

WATER SUPPLY OUTLOOK



CALIFORNIA AND NORTHERN NEVADA

**APRIL
2008**



California Nevada River Forecast Center
NOAA - National Weather Service
Sacramento, California

DEFINITIONS:

Acre-Feet: The volume equal to one acre covered one foot deep (43,560 cubic feet).

Forecast Period: Generally, April 1st through July 31st, unless otherwise noted.

April-High Forecast Period: For the Lake Tahoe Stage Rise, the period from April 1st to the highest recorded lake stage level.

April 1st Average: The April 1st snowpack average is used as a reference point because it is normally the end of the winter snowfall season and the beginning of the spring runoff season.

Residual Period: The forecast period from the first of the current month through September 30th.

Probability Forecasts: Precipitation and snowfall accumulation of known probability as determined by analysis of past records are utilized in the preparation of probability runoff forecasts. The forecasts include an evaluation of the standard error of the prediction model. The forecasts are presented at three levels of probability as follows:

- **Most Probable Volume:** Given the current hydrometeorological conditions to date, this is the best estimate of what the actual runoff volume will be this season.
- **Most Probable Volume (% Normal):** Most probable volume in percent of the 1961-1990 average.
- **Reasonable Maximum Volume:** Given current hydrometeorological conditions, the seasonal runoff that has a 10 percent chance of being exceeded.
- **Reasonable Minimum Volume:** Given current hydrometeorological conditions, the seasonal runoff that has a 90 percent chance of being exceeded.

SNOTEL: Acronym for SNOW TELemetry. This is a automated snow measurement system operated by the USDA - Natural Resources Conservation Service. These sites use meteor burst communications technology to transmit hydrometeorological information such as snow water equivalent from snow pillows, accumulated precipitation and maximum, minimum and average air temperature.

Water equivalent: The depth of water that would result from melting the snowpack at a point.

Water Year: The period from October 1st through September 30th.

General Outlook

April 1, 2008

After a more or less wet December, January and February...March turned out to be rather dry in California. Spring runoff forecasts have been revised downward for snow watersheds in the state due to the low precipitation amounts received during March as well as some melt of the snowpack. However, snowpacks remain excellent with April 1st average water equivalents ranging from 90 to 125 percent. Compare this to last year at this time where the pack stood at only 20 to 50 percent. Snowpack conditions changed little during March in the Humboldt basin and actually increased slightly in the Upper Klamath Lake basin. Forecasts in those basins still range from near to above average.

Snow basins in California generally received dismal amounts of precipitation during March. Monthly percentages were in the 5 to 20 percent range from the Upper Sacramento basin to the Kern. East Side Sierra basins received 15 to 30 percent of the March average. The upper Humboldt basin in Nevada averaged 70 percent, the lower Humboldt, 60 percent. The Upper Klamath Lake basin received 85 percent of the monthly average, the lower Klamath, about 50 percent. Despite a dry month, seasonal averages (October 1, 2007 to March 31, 2008) for basins on the west slope of the Sierra Nevada still range from 70 to 100 percent. East Side Sierra Nevada basins vary from 75 to 100 percent. Seasonal averages are about 100 percent for the Humboldt and Upper Klamath Lake basins.

