

2016 Snowpack Status and Streamflow Outlook for the Truckee, Carson, Walker, and Humboldt River Drainages

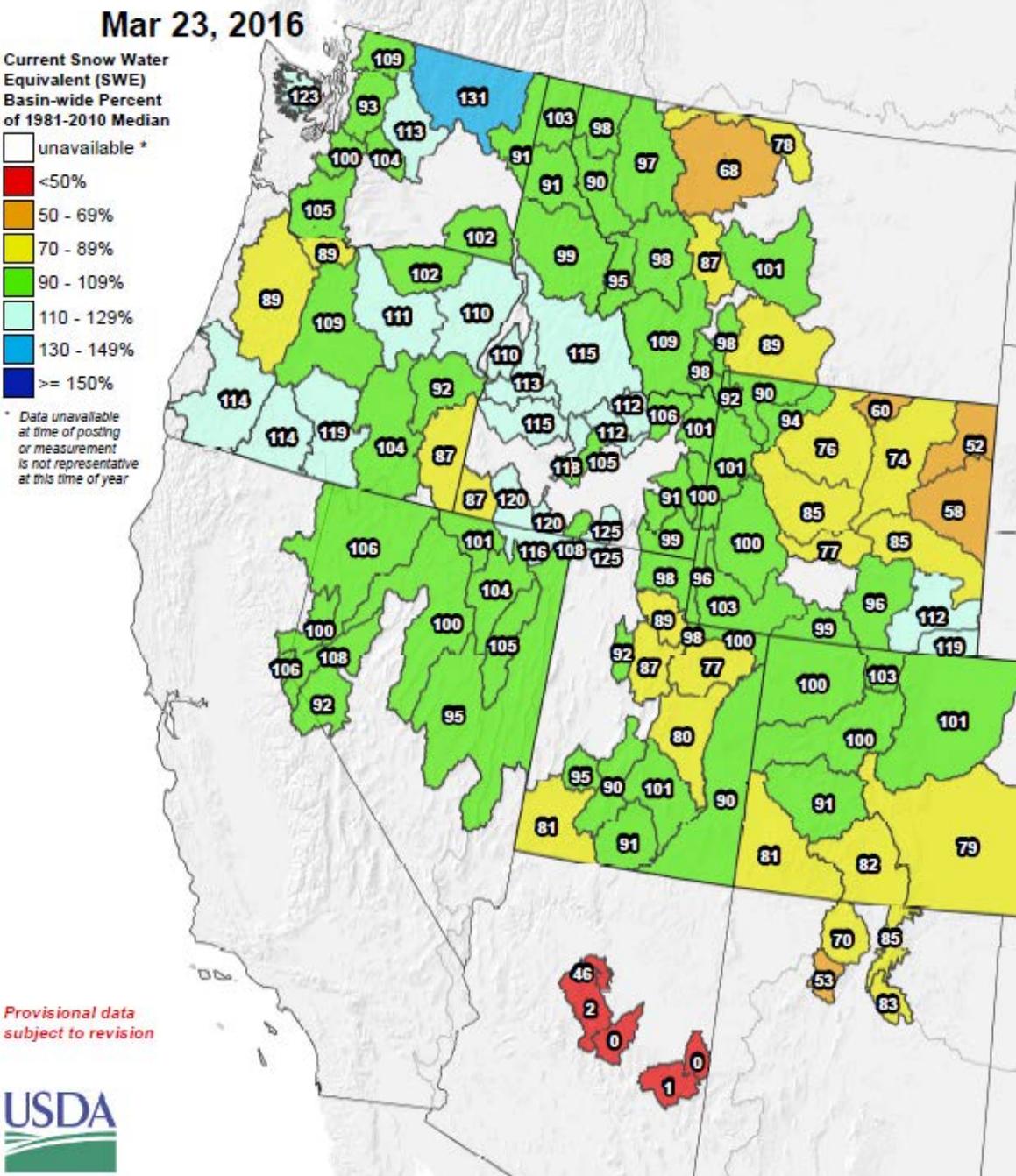
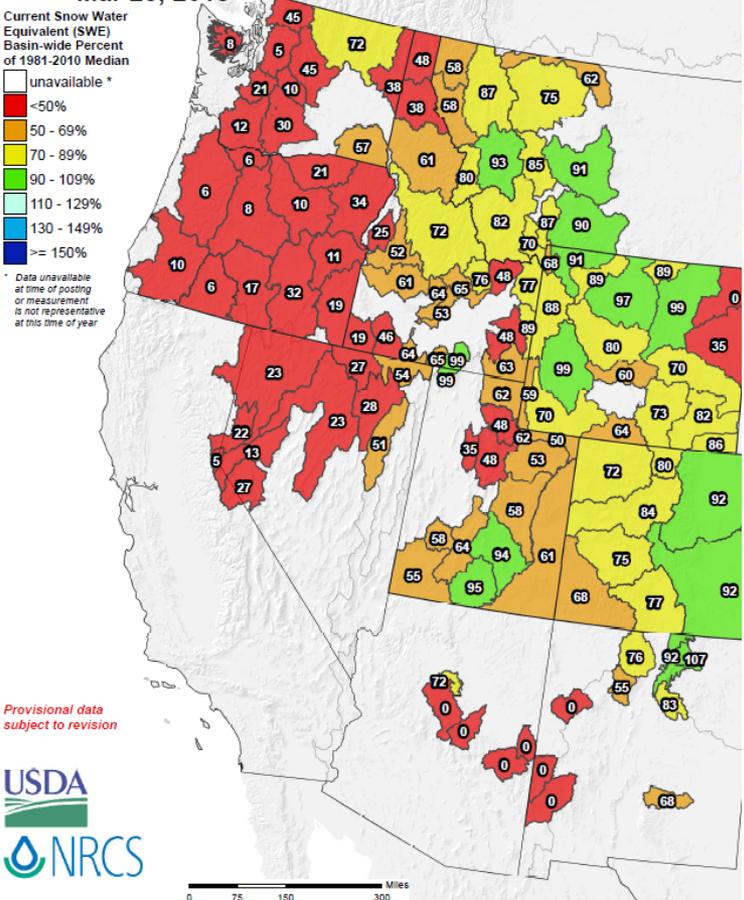
March 23, 2016

