UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

California Water Supply Outlook Report

May 10, 2015

Photo of Leavitt Lake SNOTEL station taken by Frank Gehrke on 4/28/2015. It was one of the only sites with where DWR could make a ground truth measurement this month.

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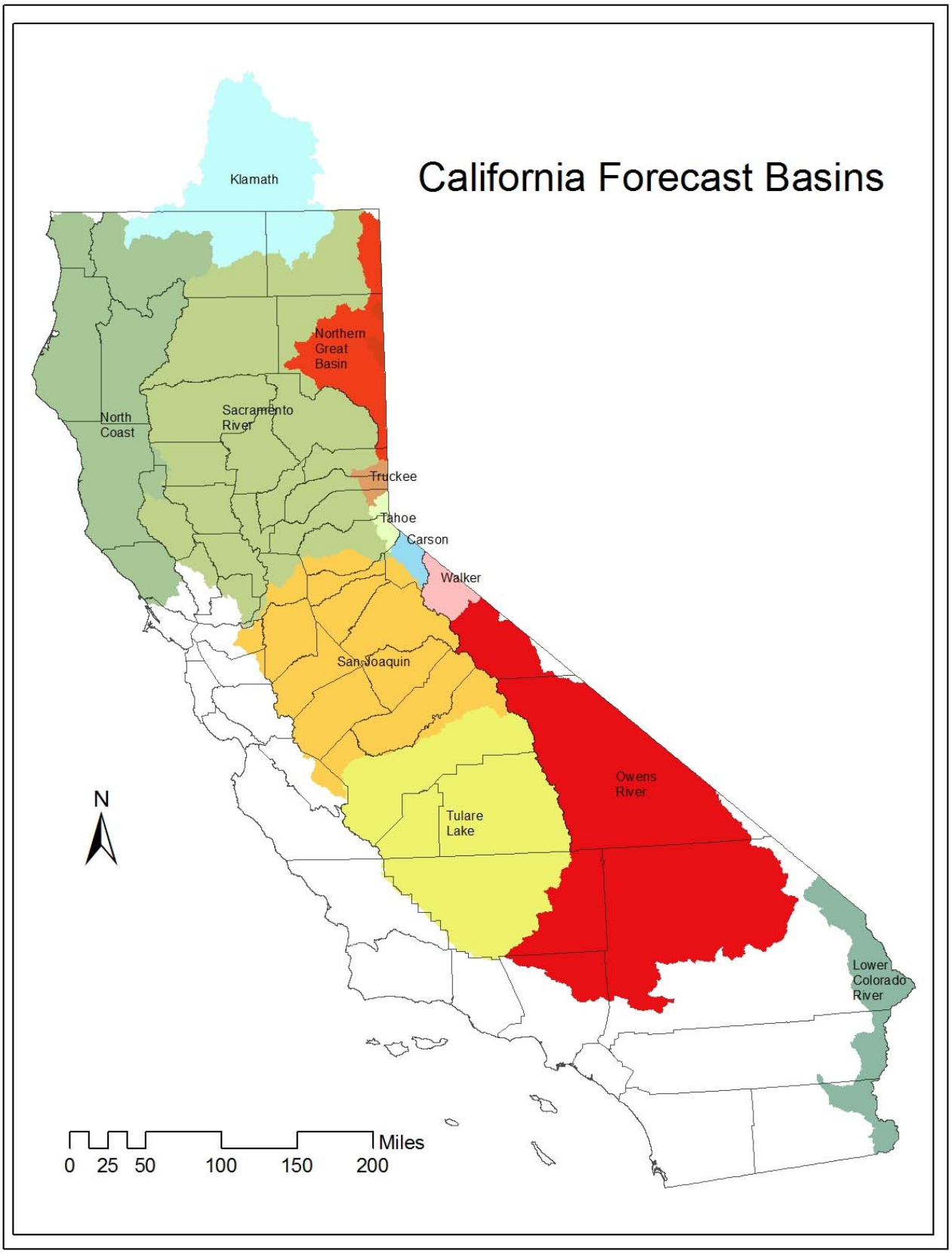
California Forecast Basins
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STATE OF CALIFORNIA GENERAL OUTLOOK

May 10, 2015

SUMMARY

Several minor storms moved through California during April and the first part of May delivering small amounts of snow to the mountains and rain to the valleys and coastal areas. Although the recent precipitation was very welcomed and needed, it was not enough to change drought related trends. The current storage in reservoirs is essentially what California has to work this year since there will be very little inflow into the reservoirs from snowmelt runoff.

SNOWPACK

As of May 8, 2015, snowpack conditions for the Northern, Central, and Southern Sierras are far below normal for this time of year. The snow water equivalents (SCE) decreased about 6 percent from last month and are currently in the range of 0% -2% of normal for this time of year. Essentially, the SWE is near or at 0 % because the snowpack has melted and disappeared. The few minor storms that California received in the last few months did not provide significant amounts of snow to the snowpack. For more information please visit:

http://cdec.water.ca.gov/cgi-progs/snow/DLYSWEQ

PRECIPITATION

Mountain rainfall precipitation varies from the Northern end of the Sierras to the Southern end of the Sierras. As of May 8, 2015, rainfall gages in the Northern Sierra Region (8-Station index) show rainfall amounts to be 74% of normal while gages used to develop a Central Sierra Region (5-Station index) show rainfall amounts to be at 43% of normal for this time of year. The Southern Sierra region is also below average at 41% of normal for this time of year. The percent of normal rainfall for all three sections of the Sierras stayed consistent compared to last month due to a few minor Spring storms which provided some rainfall, but little snow.

http://cdec.water.ca.gov/snow_rain.html

RESERVOIRS

Most major reservoirs in California, especially those fed by the Sierra Mountains and Foothills are still far below average capacity for this time of year. Since the snowpack has disappeared, there will not be any substantial runoff from snowmelt this year. The May 8, 2015 readings show Lake Oroville is at 49% of total capacity, Lake Shasta is at 57% of total capacity, New Hogan is at 19% of total capacity, and Folsom is at 58% of total capacity.

http://cdec.water.ca.gov/cgi-progs/reservoirs/RES

STREAMFLOW

Forecasted flows from Sierra fed streams all show below normal due to the lack of snowpack to date. The streamflow forecasts for the major basins in California are shown as follows:

Sacramento River Basin

May 1, 2015

Forecasted streamflow volumes for this April through July are below average, ranging from 12% to 46% of average.

