D-Sacramento). (Los Angeles Times.)

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Board Meeting - Revised Agenda - June 09, 2015

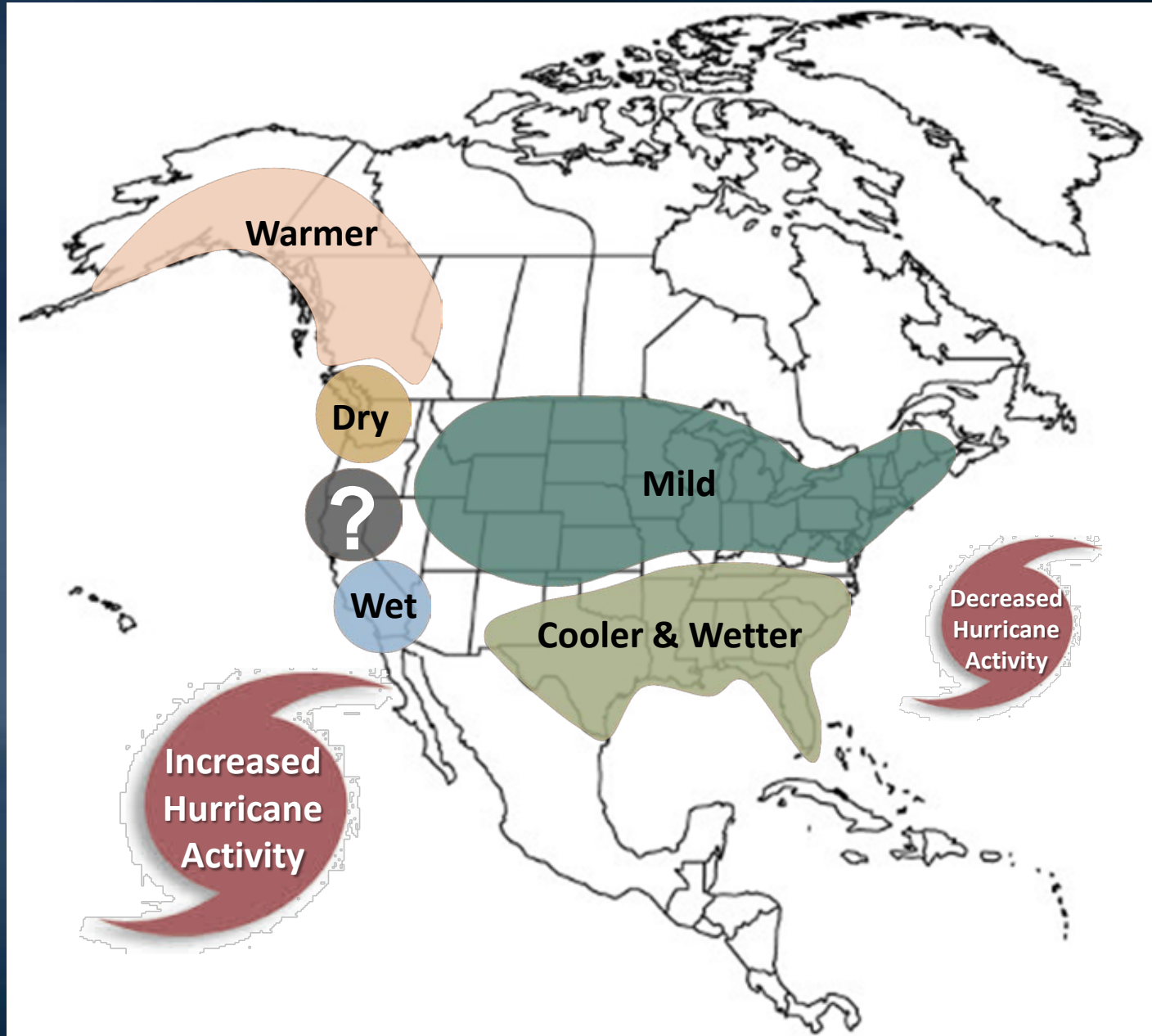
WHEREAS under the provisions of section 208 (b) of the Government Code,

A black and white photograph showing three men in suits seated at a table. From left to right: a man with glasses, a man with dark hair, and a man with light skin and a mustache. They are all looking towards the right side of the frame. There are microphones in front of them on the table. The man on the right is speaking.

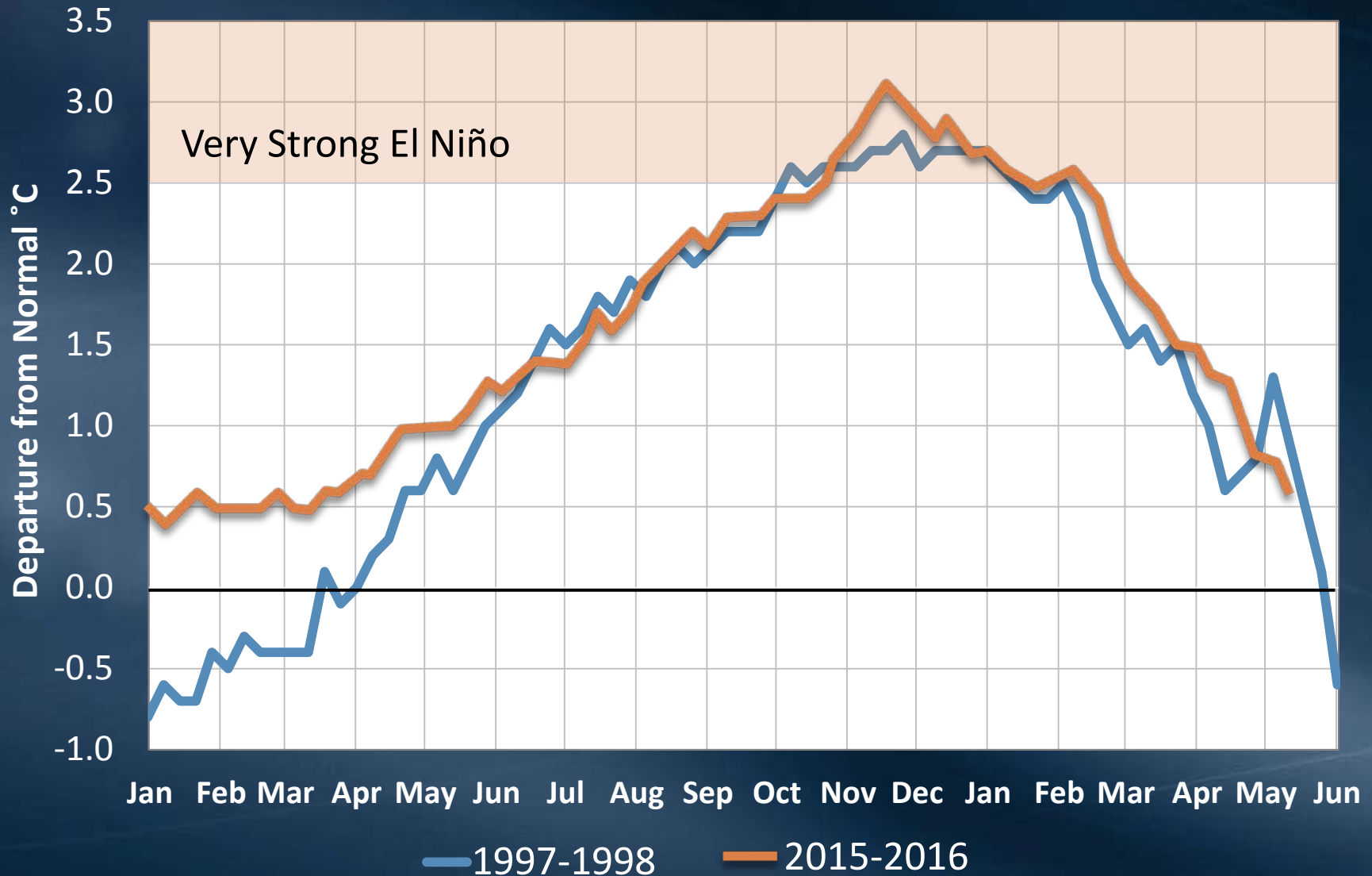
Gov. Jerry Brown, center, in 1977, discussing California's water crisis at Los Angeles City Hall with L.A. Mayor Tom Bradley, right, and state Assemblyman Eugene Gualco (D-Sacramento). (Los Angeles Times)