Jeff Anderson
USDA-NRCS
Reno, NV

Photo:
Hope Valley
W Fk Carson R
3/17/16

Mar 23, 2015

Mar 23, 2016

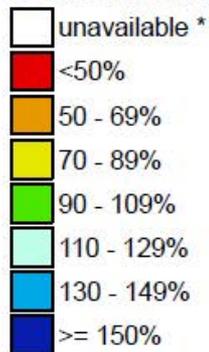


2015 vs. 2016

Nevada/California SNOTEL Current Snow Water Equivalent (SWE) % of Normal

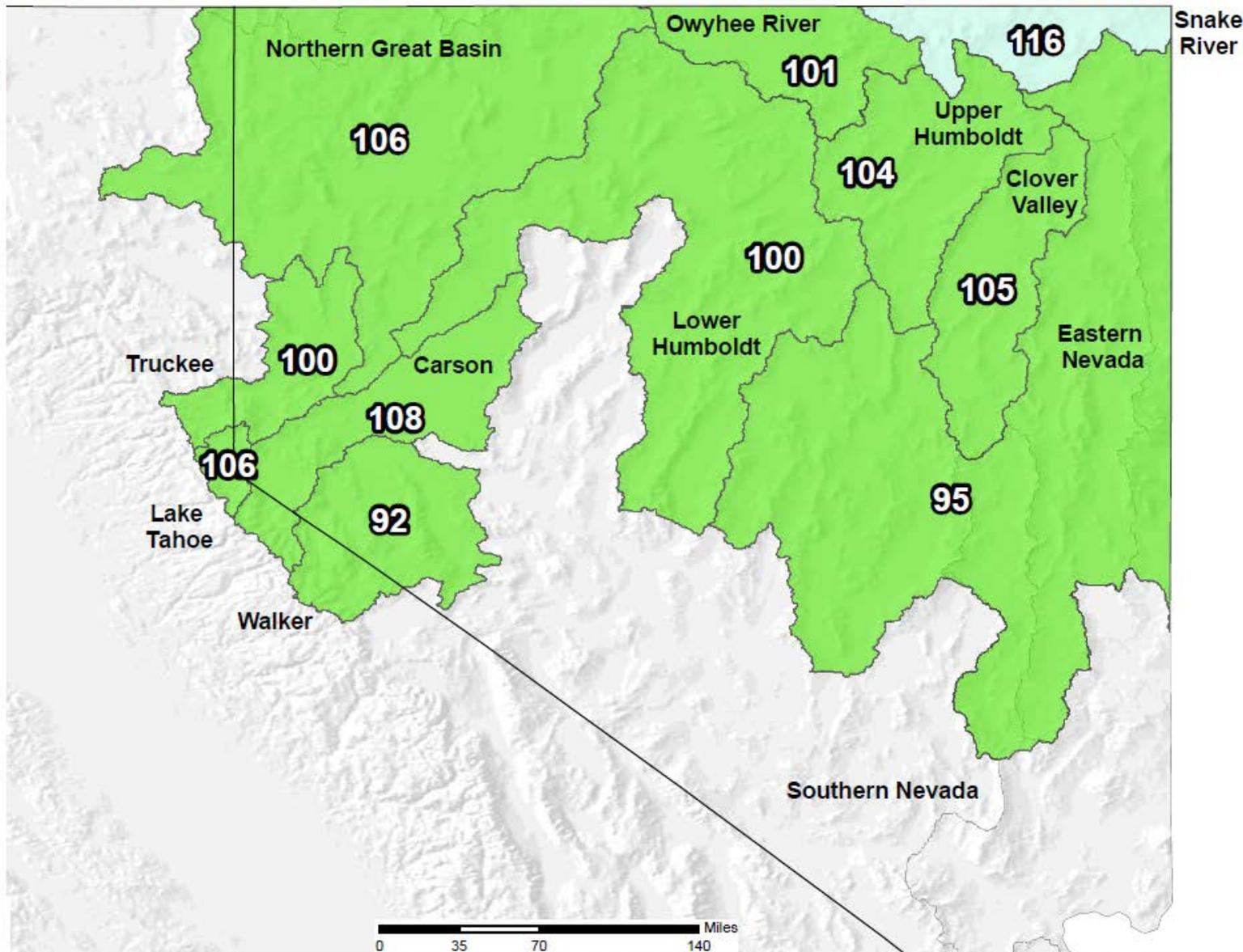
Mar 23, 2016

Current Snow Water Equivalent Basin-wide Percent of 1981-2010 Median



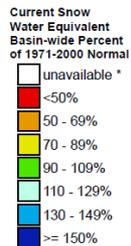
* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision



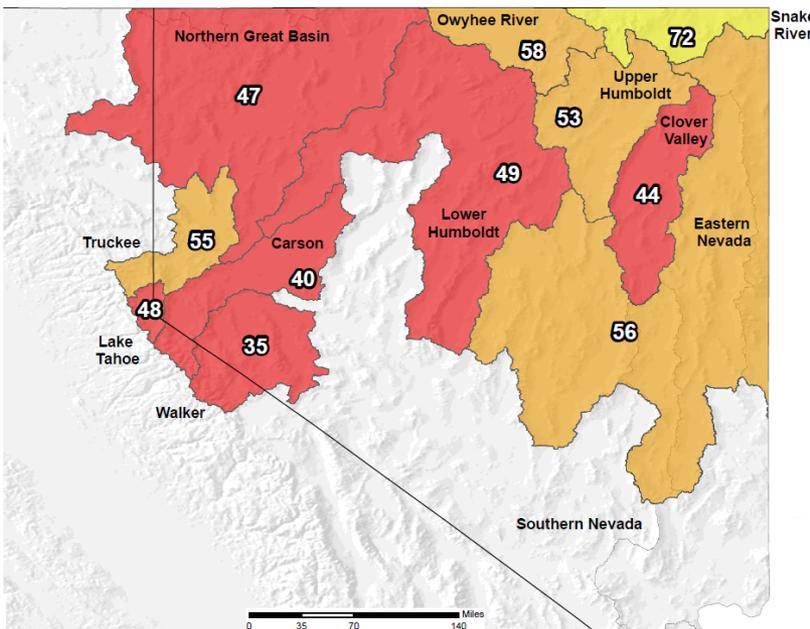
Nevada/California SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Mar 23, 2012



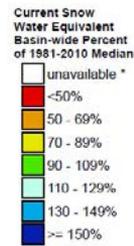
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Provisional data subject to revision



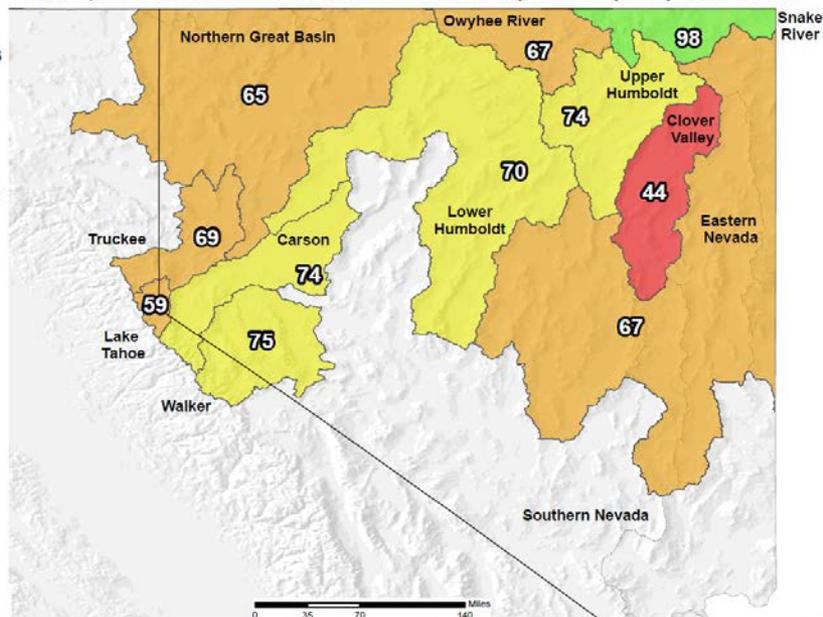
Nevada/California SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Mar 23, 2013



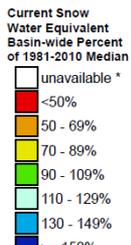
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Provisional data subject to revision



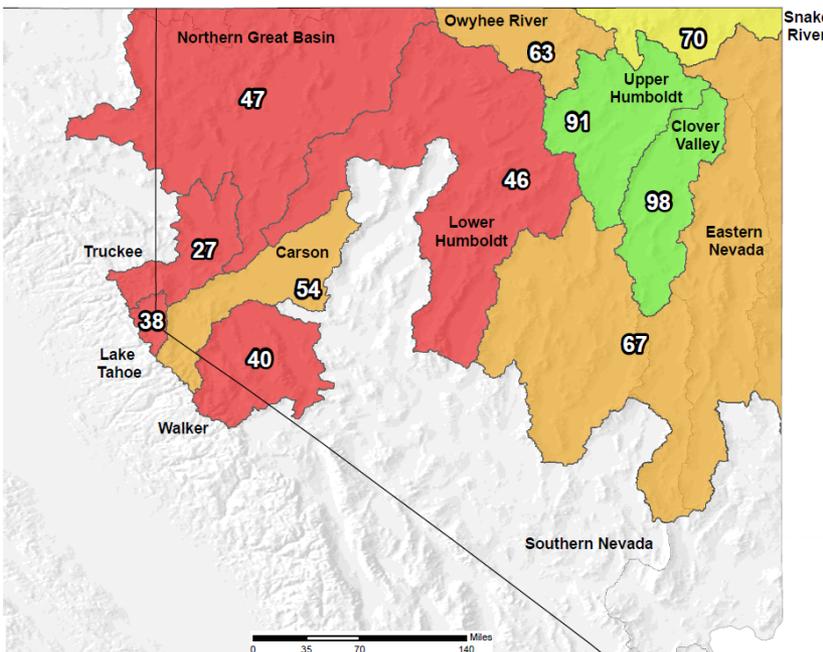
Nevada/California SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Mar 23, 2014



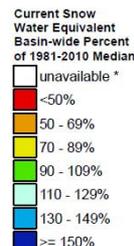
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Provisional data subject to revision