SACRAMENTO RIVER BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	Future Conditions 30% (1000AF)	10% (1000AF)	=== Wetter ===> 30 Yr Avg (1000AF)
Sacramento R at Shasta (DWR)							
APR-JUL			65	22			302
Sacramento R at Shasta (NWS)							
APR-JUL	73	73	75	24	80	100	312
McCloud R ab Shasta (DWR)							
APR-JUL			160	42			379
McCloud R ab Shasta (NWS)							
APR-JUL	178	179	179	46	181	192	392
Pit R at Shasta Lk (DWR)							
APR-JUL			460	44			1046
Pit R at Shasta Lk (NWS)							
APR-JUL	396	399	405	40	419	484	1013
Inflow to Shasta Lk (DWR)							
APR-JUL	600		710	39		860	1806
OCT-SEP	3435		3600	60		3810	5979
Inflow to Shasta Lk (NWS)							
APR-JUL	730	736	747	41	788	878	1803
Sacramento R nr Red Bluff (DWR)							
APR-JUL	800		970	39		1140	2485
OCT-SEP	5120		5355	61		5610	8727
Sacramento R nr Red Bluff (NWS)							
APR-JUL	1054	1062	1077	43	1122	1234	2479
Feather R at Lk Almanor (DWR)							
APR-JUL			60	18			333
NF Feather R at Pulga (DWR)							
APR-JUL			210	20			1028
NF Feather R nr Prattville (NWS)							
APR-JUL	61	62	65	20	69	78	333
MF Feather R nr Clio (DWR)							
APR-JUL			15.0	17			86
SF Feather R at Ponderosa Dam (DWR)							
APR-JUL			20	18			110
Inflow to Oroville Res (DWR)							
APR-JUL	270		340	19		500	1758
OCT-SEP	1850		1960	43		2140	4523
Inflow to Oroville Res (NWS)							
APR-JUL	218	222	229	14	245	299	1701

N Yuba R bl Goodyears Bar (DWR)							
APR-JUL			40	14			279
N Yuba R bl Goodyears Bar (NWS)							
APR-JUL	35	35	37	14	41	63	273
Inflow Jackson Mdws & Bowman Res (DWR)							
APR-JUL			20	18			112
S Yuba R nr Langs Crossing (DWR)							
APR-JUL			40	17			233
Yuba R at Smartville (DWR)							
APR-JUL	130		165	17		230	996
OCT-SEP	835		869	37		950	2329
Yuba R at Smartville (NWS)							
APR-JUL	177	181	189	19	205	278	981
NF American R at N FK Dam (DWR)							
APR-JUL			30	12			262
MF American R nr Auburn (DWR)							
APR-JUL			70	13			522
MF American R nr Auburn (NWS)							
APR-JUL	68	73	82	17	96	144	490
Inflow to Union Valley Res (NWS)							
APR-JUL	28	28	30	31	33	45	98
Silver Ck bl Camino Div. Dam (DWR)							
APR-JUL			30	17			173
Silver Ck bl Camino Div. Dam (NWS)							
APR-JUL	22	23	26	17	31	49	158
Inflow to Folsom Res (DWR)							
APR-JUL	145		175	14		250	1231
OCT-SEP	805		835	31		910	2683
Inflow to Folsom Res (NWS)							
APR-JUL	128	133	155	13	184	294	1232

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

San Joaquin River Basin

May 1, 2015

Forecasted streamflow volumes for this April through July are below average, ranging from 8% to 32% of average.

SAN JOAQUIN RIVER BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	Future Conditions	30% (1000AF)	=== Wetter ===> 10% (1000AF)	30 Yr Avg (1000AF)
Cosumnes R at Michigan Bar (DWR)								
APR-JUL	7.0		10.0	8		20		128
OCT-SEP	76		79	21		90		385
Cosumnes R at Michigan Bar (NWS)								
APR-JUL	9.0	9.0	10.0	8	14.0	26		128
NF Mokelumne R nr West Point (DWR)								
APR-JUL			70	16				437
Inflow to Pardee Res (DWR)								
APR-JUL	60		75	16		100		461
OCT-SEP	198		213	28		245		751
Inflow to Pardee Res (NWS)								
APR-JUL	85	85	96	21	108	142		467
MF Stanislaus R bl Beardsley (DWR)								
APR-JUL			50	15				334
N F Inflow to McKays Pt Dam (DWR)								
APR-JUL			30	13				224
Inflow to New Melones Res (DWR)								
APR-JUL	70		95	14		160		699
Inflow to New Melones Resr (DWR)								
OCT-SEP	263		288	25		360		1167
Inflow to New Melones Res (NWS)								
APR-JUL	125	131	140	20	165	204		690
Cherry & Eleanor Cks, Hetch Hetchy (DWR)								
APR-JUL			70	22				315
Tuolumne R nr Hetch Hetchy (DWR)								
APR-JUL			140	23				604
Tuolumne R nr Hetch Hetchy (NWS)								
APR-JUL	150	159	190	32	219	251		596
Inflow to New Don Pedro Res (DWR)								
APR-JUL	190		240	20		300		1221
OCT-SEP	467		517	27		585		1943
Inflow to New Don Pedro Res (NWS)								
APR-JUL	258	271	314	24	370	437		1288
Merced R, Pohono Bridge Yosemite(DWR)								
APR-JUL			60	16				372

Merced R, Pohono Bridge Yosemite (NWS)							
APR-JUL	55	58	68	18	80	105	385
Inflow to Lake McClure (DWR)							
APR-JUL	65		85	13		140	636
OCT-SEP	131		151	15		210	1007
Inflow to Lake McClure (NWS)							
APR-JUL	67	70	84	13	100	131	642
San Joaquin R at Mammoth Pool (DWR)							
APR-JUL			120	12			1026
Big Ck bl Huntington Lk (DWR)							
APR-JUL			10.0	11			91
SF San Joaquin R nr Florence Lk (DWR)							
APR-JUL			20	10			201
Inflow to Millerton Lk (DWR)							
APR-JUL	105		130	10		210	1258
OCT-SEP	237		265	15		355	1831
Inflow to Millerton Lk (NWS)							
APR-JUL	140	156	194	15	259	320	1258

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

Tulare Lake Basin

May 1, 2015

Forecasted streamflow volumes for this April through July are below average, ranging from 3% to 17% of average.