But, Godzilla El Niño Was
Coming.....

What Would El Niño Mean for the U.S.?



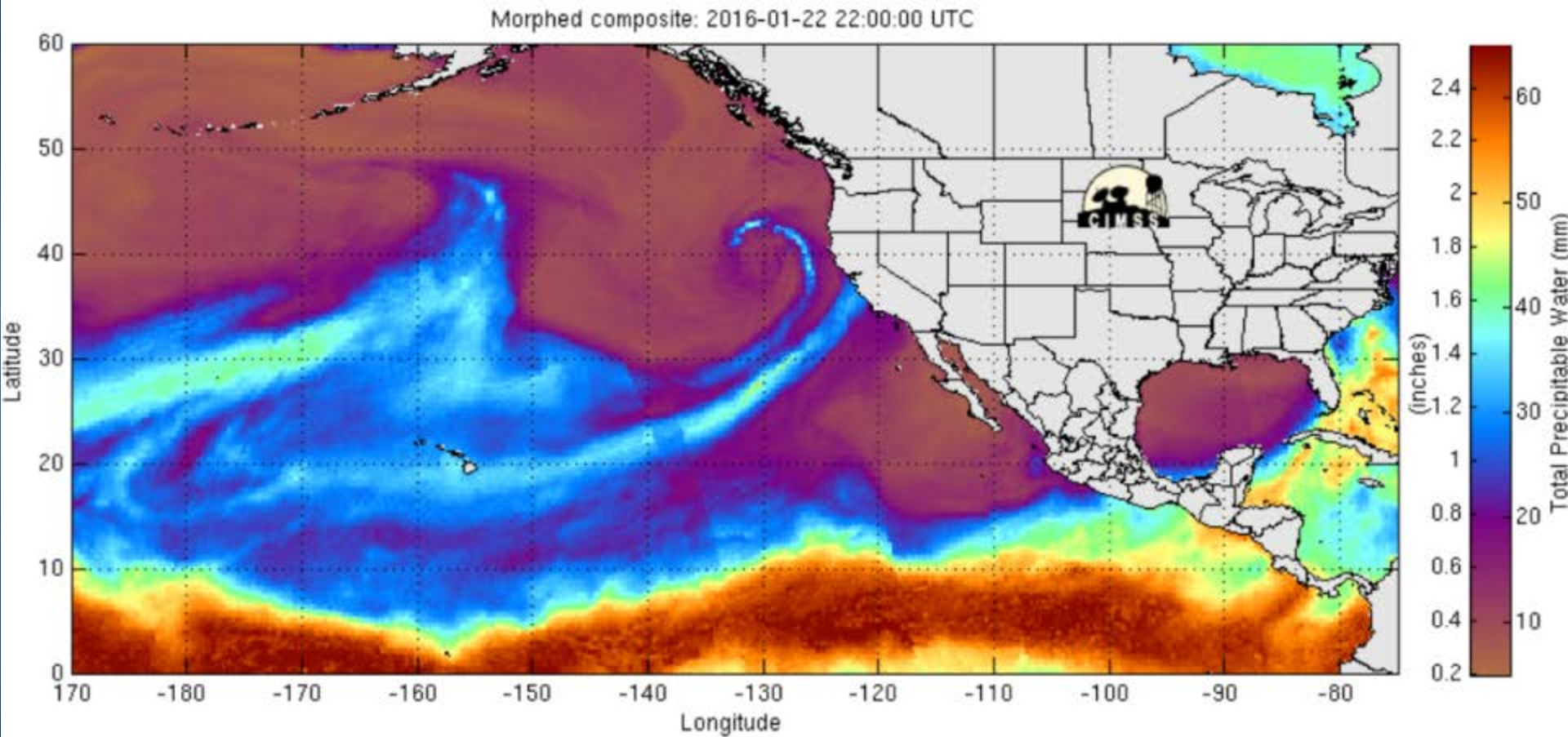
This Year Is Similar To The Strongest El Niño On Record



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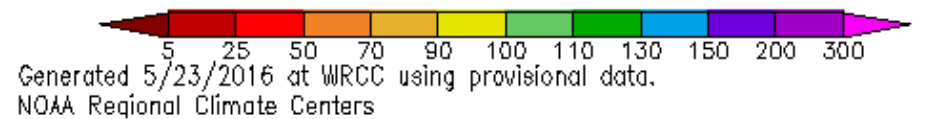
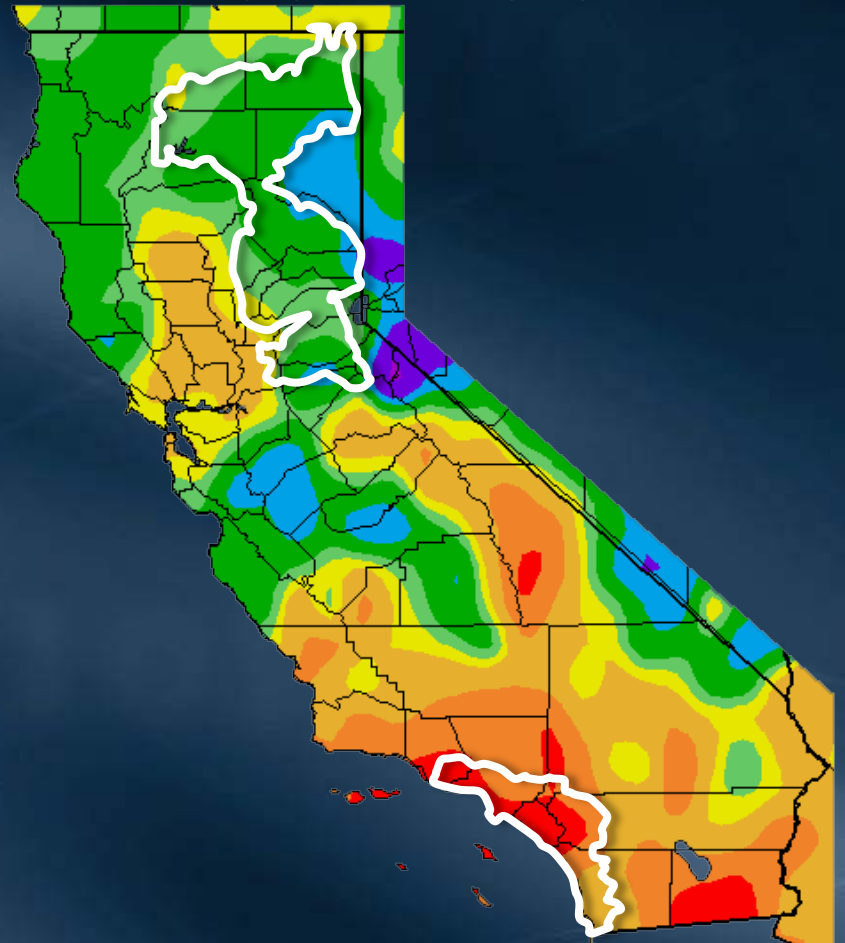
¿Donde está El Niño?