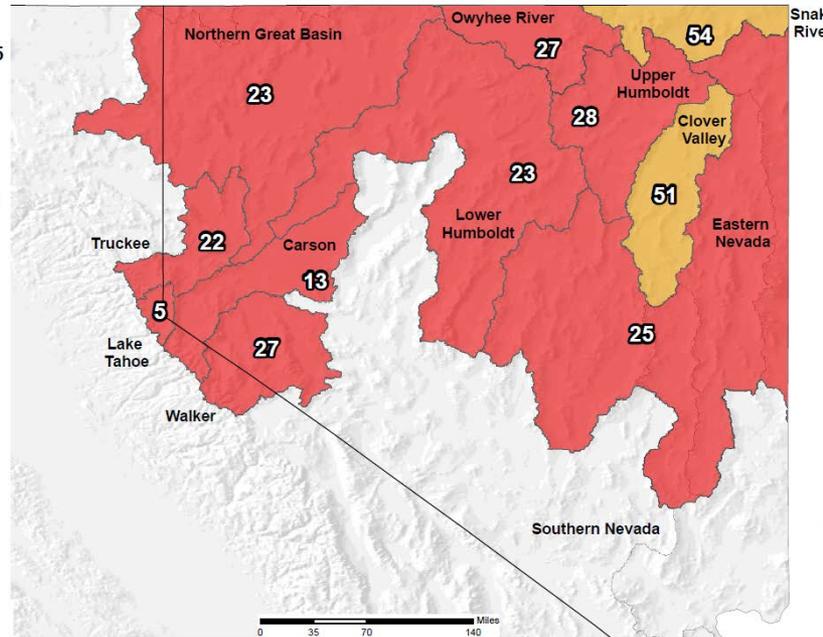
Nevada/California SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Mar 23, 2015



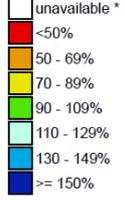
* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision



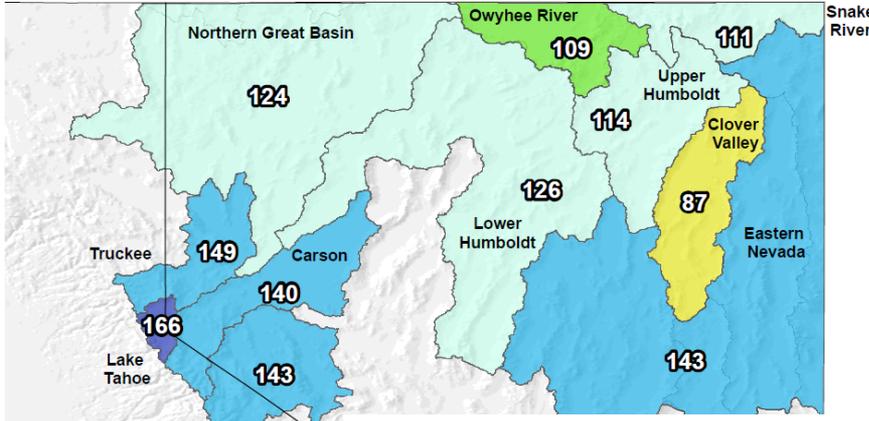
Mar 23, 2011

Current Snow Water Equivalent Basin-wide Percent of 1971-2000 Normal



* Data unavailable at time of posting or measurement is not representative at this time of year

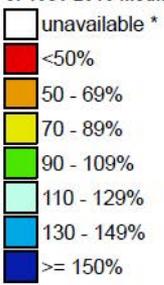
Provisional data subject to revision



Nevada/California SNOTEL Current Snow Water Equivalent (SWE) % of Normal

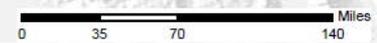
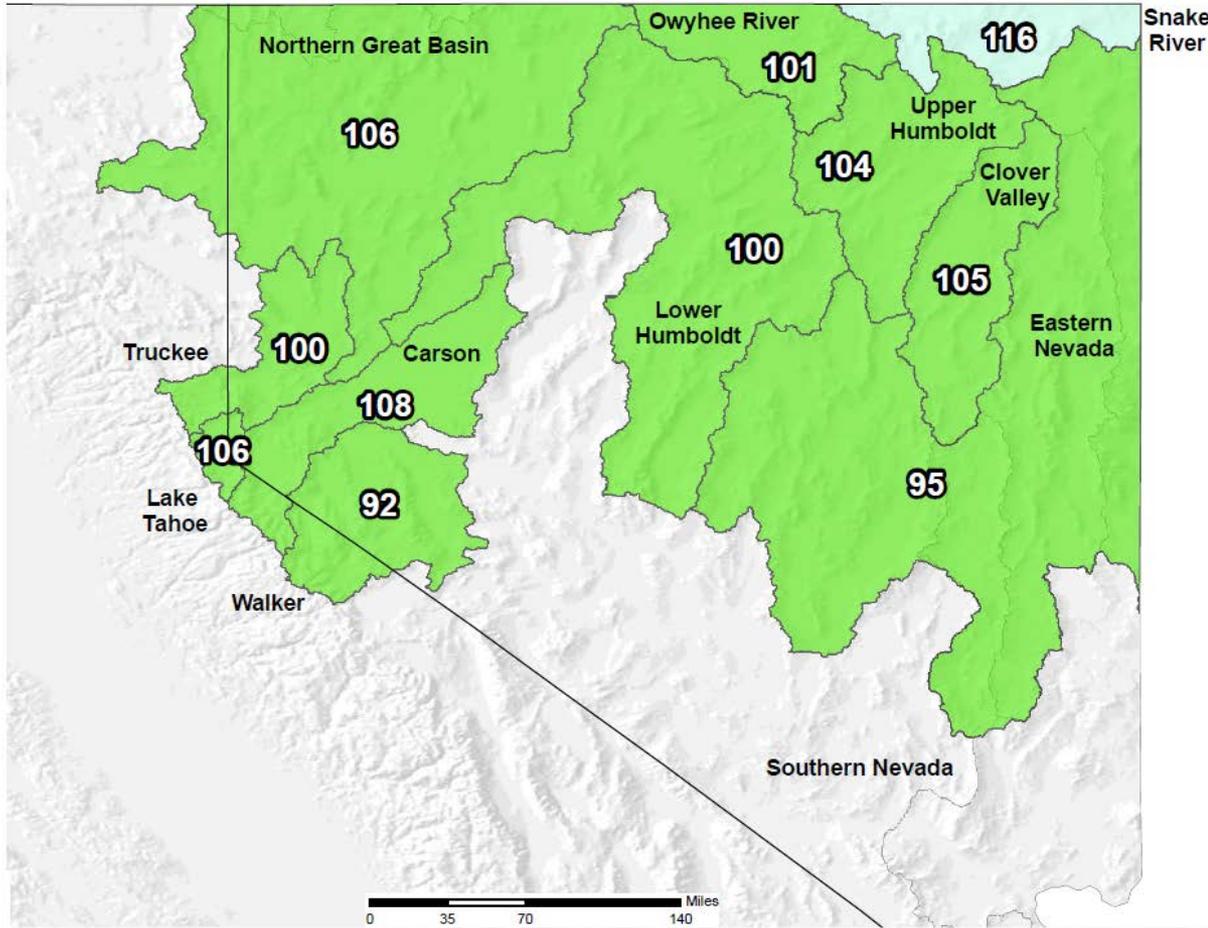
Mar 23, 2016