TULARE LAKE BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions: 50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
NF Kings R nr Cliff Camp (DWR)							
APR-JUL			30	13			239
Inflow to Pine Flat Res (DWR)							
APR-JUL	110		135	11		210	1236
OCT-SEP	254		280	16		365	1729
Inflow to Pine Flat Res (NWS)							
APR-JUL	163	183	214	17	308	368	1231
Kaweah R at Terminus Res (DWR)							
APR-JUL	30		38	13		55	290
OCT-SEP	76		85	19		110	456
Kaweah R at Terminus Res (NWS)							
APR-JUL	25	26	29	10	34	45	288
Tule R at Success Res (DWR)							
APR-JUL	1.0		2.0	3		11.0	64
OCT-SEP	9.0		10.0	7		20	147
Tule R at Success Res (NWS)							
APR-JUL	1.0	2.0	2.0	3	2.0	4.0	63
Kern R nr Kernville (DWR)							
APR-JUL			40	10			384
Inflow to Isabella Res (DWR)							
APR-JUL	35		45	10		90	465
OCT-SEP	106		120	16		175	733
Inflow to Isabella Res (NWS)							
APR-JUL	38	44	49	11	60	72	454

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

North Coast Area Basin

May 1, 2015

Forecasted streamflow volumes for this April through July are below average, ranging from 0% to 20% of average.

NORTH COASTAL AREA
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	30% (1000AF)	Future Conditions === Wetter ===> 10% (1000AF)	30 Yr Avg (1000AF)
Trinity R at Lewiston (DWR)							
APR-JUL	85		110	17		200	651
OCT-SEP	864		889	65		985	1376
Inflow to Clair Engle Lk (NWS)							
APR-JUL	110	116	130	20	146	180	666
Scott R nr Fort Jones (NWS)							
APR-JUL			21	0			0.0
APR-JUL	15.0	15.0	16.0	9	19.0	25	173

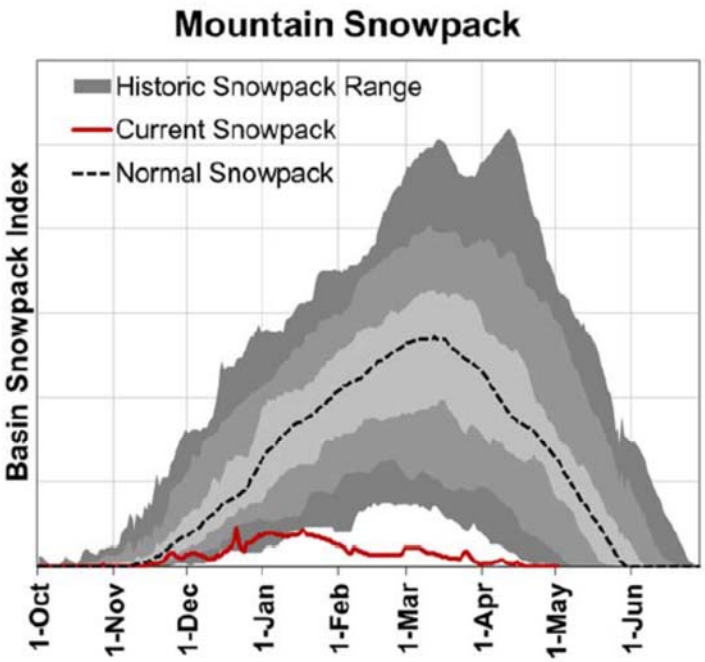
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

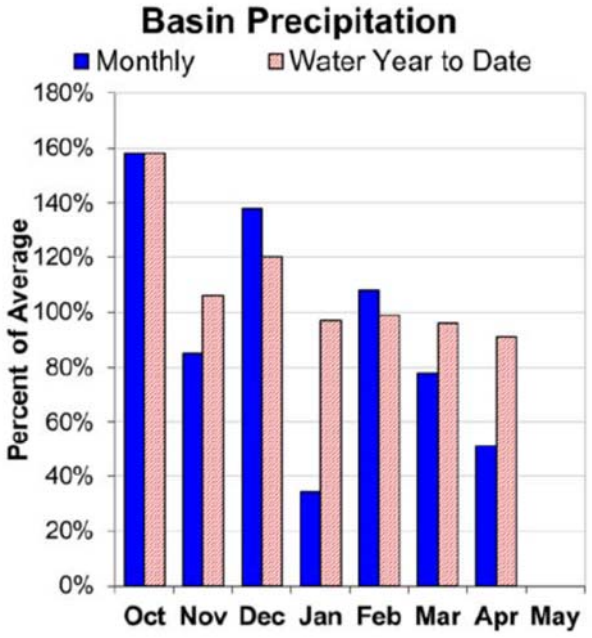
The average is computed for the 1981-2010 base period.

Klamath Basin

May 1, 2015

As of May 1, only 2 out of 26 snow monitoring sites in the basin still had snow. Almost all of the SNOTEL sites in the basin peaked at their lowest level and earliest date since records began over 30 years ago. In general, SNOTEL sites in the basin peaked 70 to 90% below typical peak snowpack levels and 7 to 12 weeks earlier than normal. April precipitation was 51% of average. Precipitation since the beginning of the water year (October 1 - May 1) has been 91% of average. As of May 1, storage at major reservoirs in the basin ranges from 17% of average at Clear Lake, CA Reservoir to 102% of average at Upper Klamath Lake Reservoir. Summer streamflow forecasts in the basin range from 26% to 38% of average for the May through September period. Water managers in the basin should expect significant water shortages this summer.