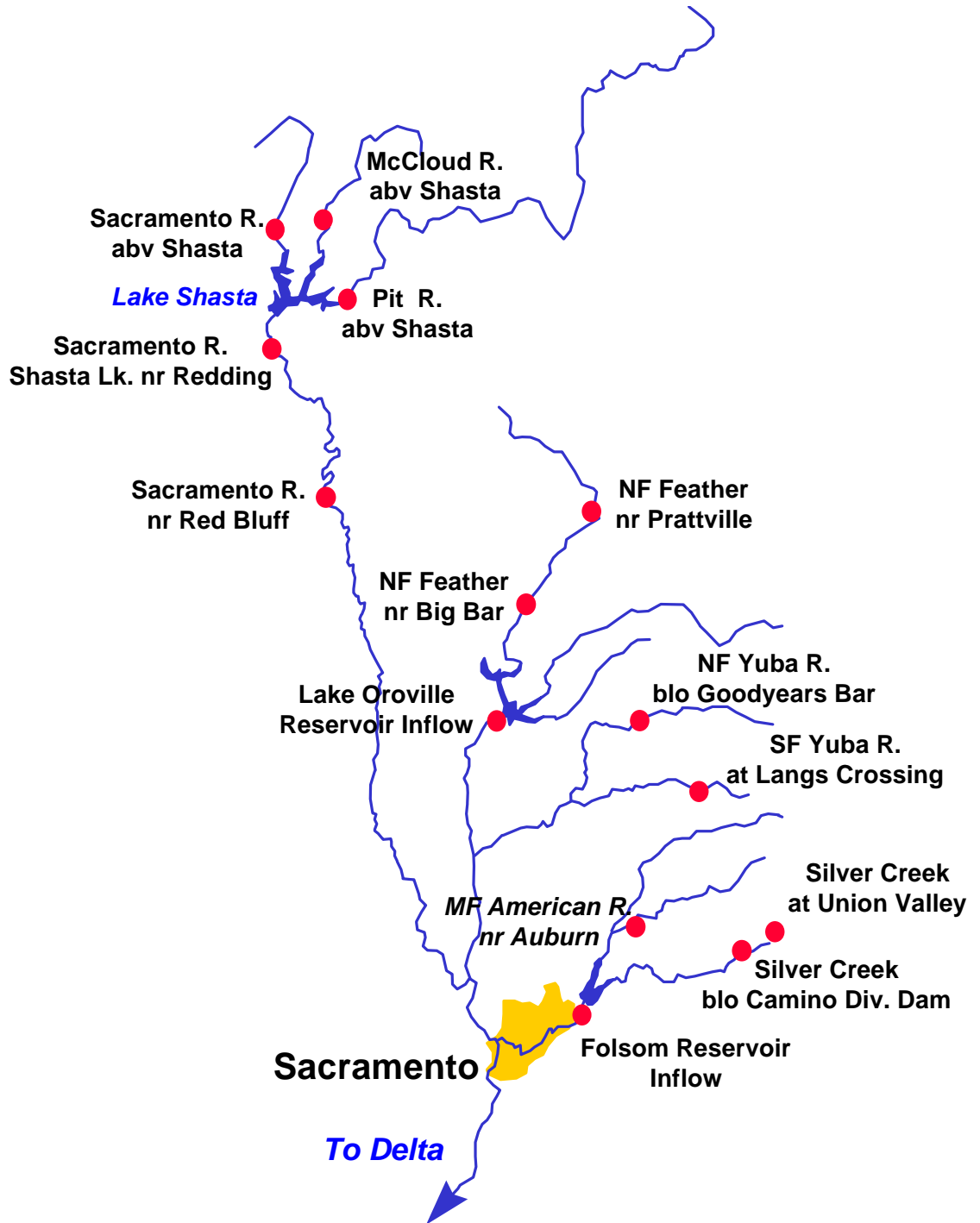
Snow pack water equivalent fell 10 to 20 percentage points since March 1st for watersheds in California, as some snowmelt began during the month. The lower elevation pack still remains much above average in most cases and could potentially contribute to substantial flows early in the melt season. Snow packs in the Sacramento and San Joaquin regions stand at approximately 95 percent of the April 1st average; the Tulare Lake region is about 115 percent. The Tahoe-Truckee basin is about 85 percent of the average-to-date and the Carson-Walker, 90 percent. The pack stands at about 105 percent of the average-to-date for the Humboldt basin and 130 percent for the Upper Klamath Lake basin.

March runoff was below to much below average. Monthly runoff ranged from 47 percent for the Sacramento region, 52 for the San Joaquin, and 71 percent for the Tulare Lake. East side Sierra basins received 58 percent of the monthly average while the Humboldt River at Palisade recorded about 35 percent. The Upper Klamath Lake basin received 70 percent of the March average. Seasonal averages are also much below average for basins in the Humboldt and Sierra Nevada drainages.