Current Snow Water Equivalent Basin-wide Percent of 1981-2010 Median



* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision



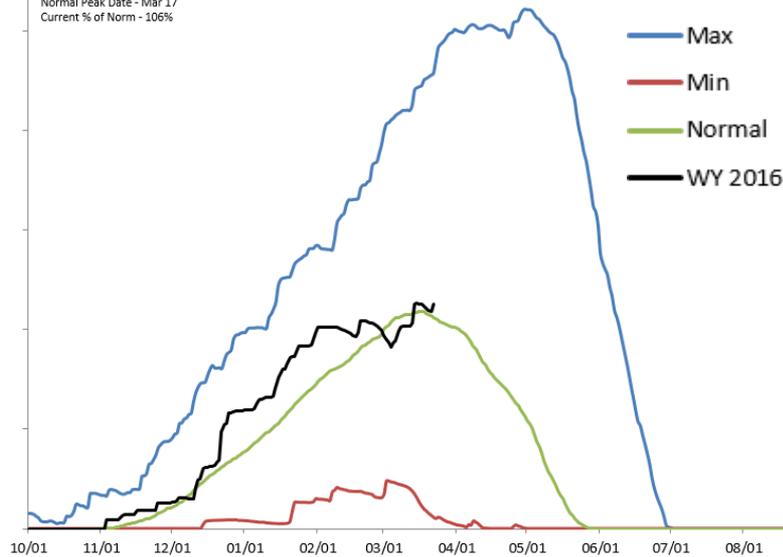
Lake Tahoe Basin - SWE Index



Created: March 23, 2016
of sites - 8

Normal Peak SWE - 21.8 in
Normal Peak Date - Mar 17
Current % of Norm - 106%

Index of Snow Water Equivalent



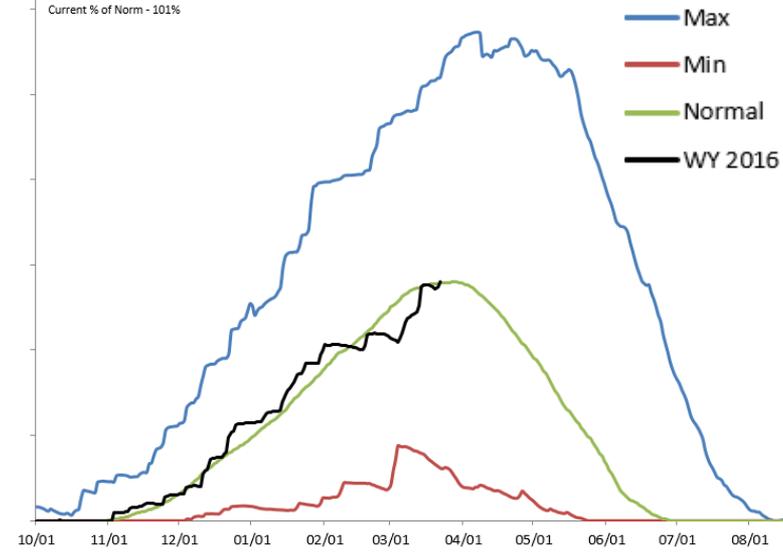
Truckee River Basin - SWE Index



Created: March 23, 2016
of sites - 8

Normal Peak SWE - 28.012 in
Normal Peak Date - Mar 29
Current % of Norm - 101%

Index of Snow Water Equivalent