KLAMATH BASIN

Streamflow Forecasts - May 1, 2015

	<=== Drier ===	Future	Conditions	=== Wetter ===>		
Forecast Pt	========== Chance of Exceeding * ==========					
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
Clear Lk Inflow (2)							
MAY-JUL	0.1	0.9	3.1	23	8.5	14.4	13.3
MAY-SEP	0.2	0.5	4.8	30	9.3	15.0	16.1
Gerber Res Inflow (2)							
MAY-SEP	0.1	0.2	1.5	26	4.4	7.4	5.8
Sprague R nr Chiloquin							
MAY-SEP	11.0	37	54	38	71	97	141
Upper Klamath Lk Inflow (1)							
APR-SEP	72	150	185	39	220	298	480
MAY-JUL	2.0	60	87	36	114	174	240
Williamson R bl Sprague R nr Chiloquin							
MAY-JUL	29	59	79	42	99	129	187

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

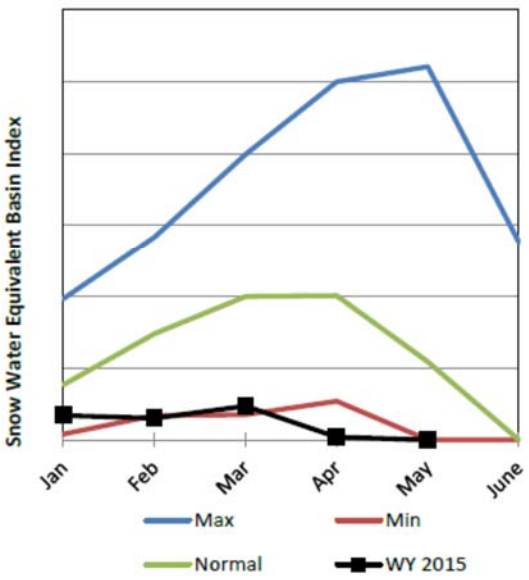
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Lake Tahoe Basin

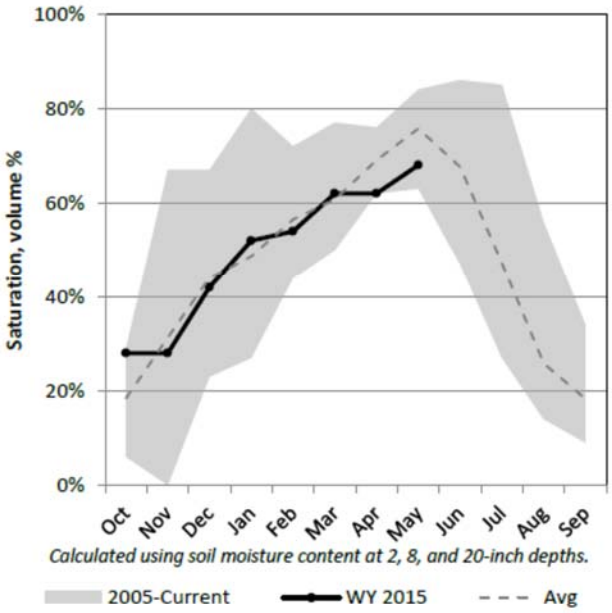
May 1,
2015

Snowpack in the Lake Tahoe Basin is much below average at 0% of normal, compared to 21% last year. Precipitation in April was near average at 95%, which brings the seasonal accumulation (Oct-Apr) to 56% of average. Soil moisture is at 68% compared to 67% last year. Lake Tahoe's water elevation is 6222.86 ft, which is 0.14 feet below the lake's natural rim and equals a storage deficit of 18,190 acre-feet. Last year the elevation was 6224.33 ft and the useable storage equaled 161,500 acre-feet. Lake Tahoe is forecast to rise 0.080 feet from April to its high elevation.

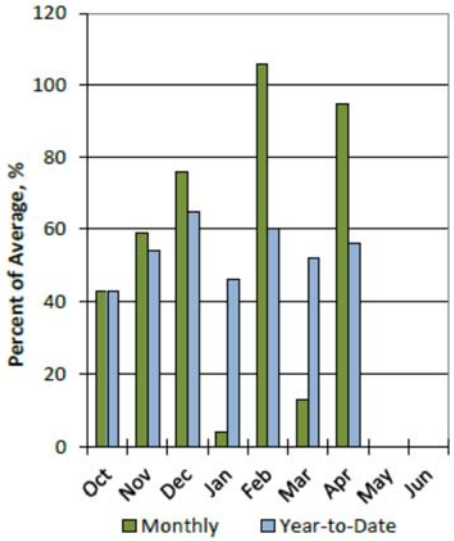
Snowpack



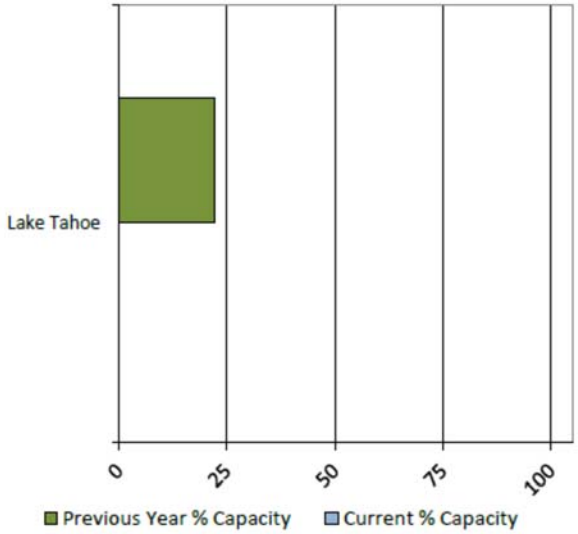
Soil Moisture



Precipitation



Reservoir Storage



LAKE TAHOE BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions: 50% (Most Prob) (1000AF) (% AVG.)	30% (1000AF)	=== Wetter ===> 10% (1000AF)	30 Yr Avg (1000AF)
Marlette Lk Inflow (Acre-Ft)						
APR-JUL	-734.0	-438.0	-237.0 - 26	-36.0	260	0.8
MAY-JUL	-856.0	-575.0	-385.0 - 61	-195.0	86	0.5
Lake Tahoe Rise (Gates Closed) (1)						
APR-HIGH	0.030	0.050	0.08 6	0.150	0.30	1.31
MAY-HIGH	0.011	0.022	0.06 6	0.150	0.35	1.08