El Niño Conditions Flipped this Year

Percent of Average Precipitation (%)
10/1/2015 – 5/22/2016

- Southern California is much drier than average
- Northern California is wetter than average



Improvements in Northern California

State Water Project Supply Timing

- ## Initial allocation on December 1



A horizontal timeline representing a water year. It consists of twelve dark gray rectangular boxes, each containing a three-letter month abbreviation in white capital letters: OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, and SEP. The boxes are arranged in a single row. Above the NOV and DEC boxes, there is a yellow double-headed arrow pointing left and right, indicating a specific period of interest. Below the OCT box, the text 'WATER YEAR' is written in white capital letters.

Northern Sierra Precipitation

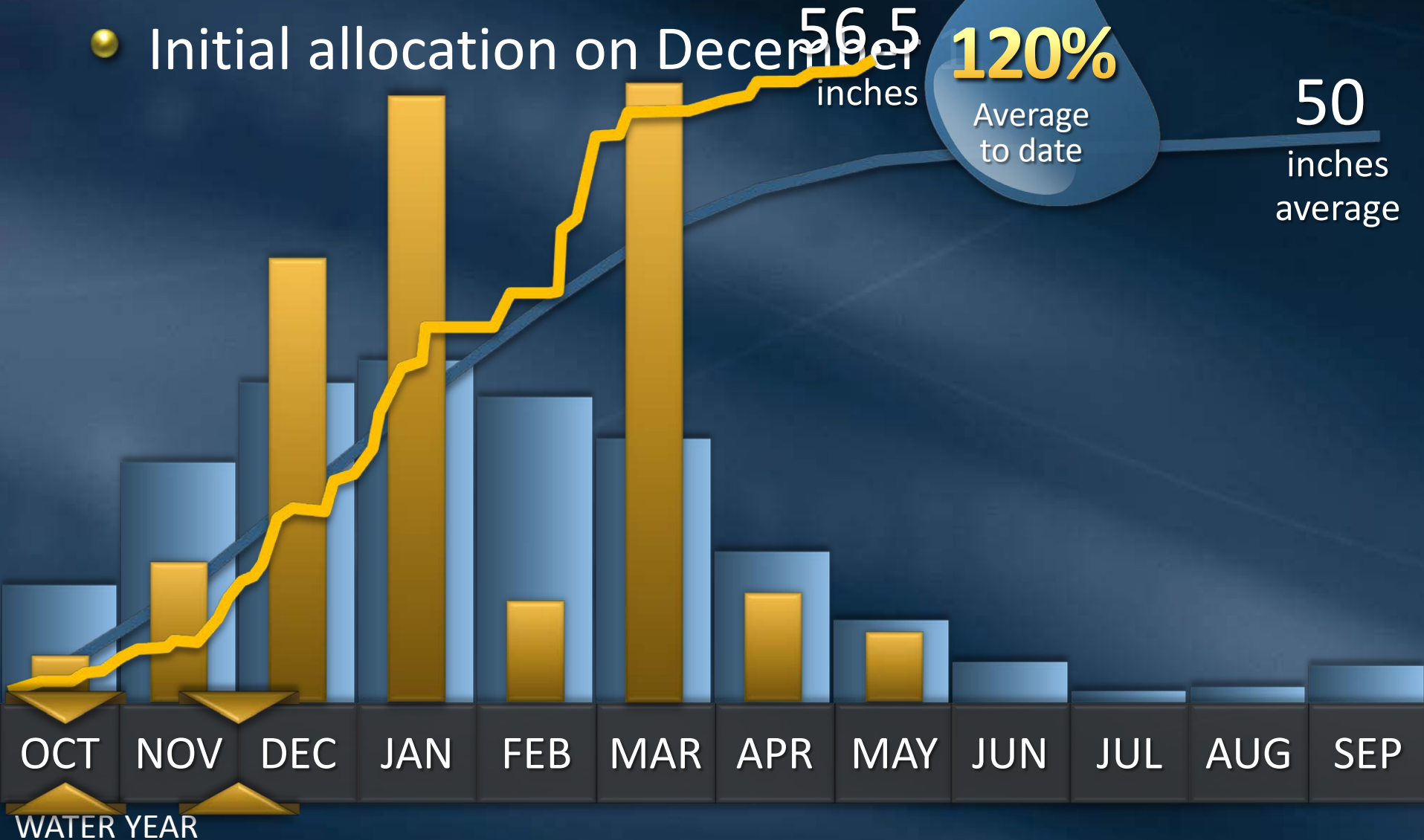
Mostly falls October through April

- Initial allocation on December 56.5 inches

120%

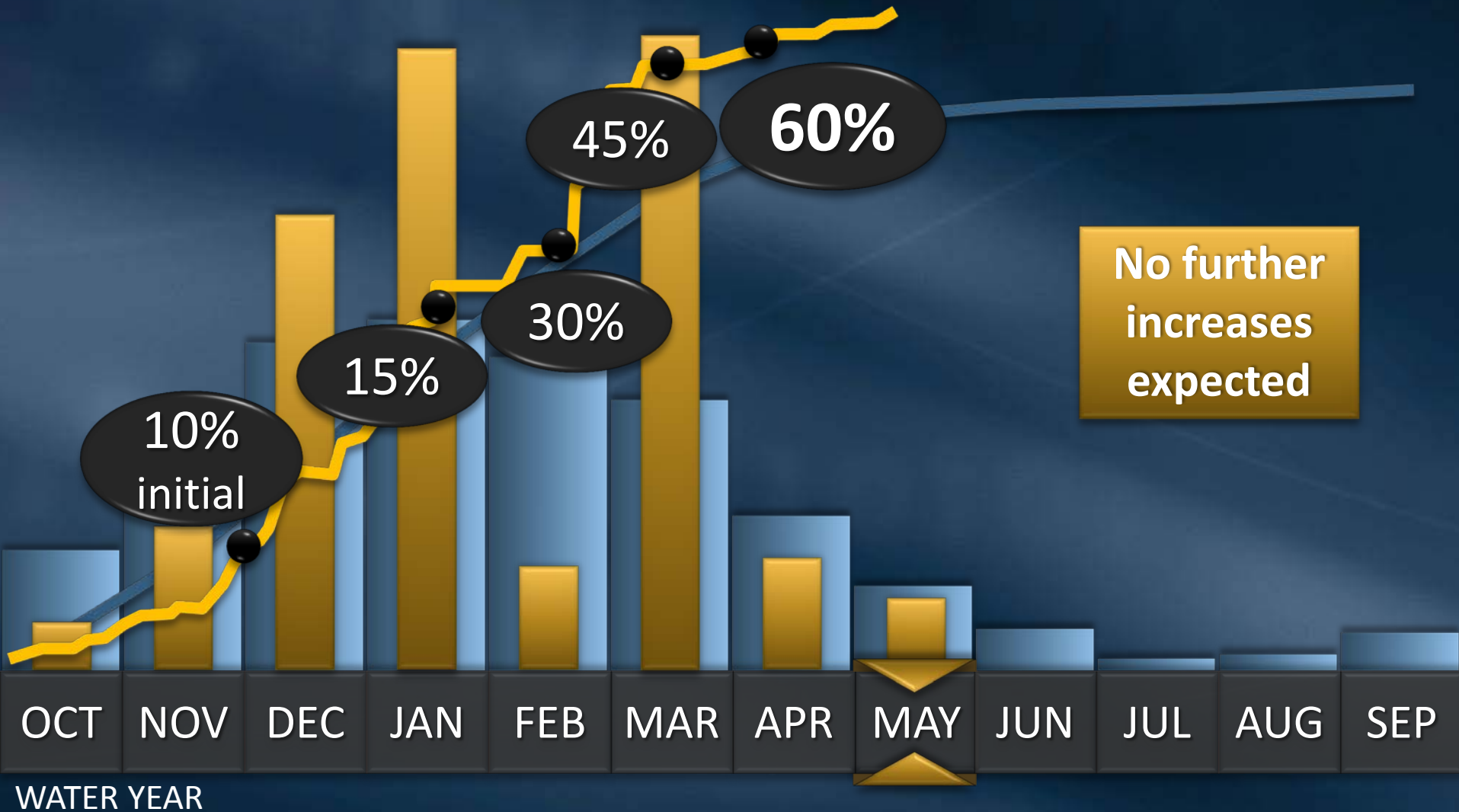
Average
to date

50
inches
average



SWP Allocation Increases

Supported by Developing Hydrologic Conditions



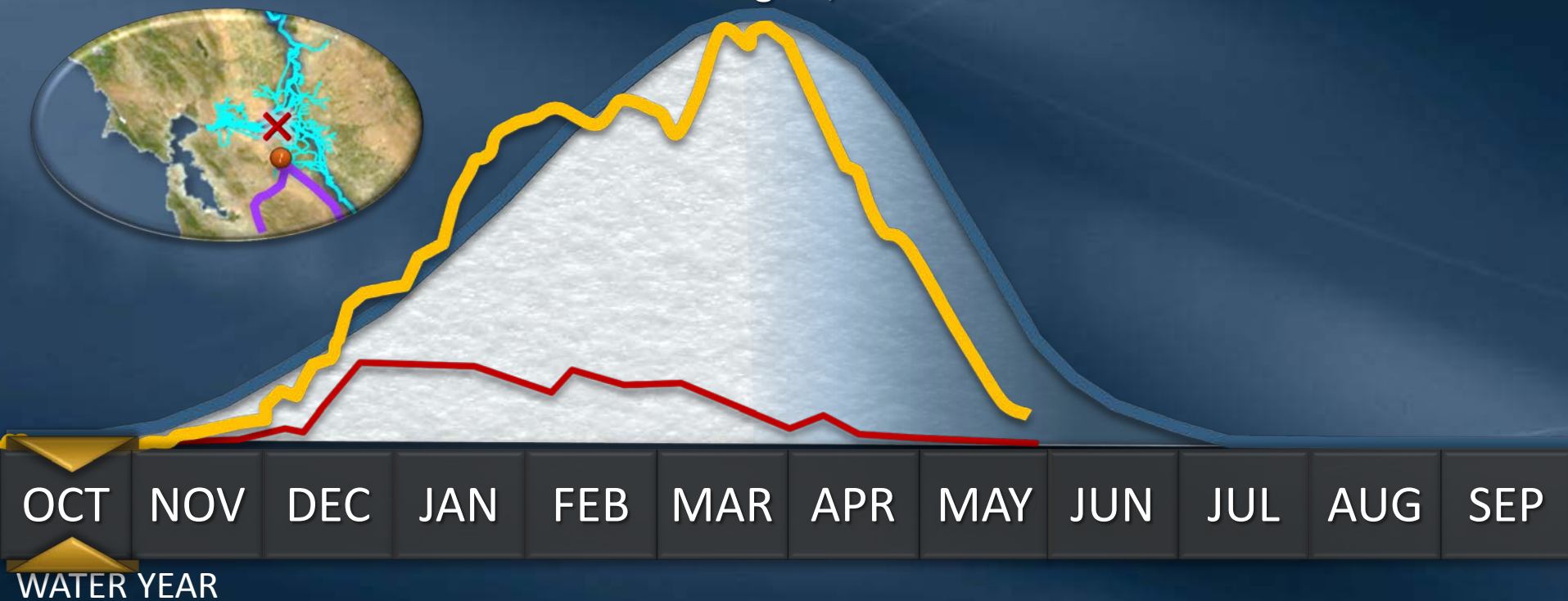
Northern Sierra Snowpack Improved

Usually peaks in early April



29
inches
average 4/1

94%
Apr. 1 avg



Lake Oroville Storage Makes



Lake Oroville Storage Makes



Lake Oroville Storage Makes Comeback



Flood releases
end of
March
2016

Maximum Capacity 3.5 MAF

Improved
Starting
Conditions
for 2017

Last
year

Average Storage

This
year

Record Low Storage – Sep 1977

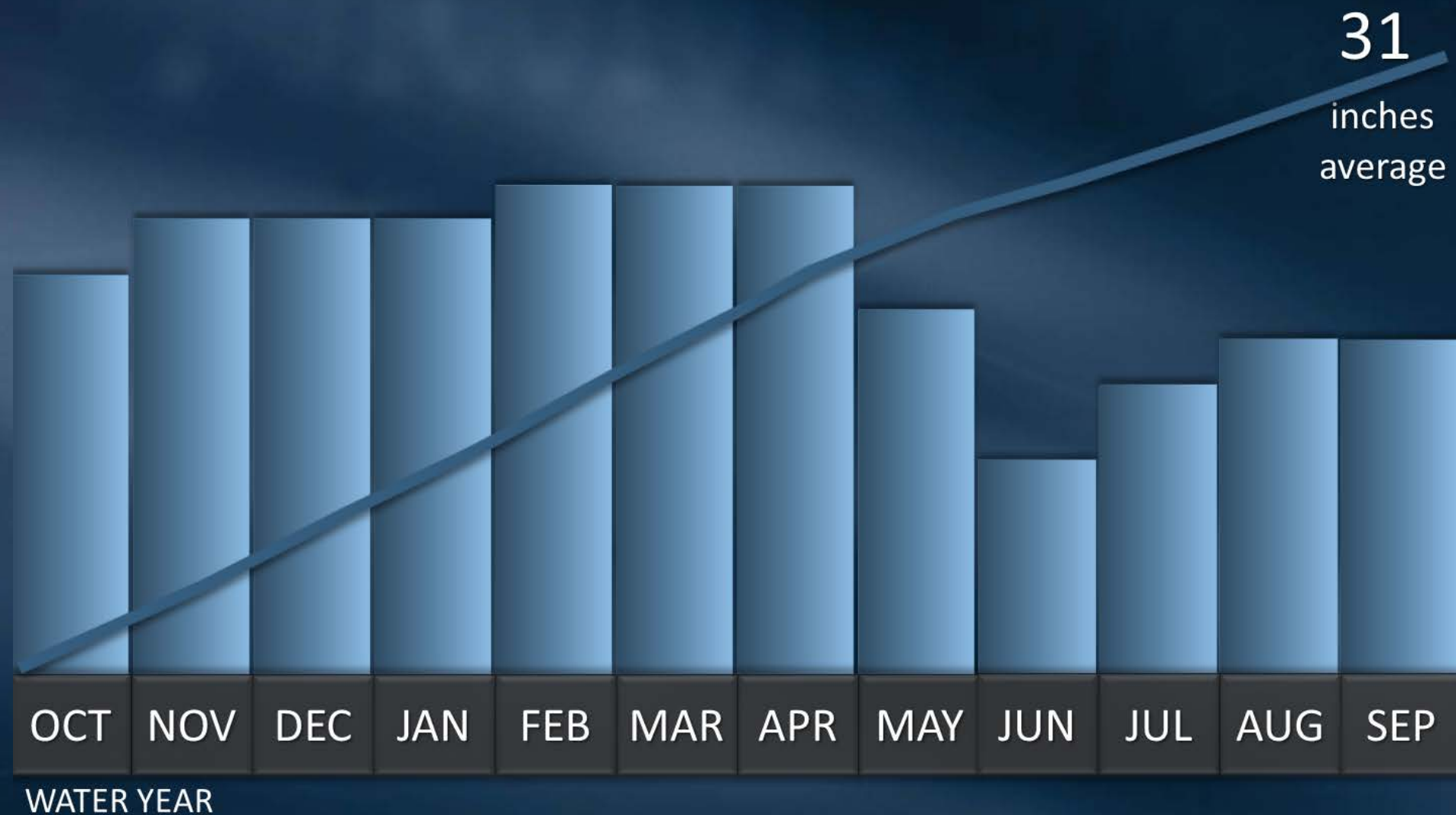
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP