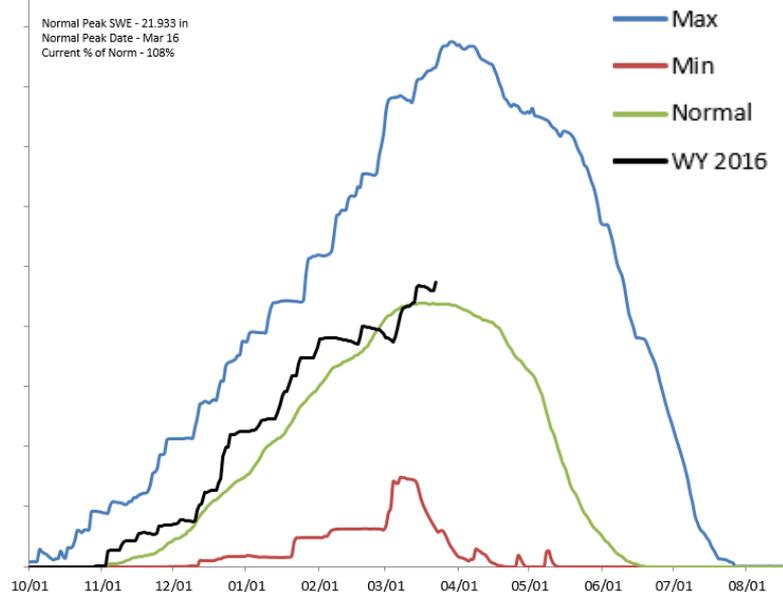
Carson River Basin - SWE Index



Created: March 23, 2016
of sites - 9

Normal Peak SWE - 21.933 in
Normal Peak Date - Mar 16
Current % of Norm - 108%

Index of Snow Water Equivalent



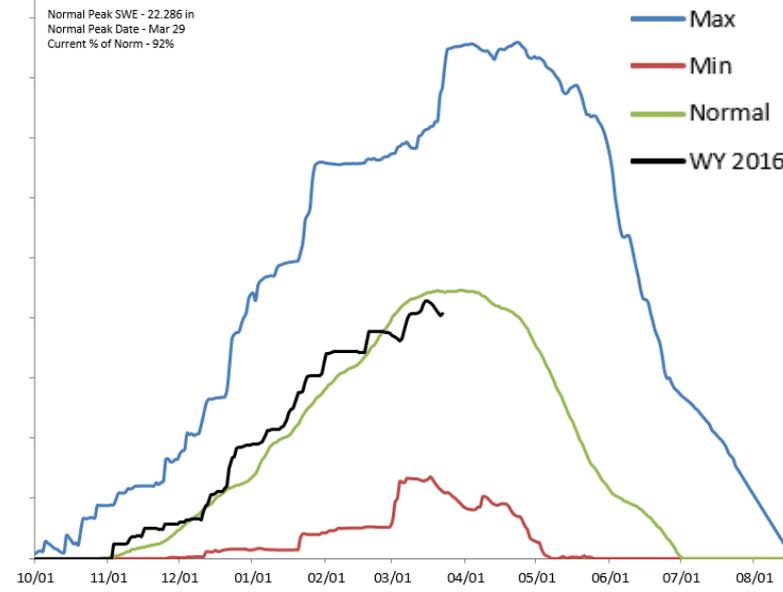
Walker River Basin - SWE Index



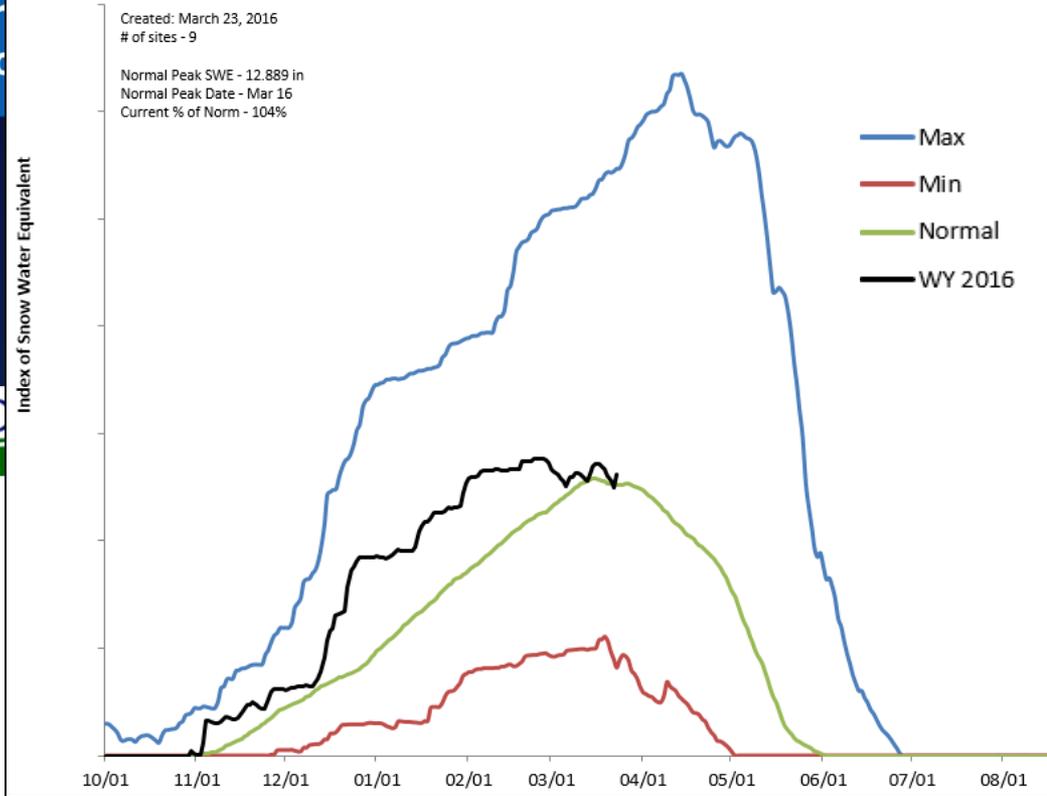
Created: March 23, 2016
of sites - 7

Normal Peak SWE - 22.286 in
Normal Peak Date - Mar 29
Current % of Norm - 92%

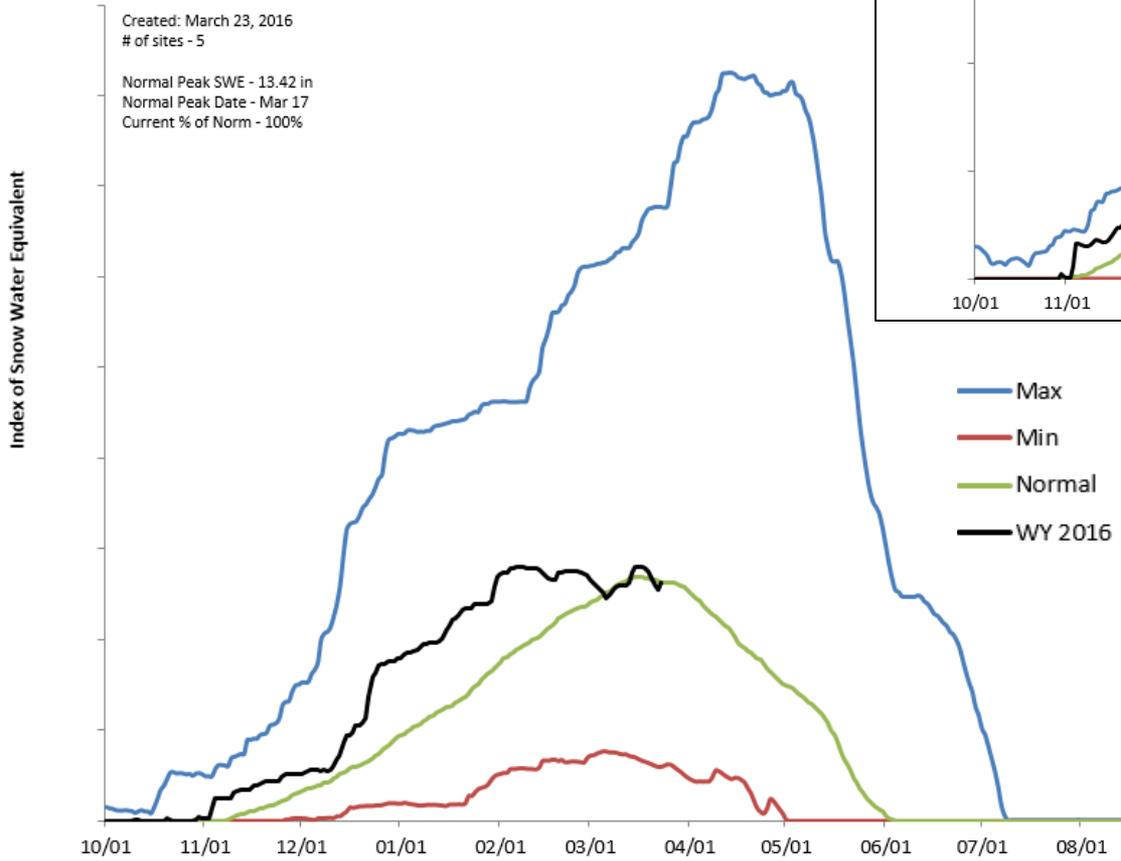
Index of Snow Water Equivalent



Upper Humboldt River Basin - SWE Index



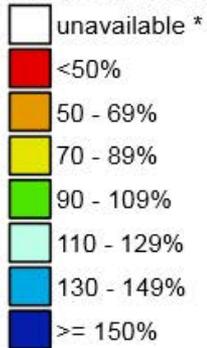