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

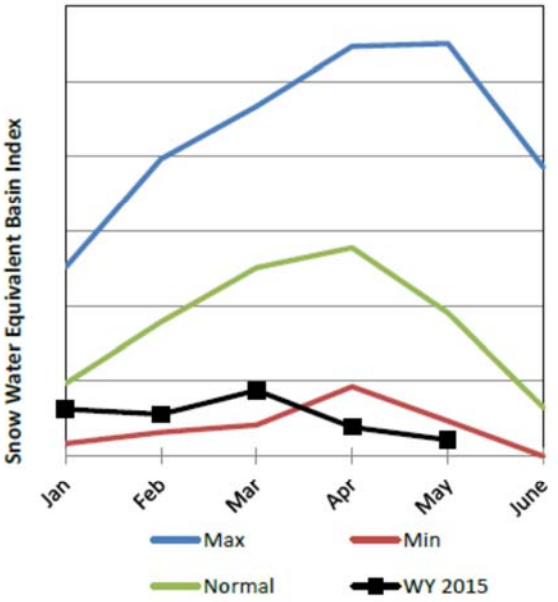
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

Truckee River Basin

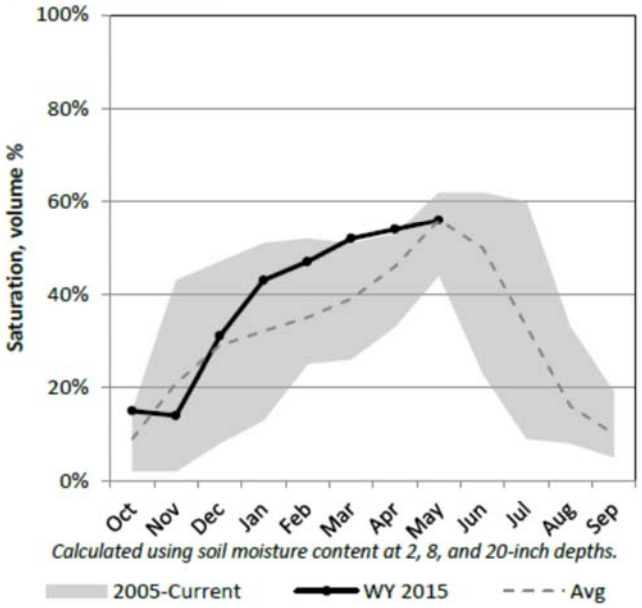
May 1, 2015

Snowpack in the Truckee River Basin is much below average at 8% of normal, compared to 20% last year. Precipitation in April was below average at 71%, which brings the seasonal accumulation (Oct-Apr) to 54% of average. Soil moisture is at 56% compared to 53% last year. Reservoir storage is at 25% of capacity, compared to 44% last year. Forecast streamflow volumes range from 7% to 16% of average.

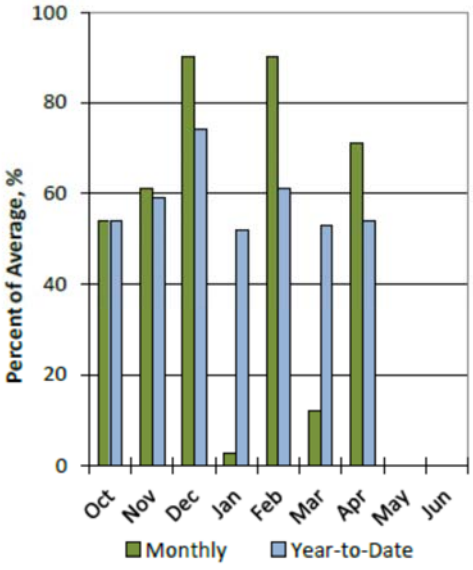
Snowpack



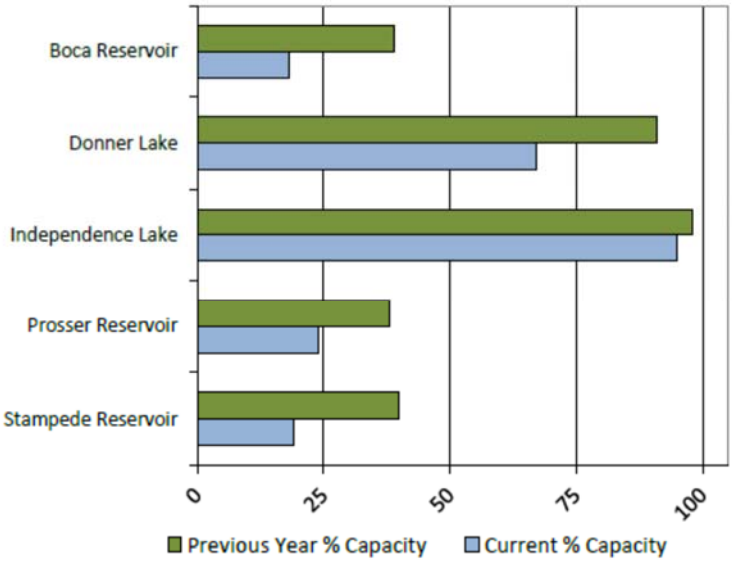
Soil Moisture



Precipitation



Reservoir Storage



TRUCKEE RIVER BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
Sagehen Ck nr Truckee							
APR-JUL	0.6	0.7	0.7	13	0.8	0.8	5.6
MAY-JUL	0.2	0.3	0.3	7	0.3	0.4	4.2
L Truckee R ab Boca Resv							
APR-JUL	4.0	6.0	8.0	10	12.0	16.0	84
MAY-JUL	0.6	1.3	6.5	10	16.2	30	63
Truckee R at Farad							
APR-JUL	31	35	41	16	48	63	255
MAY-JUL	2.0	4.0	15.0	8	31	54	183