WATER YEAR

Average conditions on the
Colorado will help avert
shortage ... for now

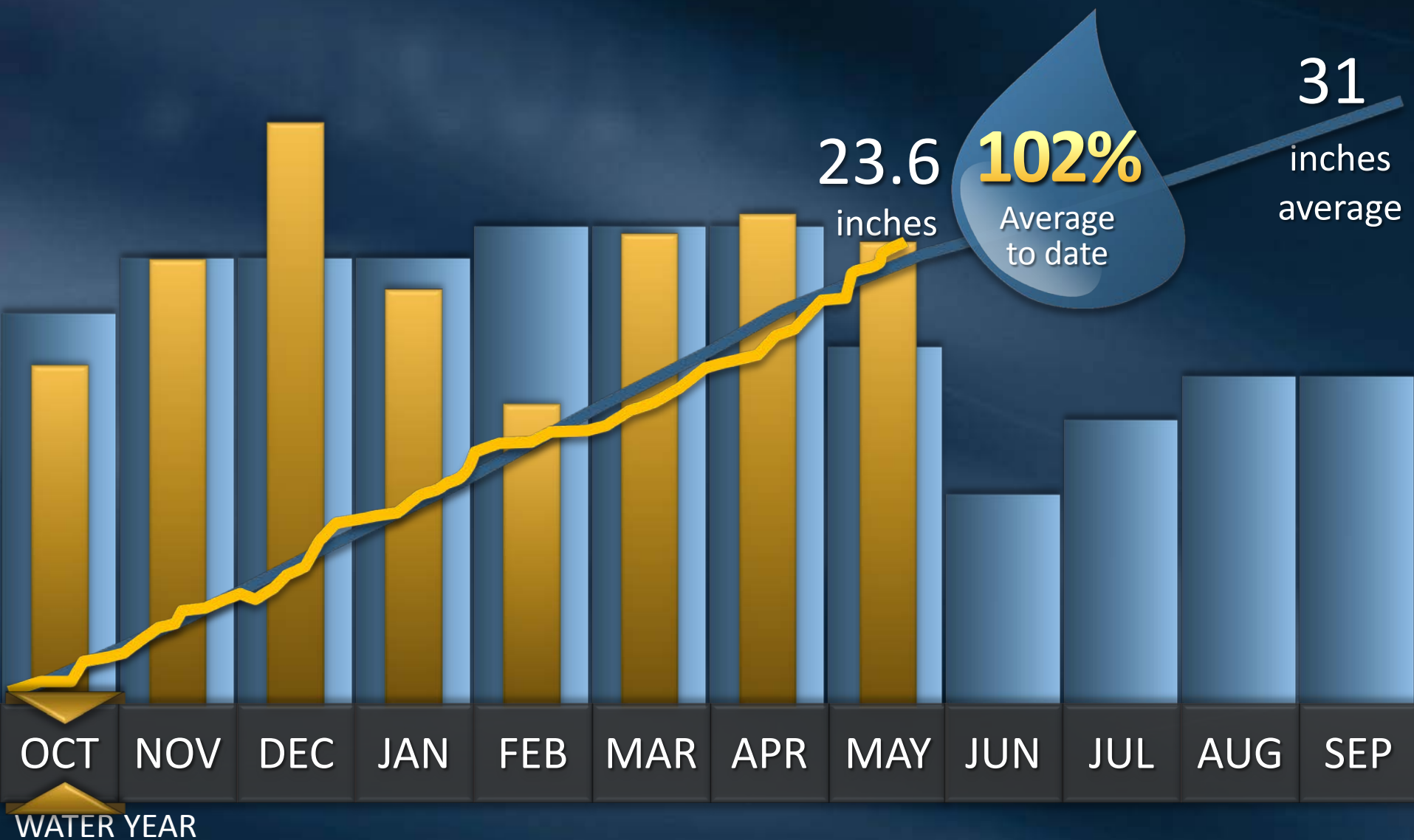
Upper Colorado Basin Precipitation

Distributed throughout the year



Upper Colorado Basin Precipitation

Distributed throughout the year

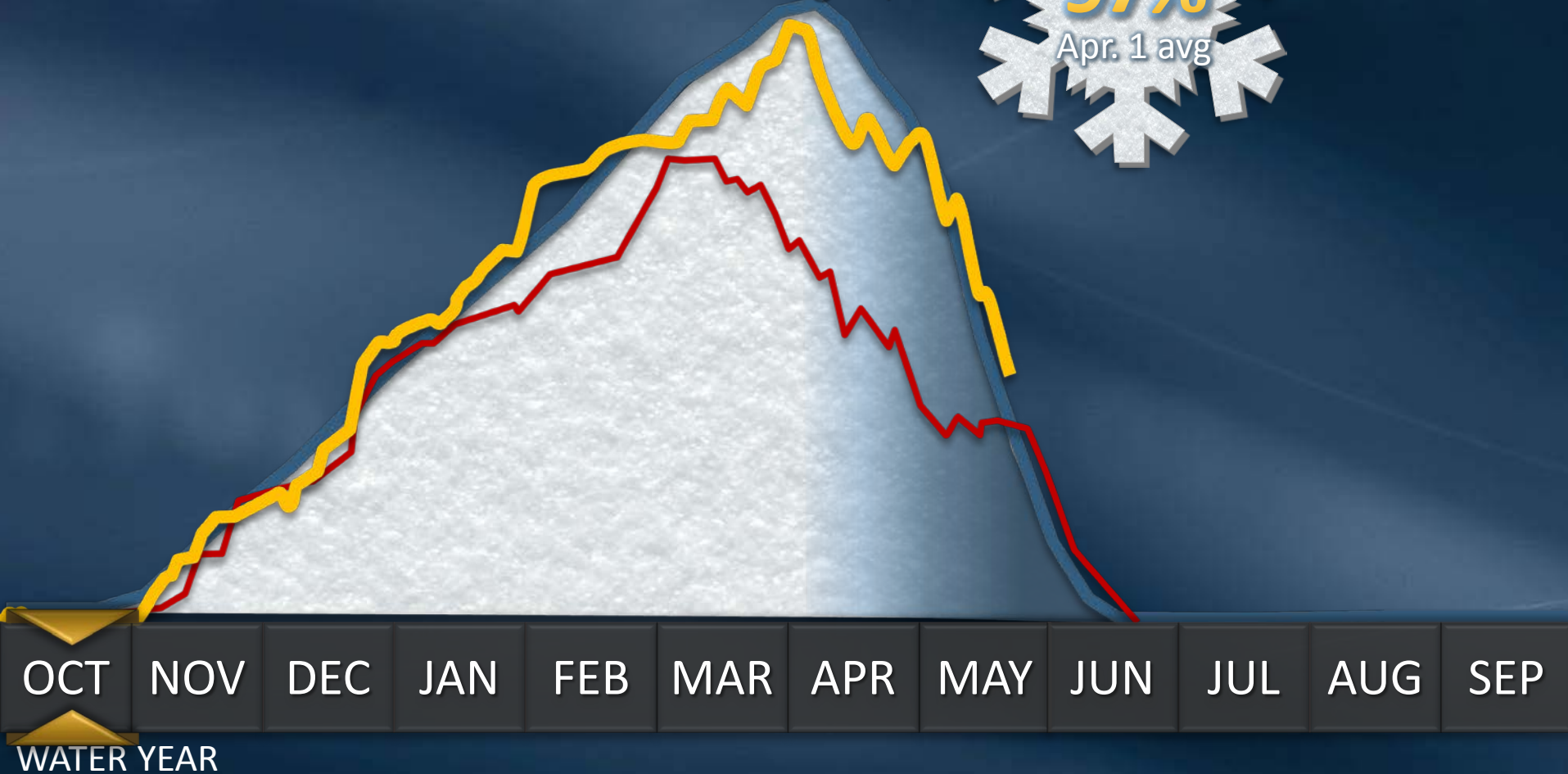


Usually accumulates through March



97%

Apr. 1 avg



Colorado River Supply Timing

- USBR's August forecast determines Mead and Powell operations for upcoming calendar year

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