Lower Humboldt River Basin - SWE Index



Nevada/California SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

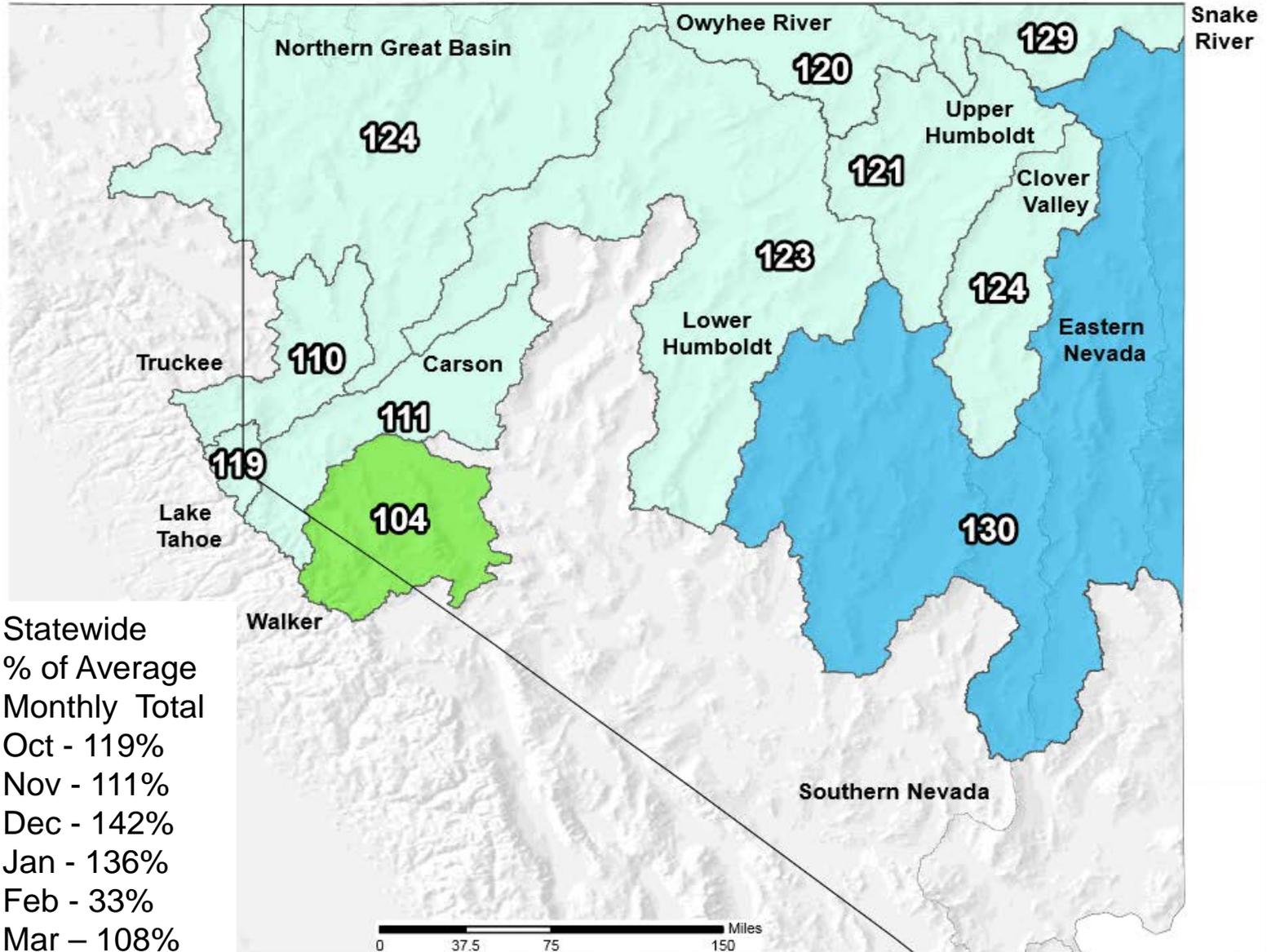
Mar 23, 2016

Water Year (Oct 1)
to Date Precipitation
Basin-wide Percent
of 1981-2010 Average



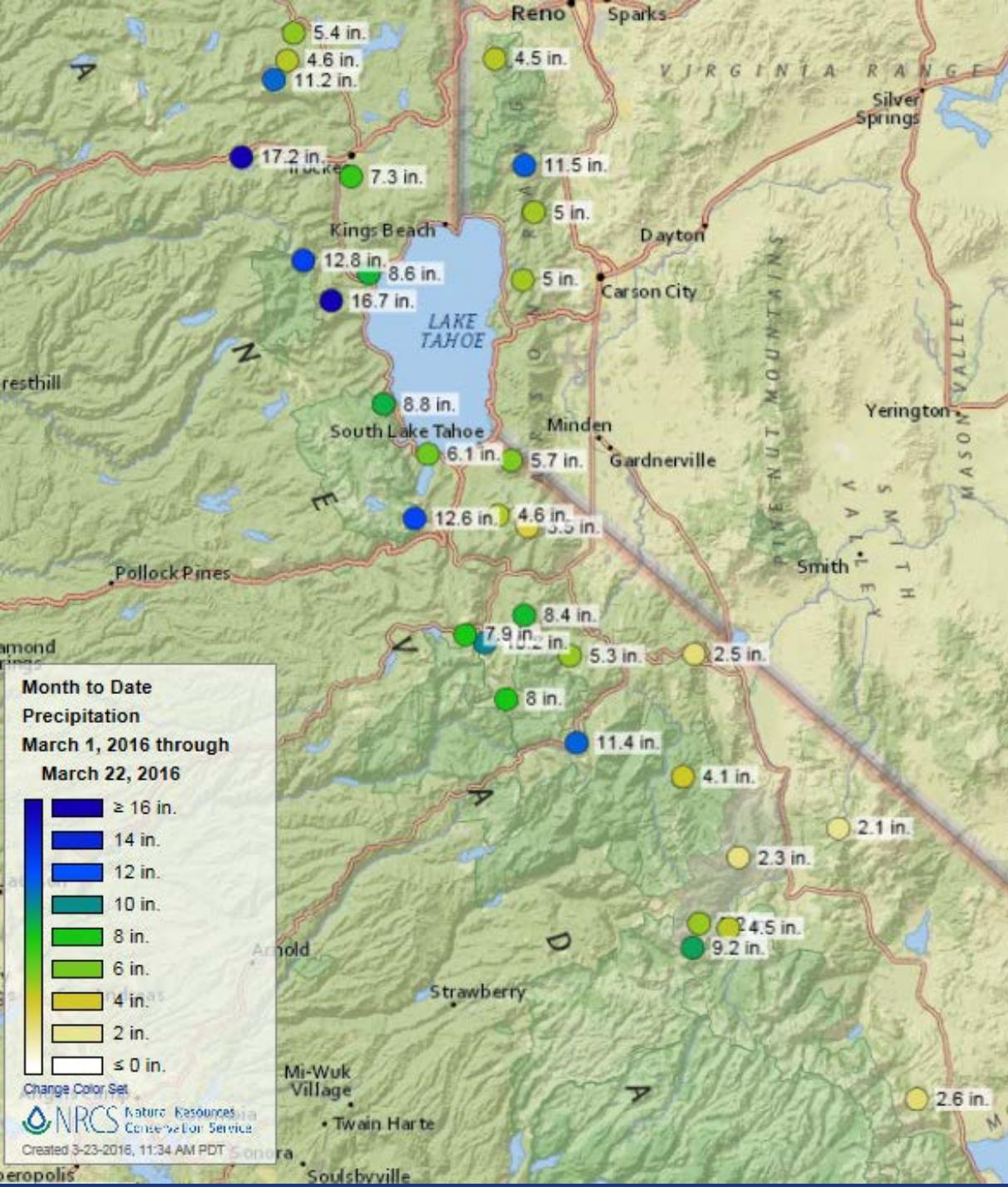
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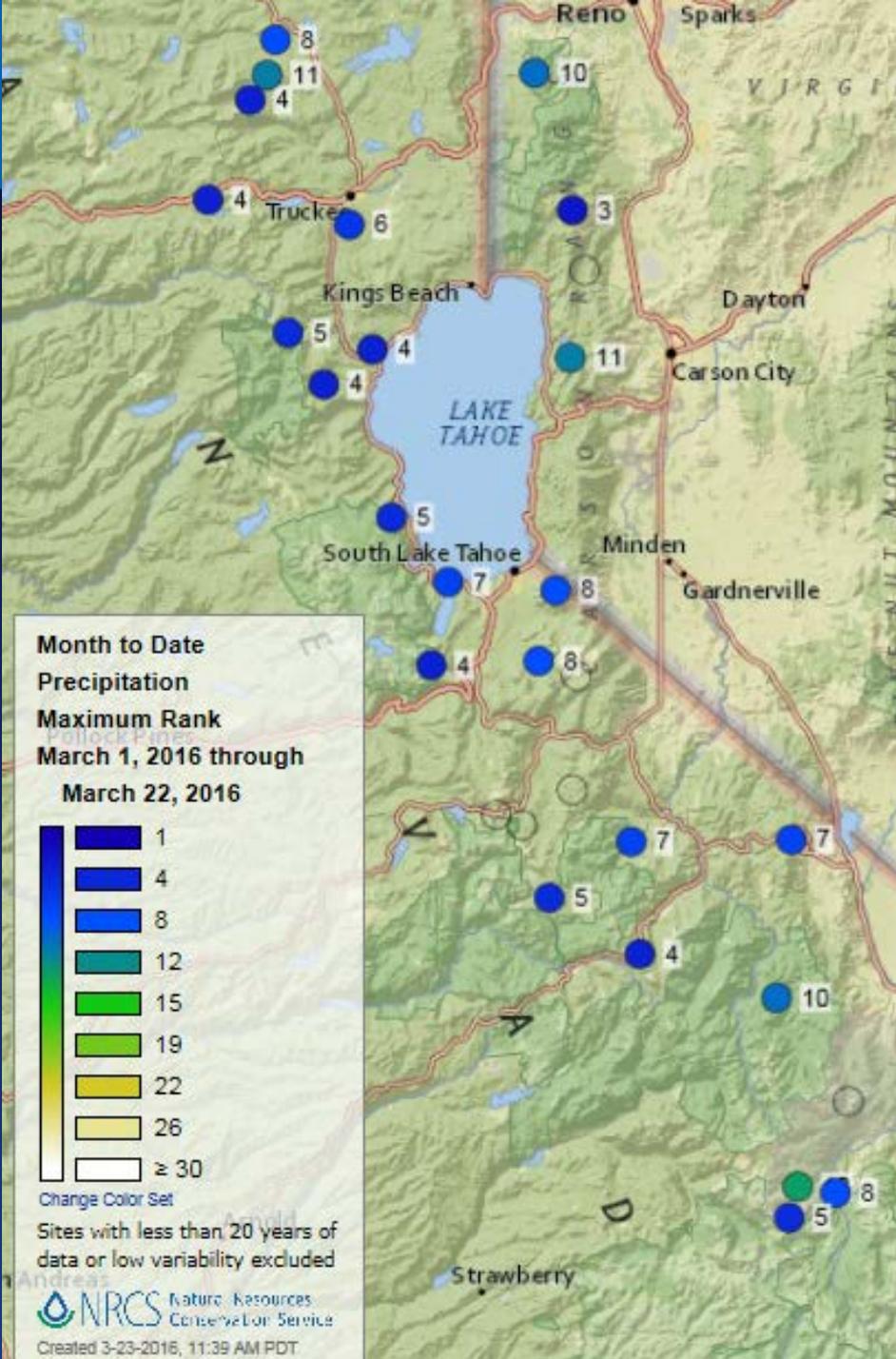
Provisional data
subject to revision



Miracle March?

March 1-22 precipitation amounts of 11-17 inches along Pacific Crest.





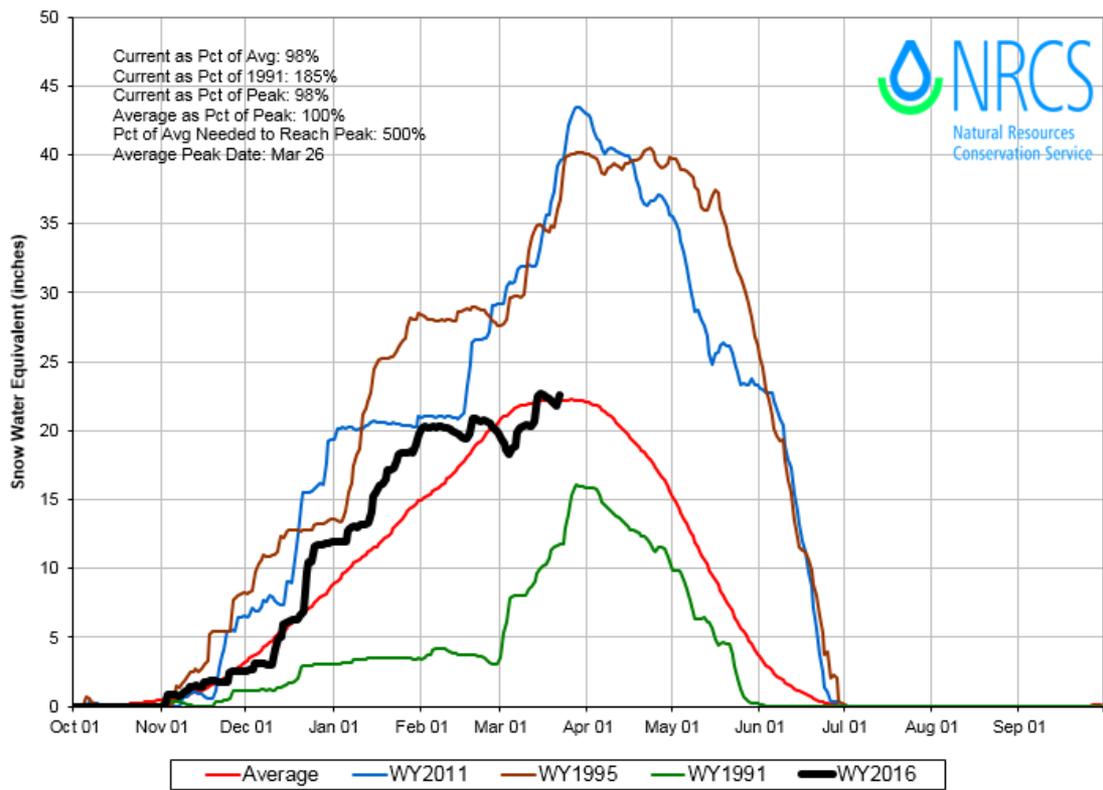
Miracle March?