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

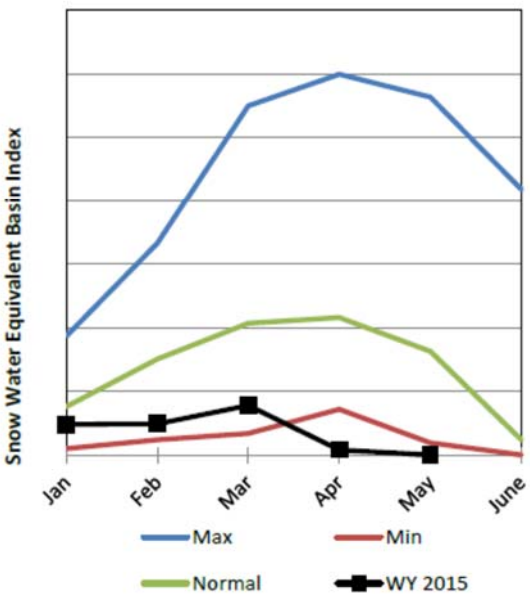
The average is computed for the 1981-2010 base period.

Carson River Basin

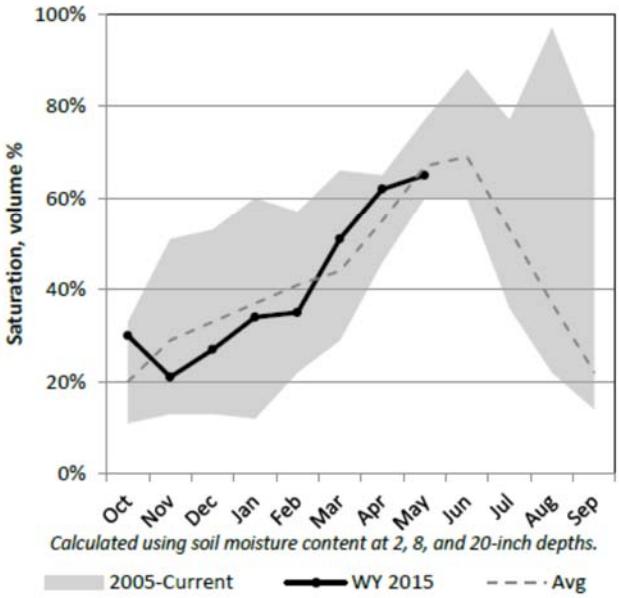
May 1, 2015

Snowpack in the Carson River Basin is much below average at 0% of normal, compared to 34% last year. Precipitation in April was below average at 79%, which brings the seasonal accumulation (Oct-Apr) to 50% of average. Soil moisture is at 65% compared to 62% last year. Storage in Lahontan Reservoir is 21% of capacity, compared to 28% last year. Forecast streamflow volumes range from -12% to 15% of average.

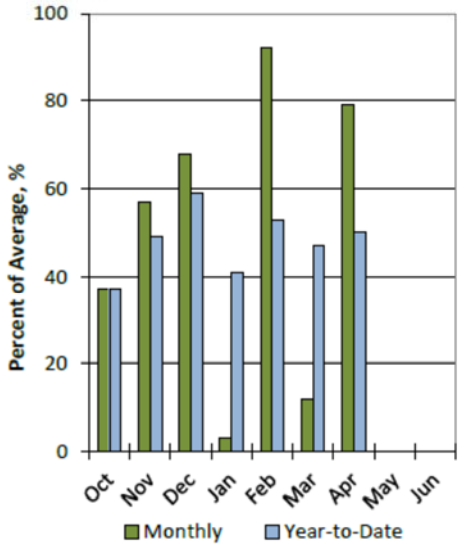
Snowpack



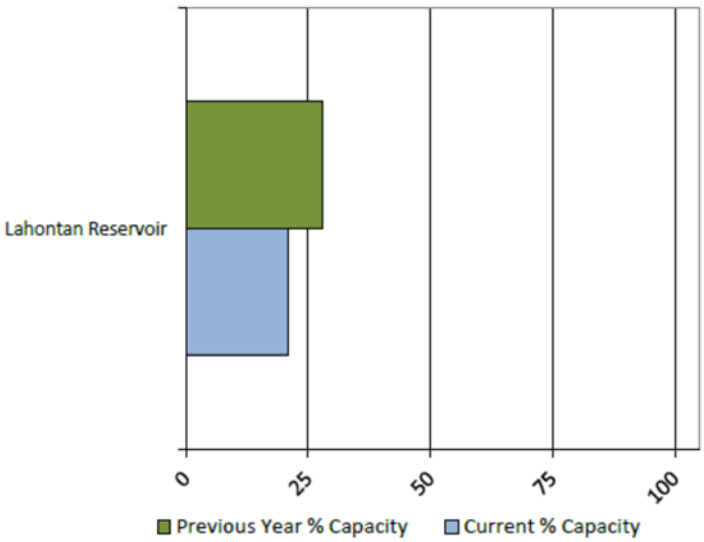
Soil Moisture



Precipitation



Reservoir Storage



CARSON RIVER BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
EF Carson R nr Gardnerville							
APR-JUL	2.0	6.0	27	15	51	87	186
MAY-JUL	2.0	3.0	18.0	12	33	55	151
WF Carson R at Woodfords							
APR-JUL	0.5	2.4	8.0	15	13.6	22	54
MAY-JUL	0.4	0.8	5.0	12	10.8	19.3	42

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

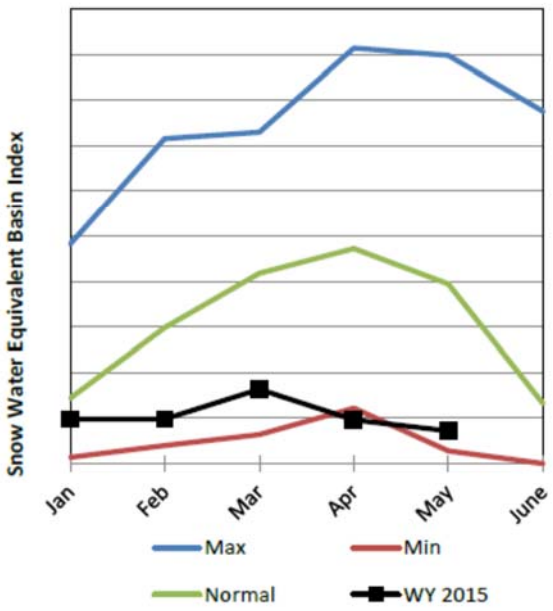
The average is computed for the 1981-2010 base period.