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WATER YEAR

Colorado River Supply Timing

- USBR's August forecast determines Mead and Powell operations for upcoming calendar year
- USBR's April forecast can result in modified reservoir operations for current calendar year

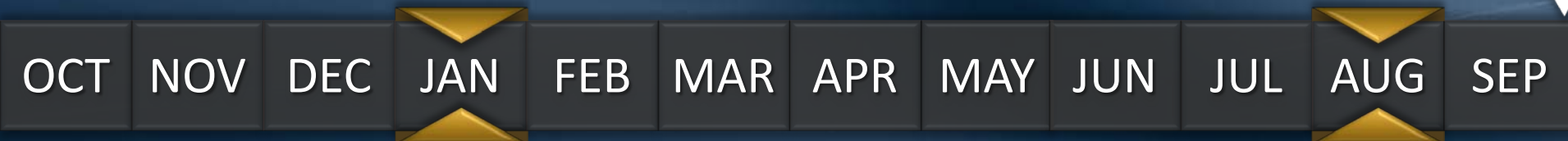
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WATER YEAR

Colorado River Supply Timing

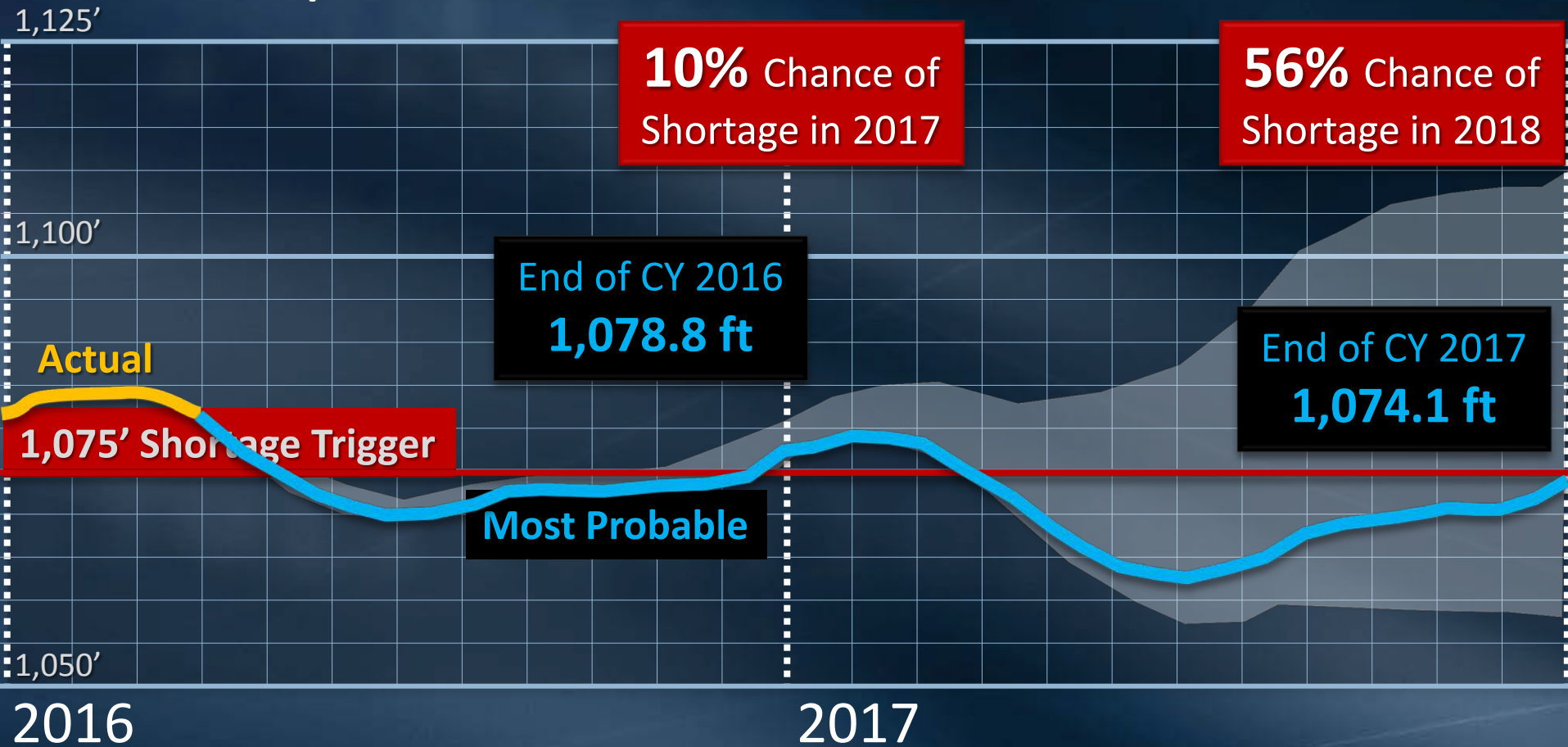
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*End of Year
Storage in
Lake Mead*