March 1-22 was 3rd, 4th or 5th wettest 11 SNOTELs in Sierra.

Other big Marches
1982, 1991, 1995, 2011

Lake Tahe Miracle March Stats

Lake Tahoe Basin Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Mar 22, 2016



1991

Precip 260% of Ave
Snow +62% (17%→79%)

1995

Precip 299% of Ave
Snow +61% (138%→199%)

2011

Precip 225% of Ave
Snow +67% (146%→213%)

2016 to date

Precip 207% to date
Snow +9% (97% → 106%)

March 1-22, 2016 Precip as
% of Average to date

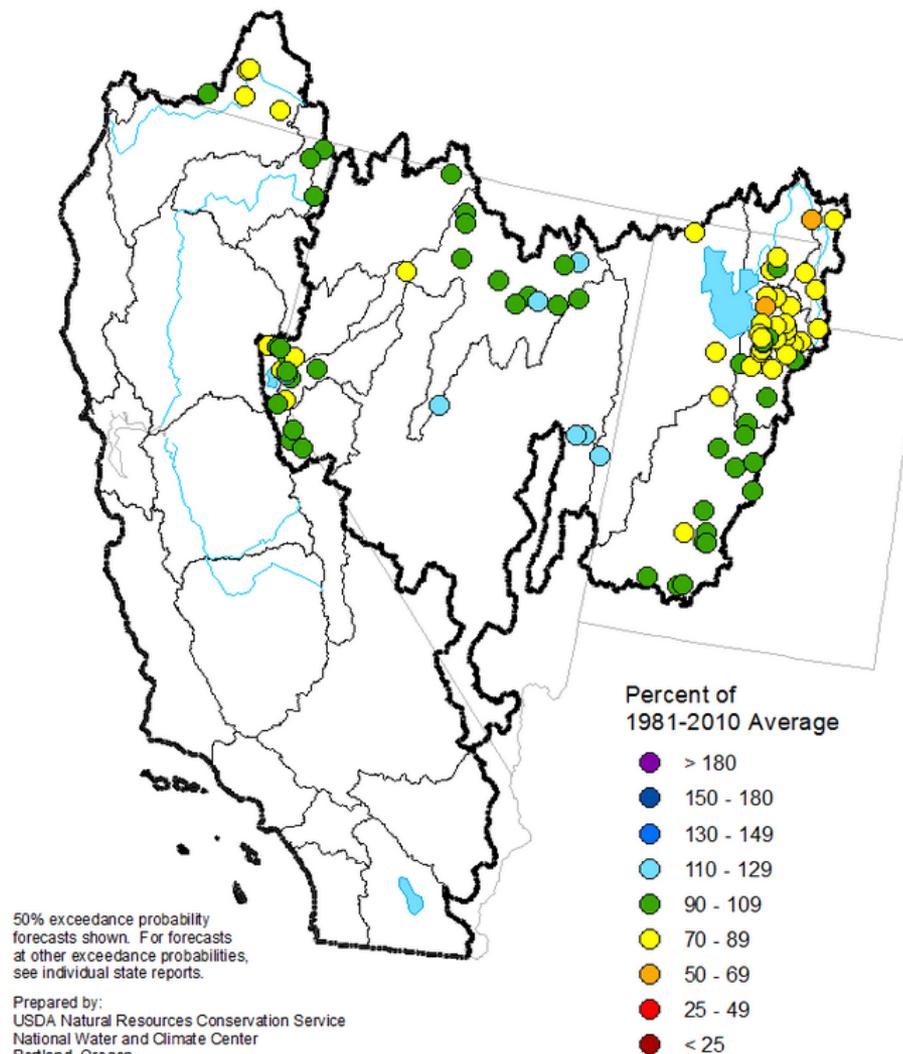
LAKE TAHOE	
Basin Index (%)	207
TRUCKEE RIVER	
Basin Index (%)	198
CARSON RIVER	
Basin Index (%)	192
WALKER RIVER	
Basin Index (%)	129
NORTHERN GREAT BASIN	
Basin Index (%)	184
NEVADA	
UPPER HUMBOLDT RIVER	
Basin Index (%)	104
LOWER HUMBOLDT RIVER	
Basin Index (%)	144
CLOVER VALLEY & FRANKLIN RIVER	
Basin Index (%)	92
SNAKE RIVER	
Basin Index (%)	123
OWYHEE RIVER	
Basin Index (%)	122
EASTERN NEVADA	
Basin Index (%)	65*

March 1-22, 2016 Precip as
% of Average Monthly Total

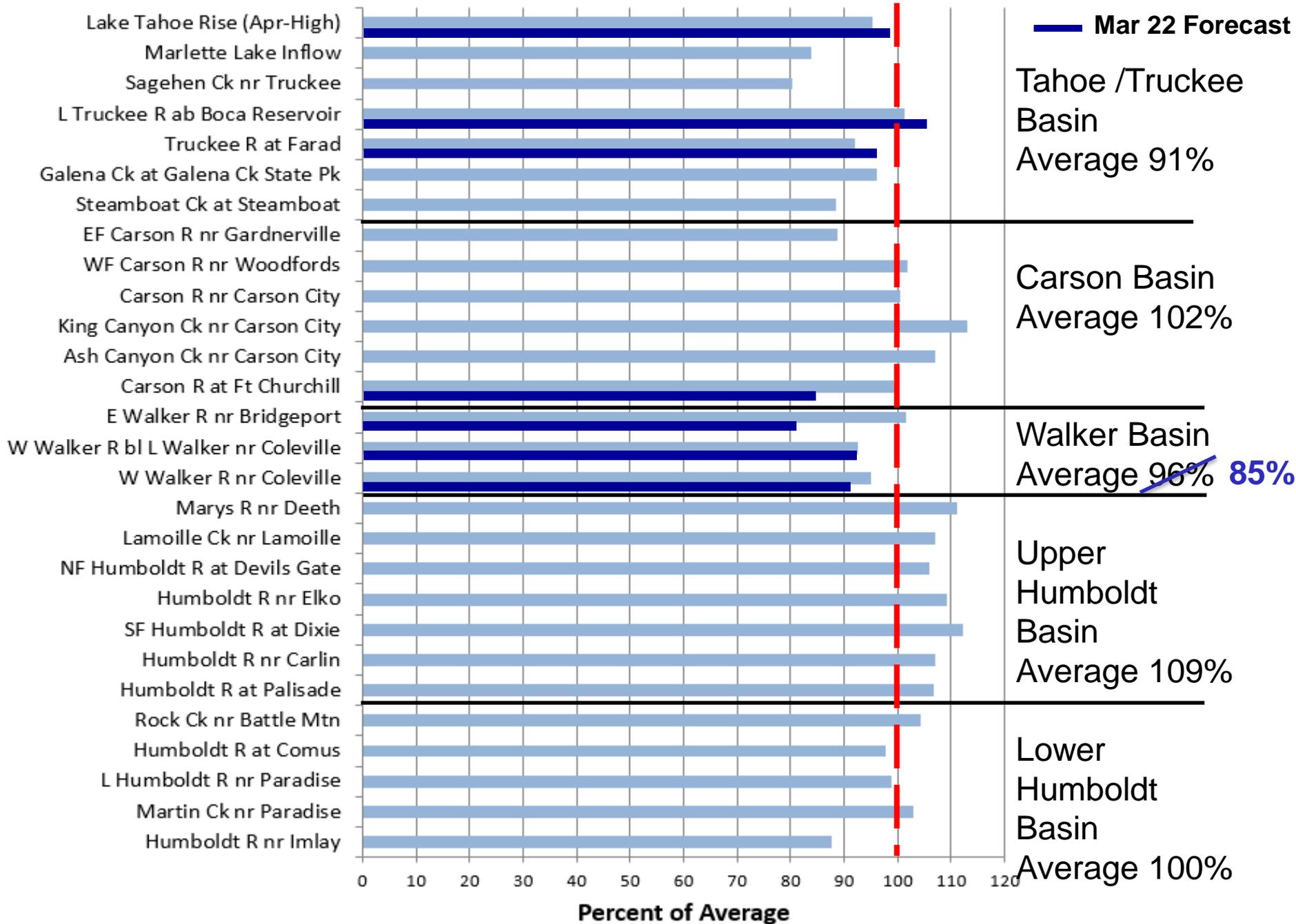
LAKE TAHOE	
Basin Index (%)	145
TRUCKEE RIVER	
Basin Index (%)	140
CARSON RIVER	
Basin Index (%)	131
WALKER RIVER	
Basin Index (%)	93
NORTHERN GREAT BASIN	
Basin Index (%)	125
NEVADA	
UPPER HUMBOLDT RIVER	
Basin Index (%)	70
LOWER HUMBOLDT RIVER	
Basin Index (%)	94
CLOVER VALLEY & FRANKLIN RIVER	
Basin Index (%)	63
SNAKE RIVER	
Basin Index (%)	78
OWYHEE RIVER	
Basin Index (%)	81
EASTERN NEVADA	
Basin Index (%)	44*