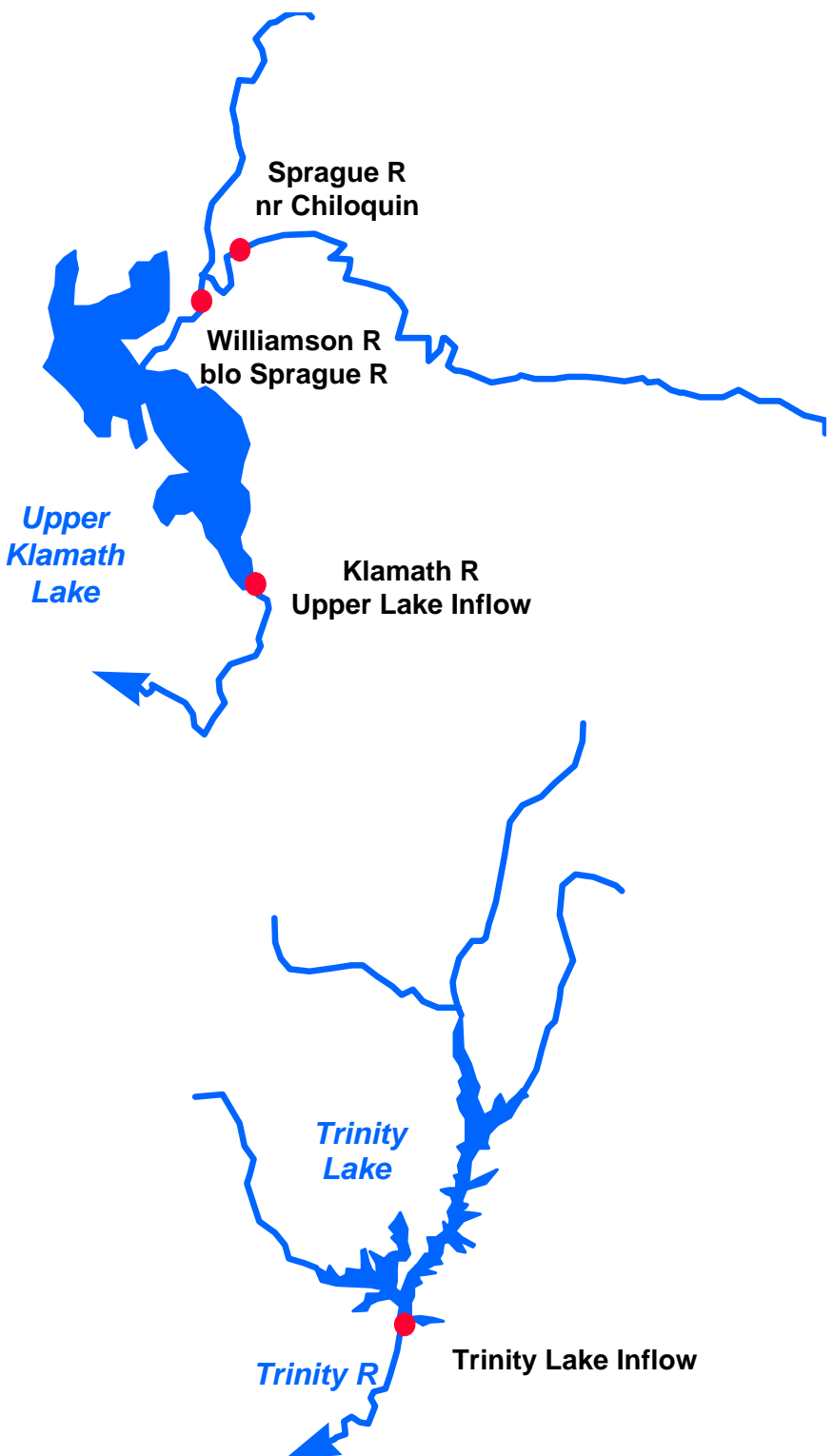
Reservoir storage in the Sacramento-San Joaquin-Tulare Lake drainages is about 85% of average compared to 111% at this time last year. Stored water in the Sacramento region as of March 31st was at 82 percent of average, the San Joaquin, 91 percent; and the Tulare Lake region at 66 percent. East-side Sierra reservoirs were at 82 percent of average. The lake level at Lake Tahoe stood at 6225.12 feet as of March 31st. This represents 66 percent of average. Storage at Lahontan Reservoir in Nevada stands at 54 percent as of March 31st while Rye Patch Reservoir is at 58 percent. Storage at Upper Klamath Lake is about 94 percent of average.

Spring runoff forecasts for basins on the west slope of the Sierra Nevada and upper Sacramento generally dropped 10 to 20 percentage points from last month and range from below average to near average. April through July forecasts range from 76 to 86 percent for the Sacramento basin, 74 to 80 percent for the main stem forecast points in the San Joaquin and 76 to 97 percent for the Tulare Lake basin. Forecasts vary from 70 to 90 percent of average for the east side Sierra Nevada basins and 97 to 102 percent for forecast points on the main stem Humboldt River. The April through September forecast for the Upper Klamath Lake inflow is 100 percent.