Colorado River Supply Timing

USBR April Forecast of Lake Mead Elevation



Supplies projected to exceed
demands this year

0.04 MAF

SWP Purchases

1.15 MAF

SWP Allocation

0.41 MAF

CRA Programs

0.55 MAF

CRA Basic
Apportionment

1.80 MAF

Current Trend
Demands

Supplies

Demands



0.04 MAF

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1.15 MAF

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0.41 MAF

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CRA Basic
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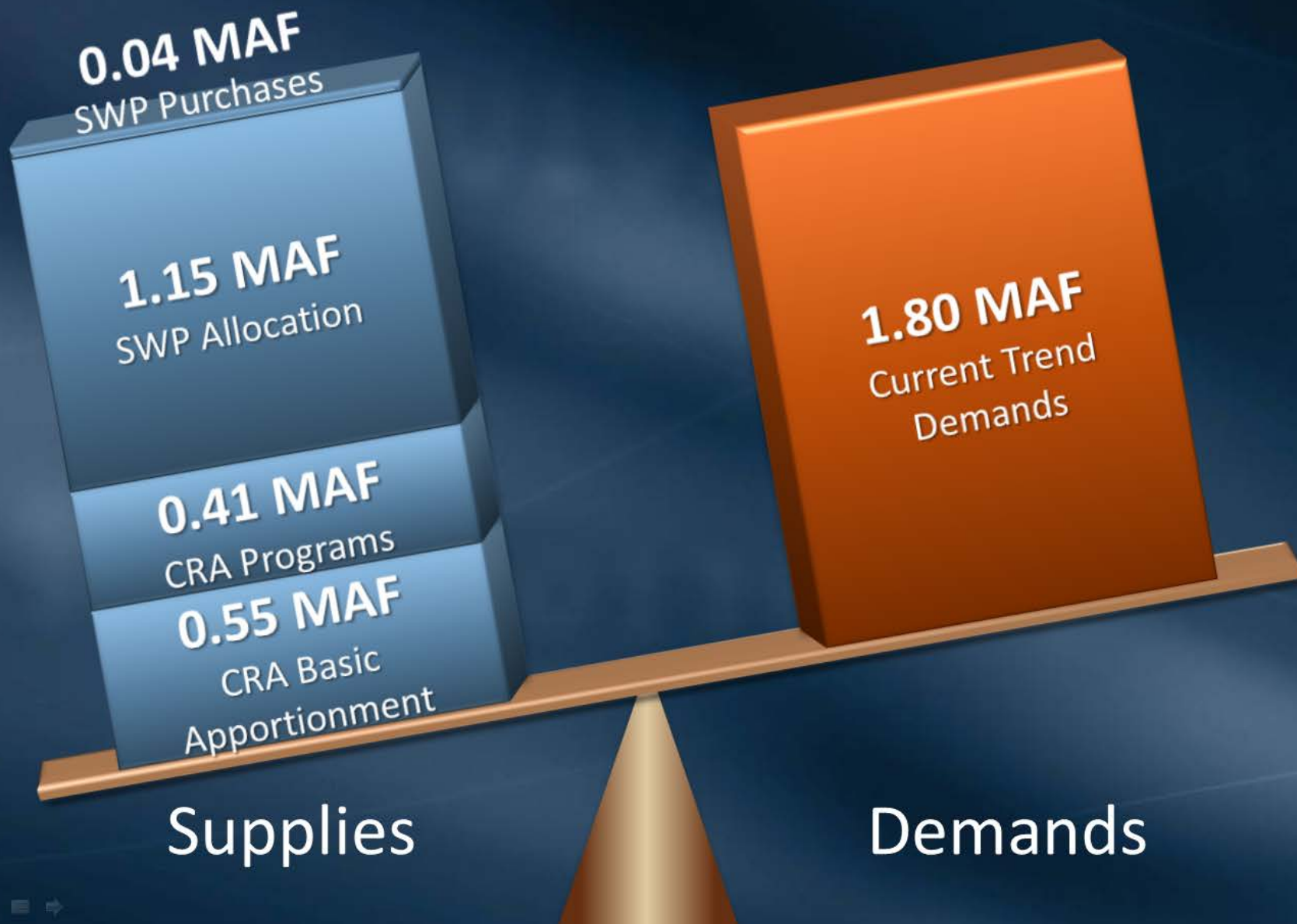
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Current Trend
Demands