Walker River Basin

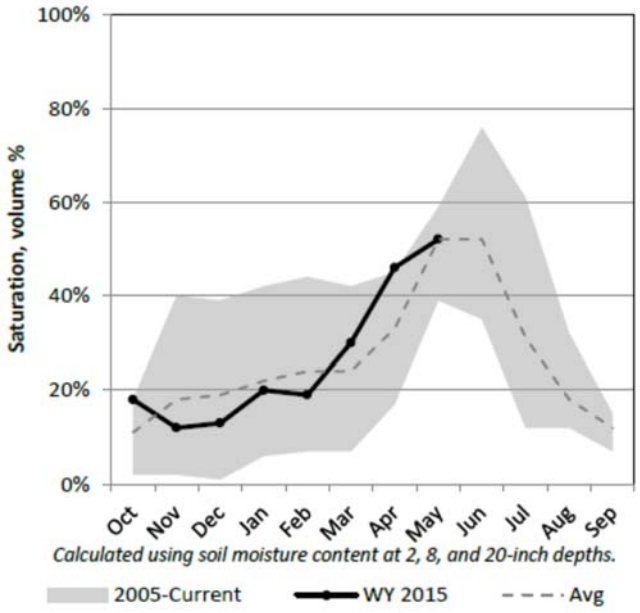
May 1, 2015

Snowpack in the Walker River Basin is much below average at 19% of normal, compared to 33% last year. Precipitation in April was near average at 101%, which brings the seasonal accumulation (Oct-Apr) to 50% of average. Soil moisture is at 52% compared to 46% last year. Combined reservoir storage is at 15% of capacity, compared to 17% last year. Forecast streamflow volumes range from 5% to 12% of average.

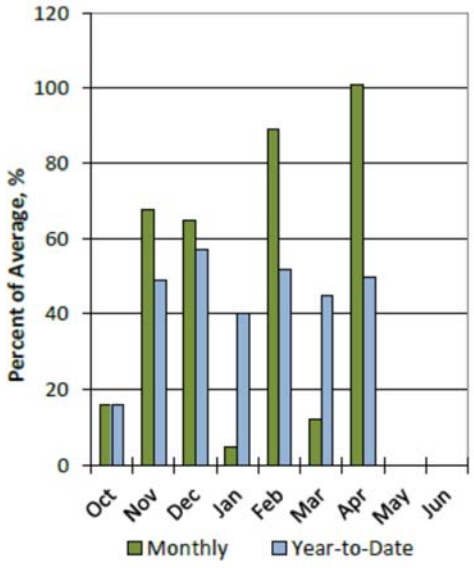
Snowpack



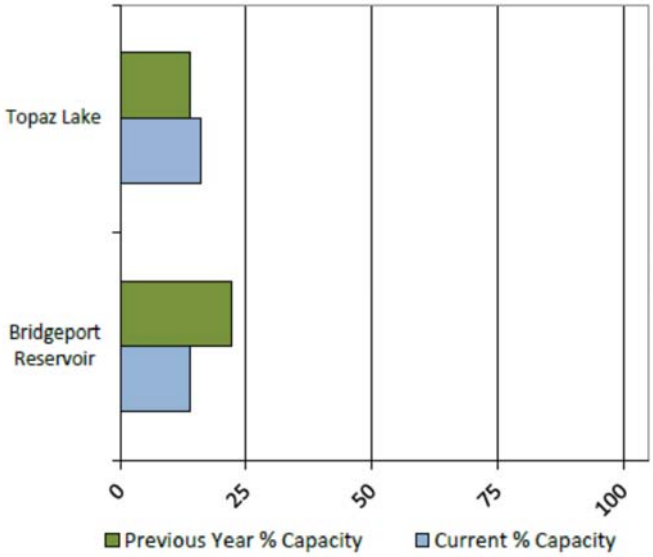
Soil Moisture



Precipitation



Reservoir Storage



WALKER RIVER BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
E Walker R nr Bridgeport							
APR-AUG	0.7	1.3	4.2	6	25	55	67
MAY-AUG	0.6	1.2	3.0	5	20	46	59
W Walker R bl L Walker R nr Coleville							
APR-JUL	3.0	8.0	20	12	32	50	162
MAY-JUL	2.0	3.0	11.8	8	25	46	142
W Walker R nr Coleville							
APR-JUL	12.0	17.0	19.6	12	23	28	163
MAY-JUL	1.43	2.9	11.4	8	49	105	143

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

Owens River Basin

May 1, 2015

OWENS RIVER BASIN
Streamflow Forecasts - May 1, 2015

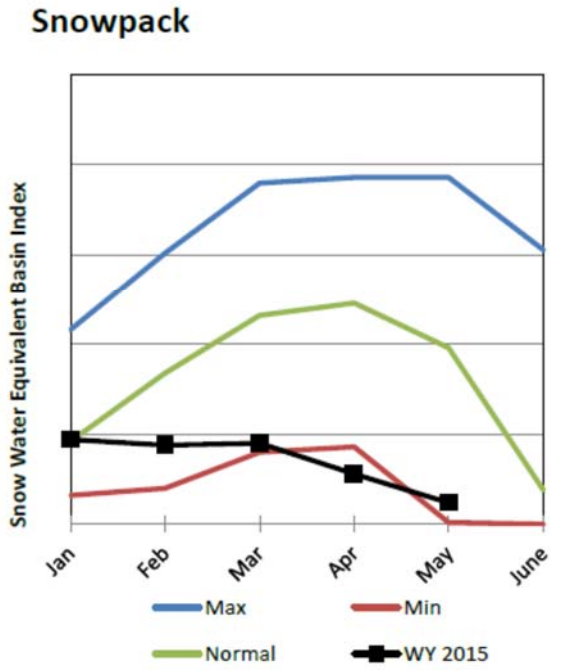
Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	Future Conditions === Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
Owens R (DWR)							
APR-SEP			56	24			235