Great Basin and California Spring and Summer Streamflow Forecasts as of March 1, 2016

Range
80-113%



Mar 1 Streamflow Forecasts - 50% Exceedance - April to July Period

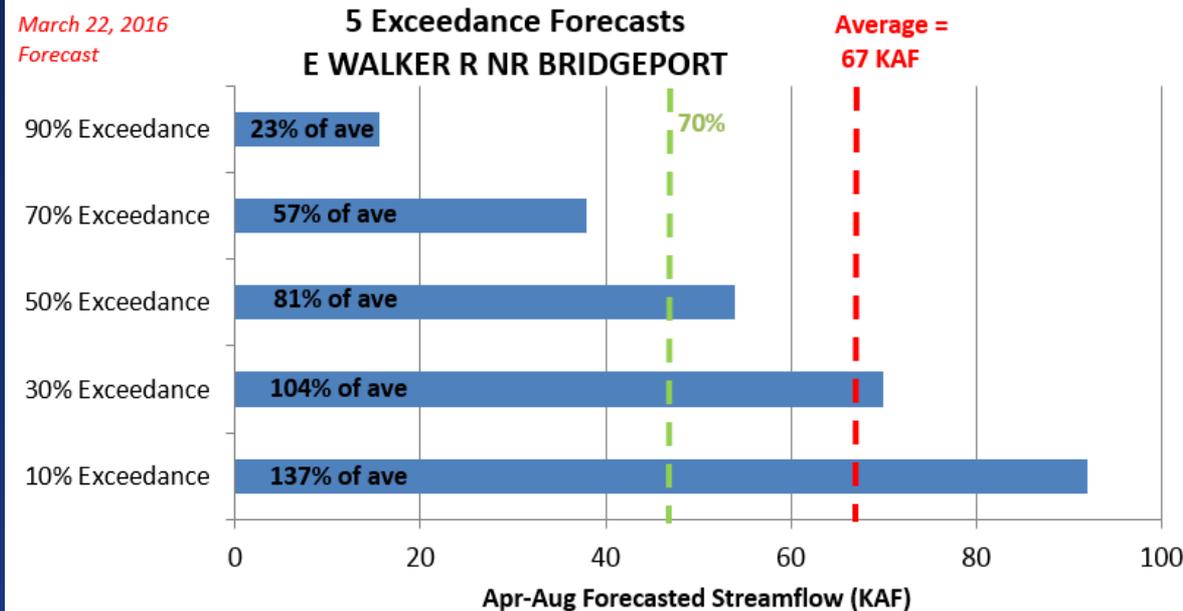
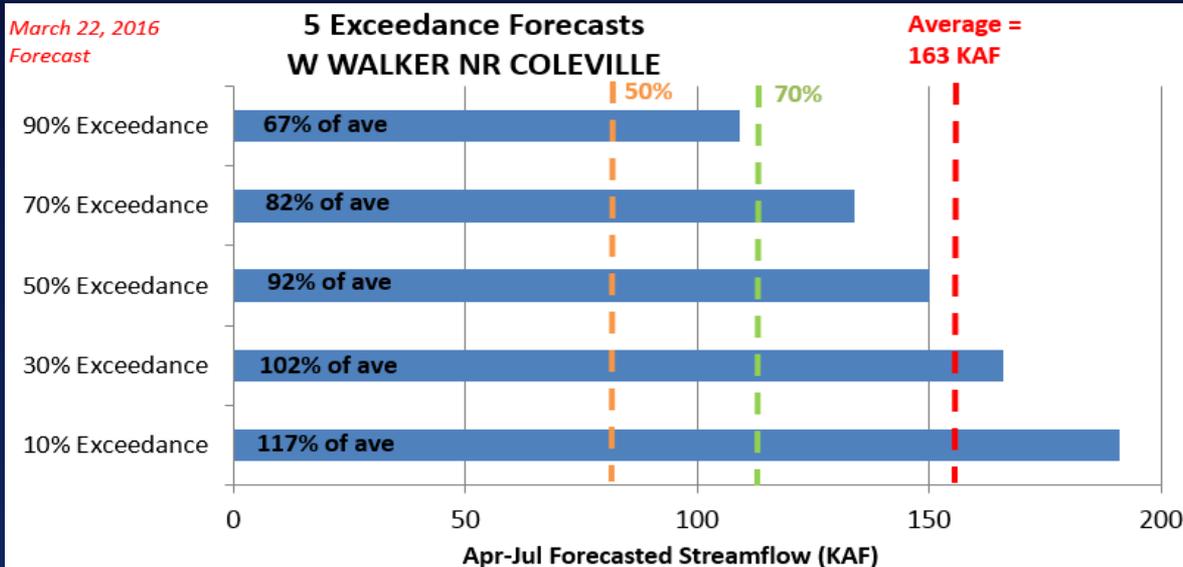


Humboldt River April-July Volume Forecast Based on March 1, 2016 Data

Streamflow Point	NRCS KAF (%)	NWS KAF (%)	Average KAF NRCS / NWS
Elko	168 (109%)	140 (91%)	154 / 133
Palisade	240 (156%)	249 (162%)	225 / 227
Comus	210 (136%)	235 (153%)	215 / 213
Imlay	165 (107%)	188 (122%)	188 / 178

Drier than Normal Future
↑
Normal Future Precip
↓
Wetter than Normal Future

Drier than Normal Future
↑
Normal Future Precip
↓
Wetter than Normal Future



Curtailment Thresholds
Mason 70%
Smith 50%

Summary

- Statewide 2016 snowpack is near basin average peak amounts.
- Best snowpack since 2011.
- March precipitation near “miracle” status, but melt and rain didn’t boost snowpack like in 1991, 1995 or 2011.
- March 1 streamflow forecasts (50% exceedence) were 80-113% of average.
- March 22 forecast update indicate slightly better amounts for points on Truckee, while Carson R nr Fort Churchill and EF Walker near Bridgeport forecasts down 14-20%.
- Next official forecasts will be issued on ~April 7th.

www.nv.nrcs.usda.gov/snow/

Or just Google...

“Nevada NRCS Snow Survey”



Jeff.Anderson@nv.usda.gov
775-857-8500 x 152

The screenshot shows the Nevada NRCS Snow Survey website. At the top, there is a navigation bar with links for 'About Us', 'National Centers', and 'State Websites'. Below this is a search bar and a 'Browse By Audience' section. The main content area is titled 'Snow Survey' and includes a sub-section for 'Nevada NRCS Snow Survey Program' with a brief description. A 'Subscribe' box on the left side of the page features an envelope icon and the text 'Join our email list', which is highlighted by a red arrow. The right side of the page contains a 'Latest Snow & Water Supply Information' section with several news items, including 'January 1, 2016 Water Supply Outlook Report - NEW!' and '2015 Streamflow Forecast vs Actual Runoff Review - NEW!'. At the bottom, there are two sections: 'Snow Survey Data' and 'Water Supply Information', both containing dropdown menus and links for various data and reports.