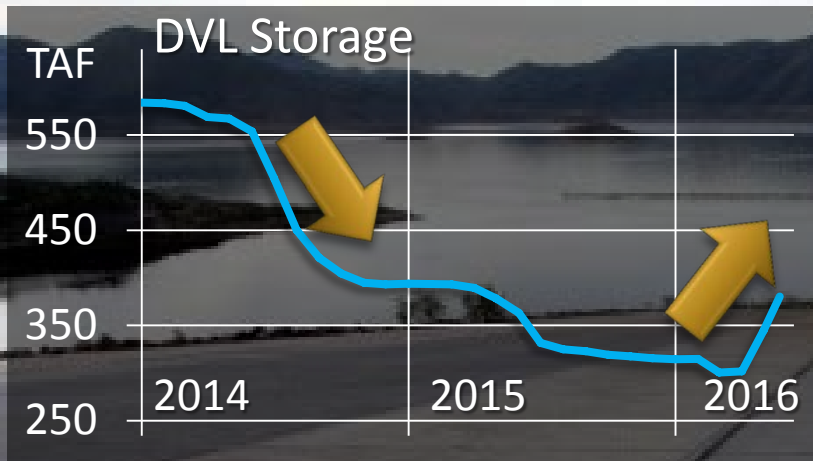
Supplies

Demands

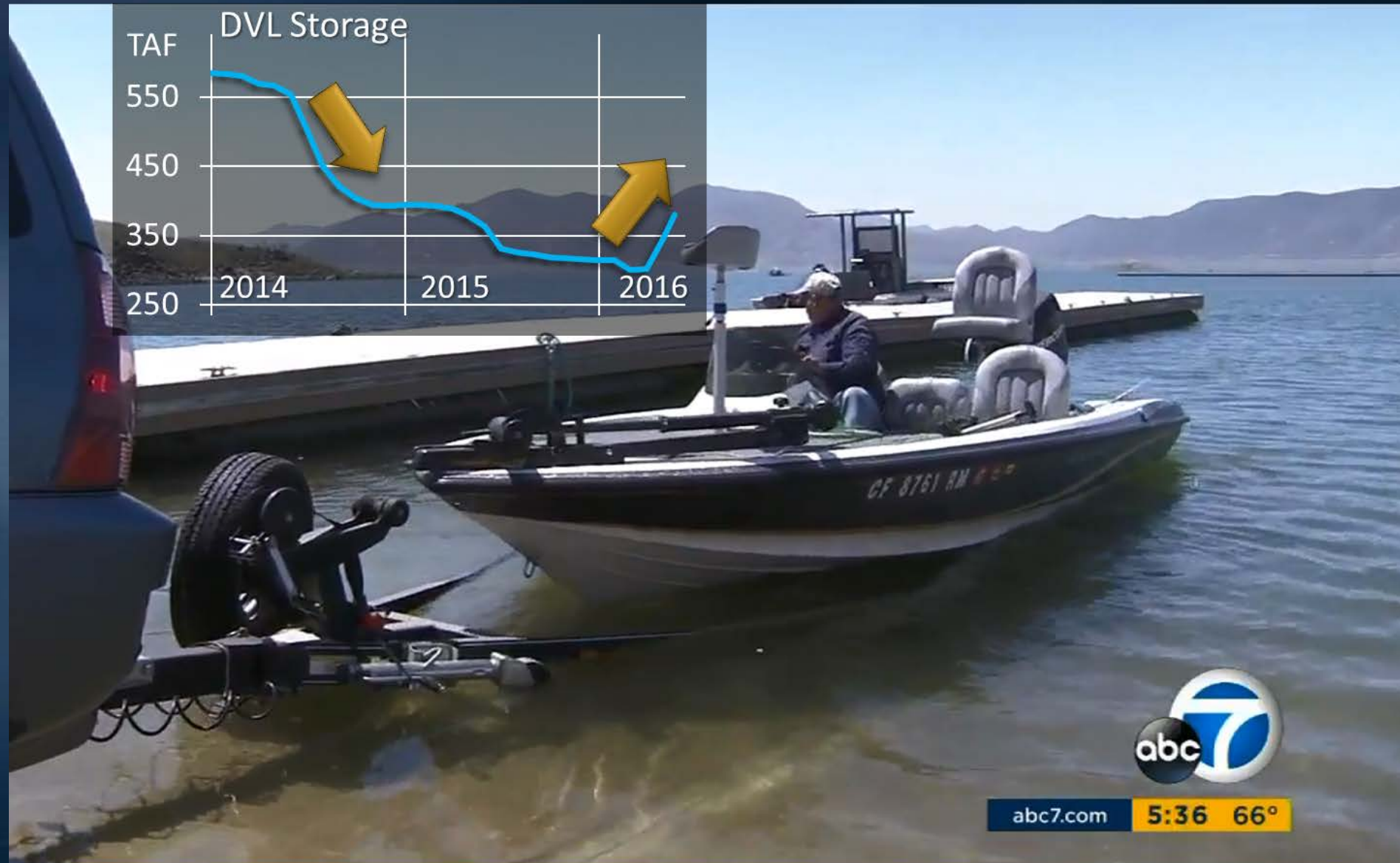
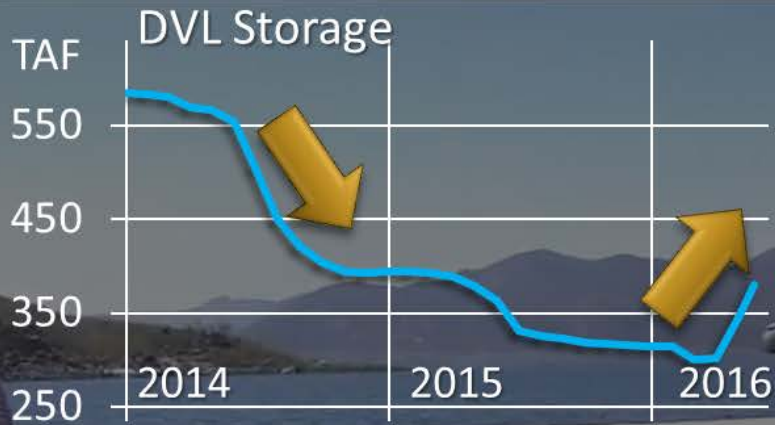




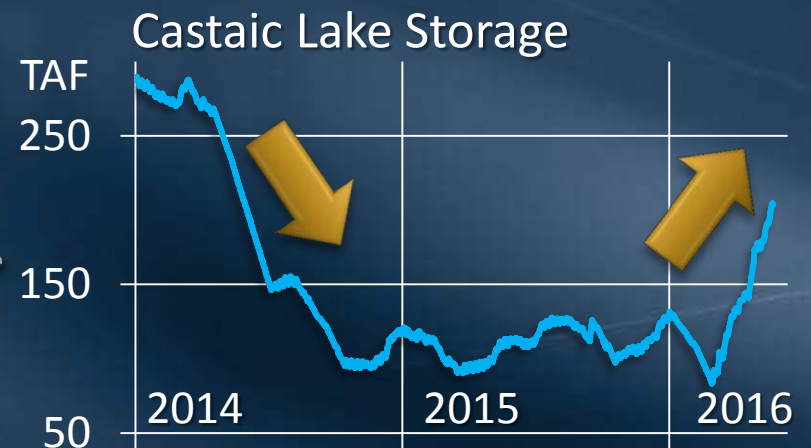
Diamond Valley Lake Reopens to Boating



Diamond Valley Lake Reopens to Boating



Storage Returning to Castaic Lake



Metropolitan Storage Reserves

End of Year Balances



Metropolitan Shifts from Water Supply Allocation Level 3

- Improved hydrologic conditions in northern CA
 - SWP reservoirs filling and allocation increased
 - 2017 starting conditions improved
 - Metropolitan will add to storage in 2016

Metropolitan Declares Water Supply Alert

- Regional call for conservation through drought ordinances and other measures
- One normal hydrologic year will not end drought
 - Drought severity has reduced
 - Need for continued conservation practices