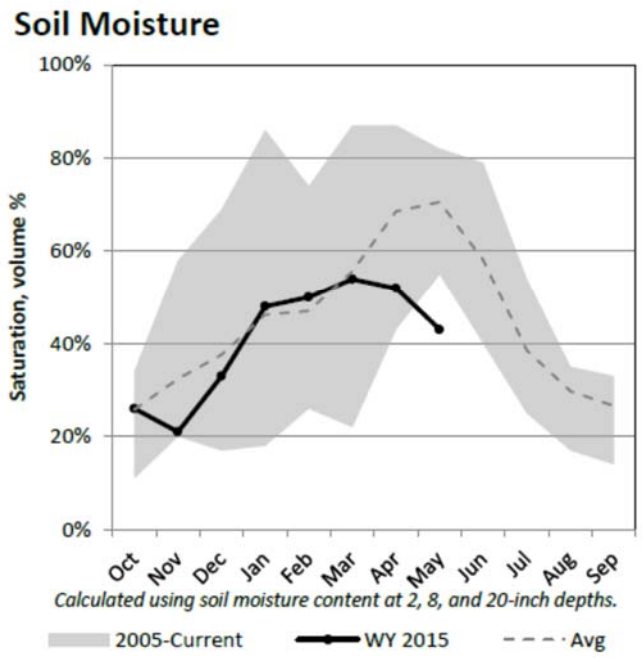
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

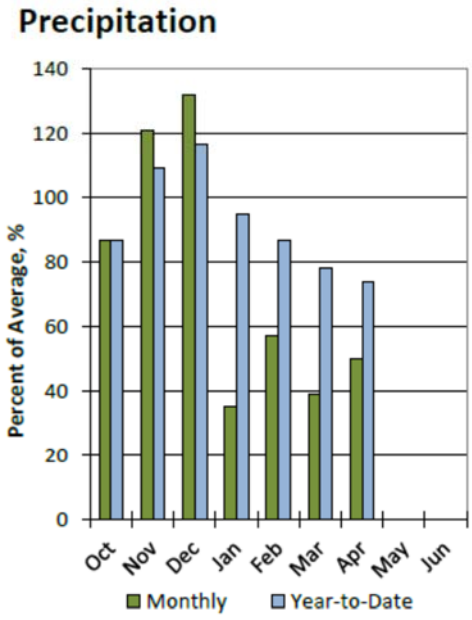
Northern Great Basin

May 1, 2015

Snowpack in the Northern Great Basin is much below average at 12% of normal, compared to 39% last year. Precipitation in April was much below average at 50%, which brings the seasonal accumulation (Oct-Apr) to 74% of average. Soil moisture is at 43% compared to 44% last year. Forecast streamflow volumes range from 8% to 29% of average.







NORTHERN GREAT BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
Eagle Ck nr Eagleville							
APR-JUL	0.0	0.1	0.7	16	1.4	2.5	4.3
Bidwell CK nr Ft. Bidwell							
APR-JUL	0.1	0.2	1.0	8	2.3	4.2	12.0
Davis CK (Acre-Feet)							
APR-JUL	1248	1603	1900	26	2252	2893	7233
APR-SEP	1555	1963	2300	29	2695	3403	7991

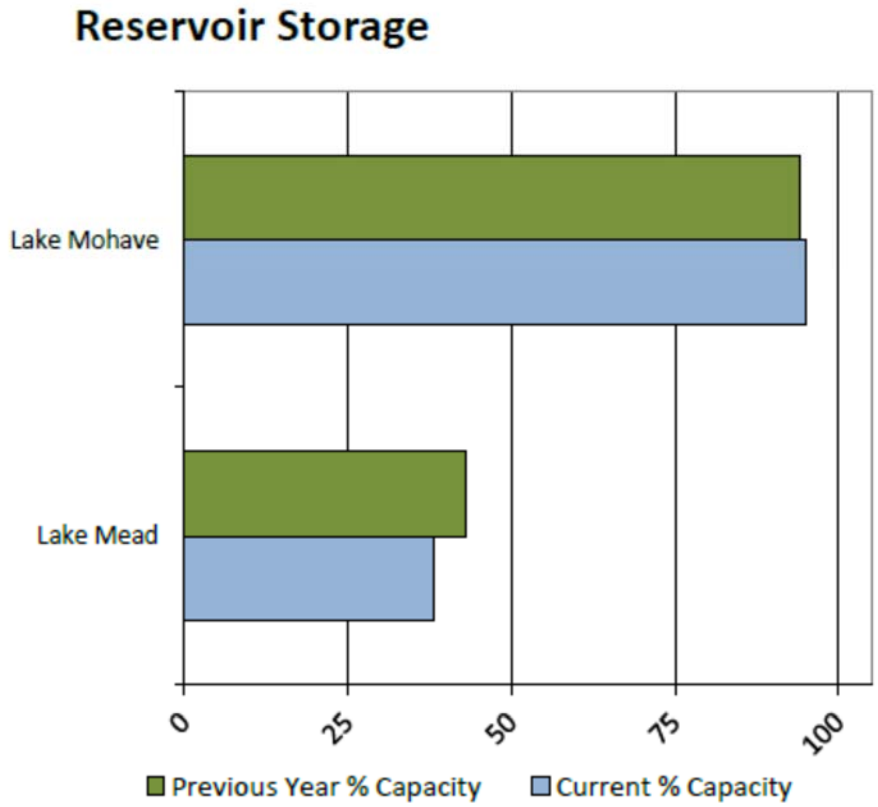
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

Lower Colorado River Basin

May 1, 2015

Snowpack in the Colorado River Basin is forecasted to produce 38% of normal runoff into Lake Powell during the April to July months. Lake Mead water levels have decreased as shown below since this time last year.



COLORADO RIVER BASIN
Streamflow Forecasts - May 1, 2015

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
Lake Powell Inflow (2)							
APR-JUL	1850	2330	2700	38	3100	3760	7160
MAY-JUL	1210	1690	2060	34	2460	3120	6100

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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