Sacramento River Basin



Upper Klamath and Trinity River Basins



Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
COASTAL BASINS						
Williamson River Sprague, blo	Apr-Sep	385	100	445	325	385
Sprague River Chiloquin, nr	Apr-Sep	235	102	285	184	230
Upper Klamath Falls River Inflow	Apr-Sep	515	100	625	405	515
Lost River Gerber Reservoir Inflow	Apr-Jul	17.0	101	29	4.9	16.9
Clear Lake Reservoir Inflow	Apr-Jul	46	112	74	18.1	41
Scott River Fort Jones, nr	Apr-Jul	185	102	265	145	181
Trinity River Trinity Lake Inflow	Apr-Jul	650	102	920	490	635

Trinity River - Inflow at Lewiston Lake Distribution (kAF)

Exceedence Probability	Oct-Mar	Apr	May	Jun	Jul	Aug	Sep	Apr-Jul	Water Yr
90%	380	145	200	115	30	19	11	490	900
50%	380	195	255	160	40	22	14	650	1066
10%	380	260	365	235	60	27	19	920	1346

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
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SACRAMENTO RIVER BASIN

SACRAMENTO RIVER ABOVE BEND BRIDGE

Pit River Montgomery Ck, nr	Apr-Jul	820	77	1300	630	1070
Mccloud River Shasta Lk, abv	Apr-Jul	320	86	485	250	370
Sacramento River Delta	Apr-Jul	240	83	370	185	290
Shasta Dam	Apr-Jul	1430	80	2150	1130	1790
Bend Bridge, abv, Red Bluff, nr	Apr-Jul	1900	78	2990	1500	2440

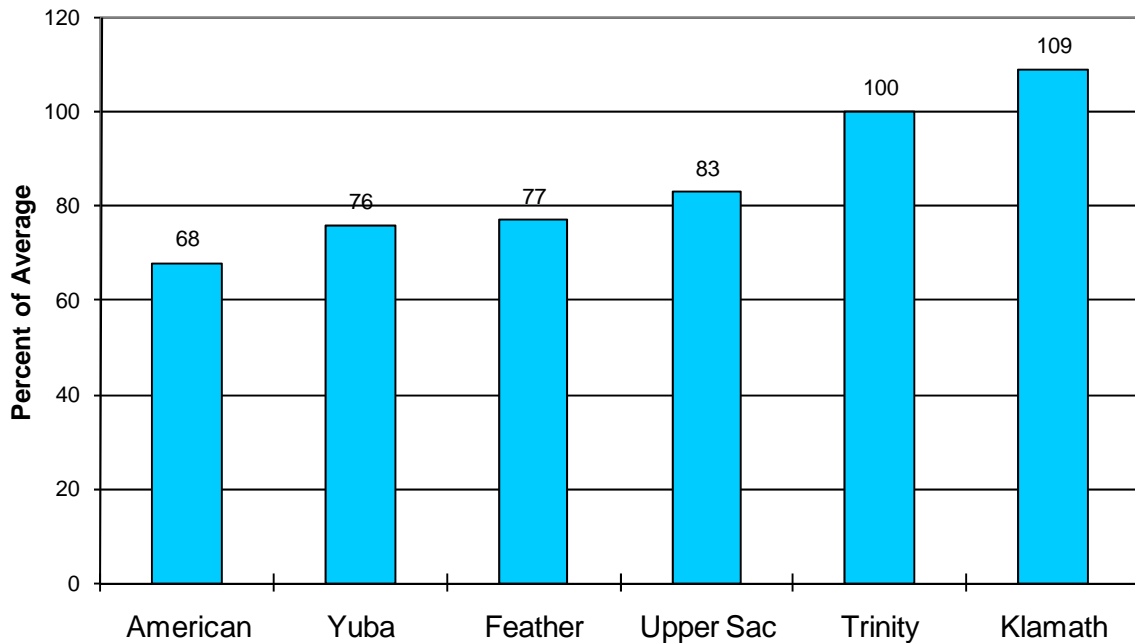
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
FEATHER RIVER ABOVE OROVILLE RESERVOIR						
NF Feather River						
Prattville, nr	Apr-Jul	270	81	440	200	333*
Big Bar	Apr-Jul	770	80	1240	580	962*
Feather River						
Oroville	Apr-Jul	1370	78	2290	1020	1760
YUBA RIVER ABOVE SMARTVILLE						
North Yuba River						
Goodyears Bar, blo	Apr-Jul	205	75	350	155	273*
South Yuba River						
Langs Crossing	Apr-Jul	170	76	290	130	225*
Yuba River						
Smartville, nr	Apr-Jul	760	76	1290	580	995
AMERICAN RIVER ABOVE FOLSOM RESERVOIR						
MF American River						
Auburn, nr	Apr-Jul	370	76	620	275	490*
Silver Ck						
Union Valley	Apr-Jul	75	77	125	56	98*
Camino Dam, blo	Apr-Jul	120	76	200	90	158*
American River						
Folsom Reservoir Inflow	Apr-Jul	930	76	1550	700	1230

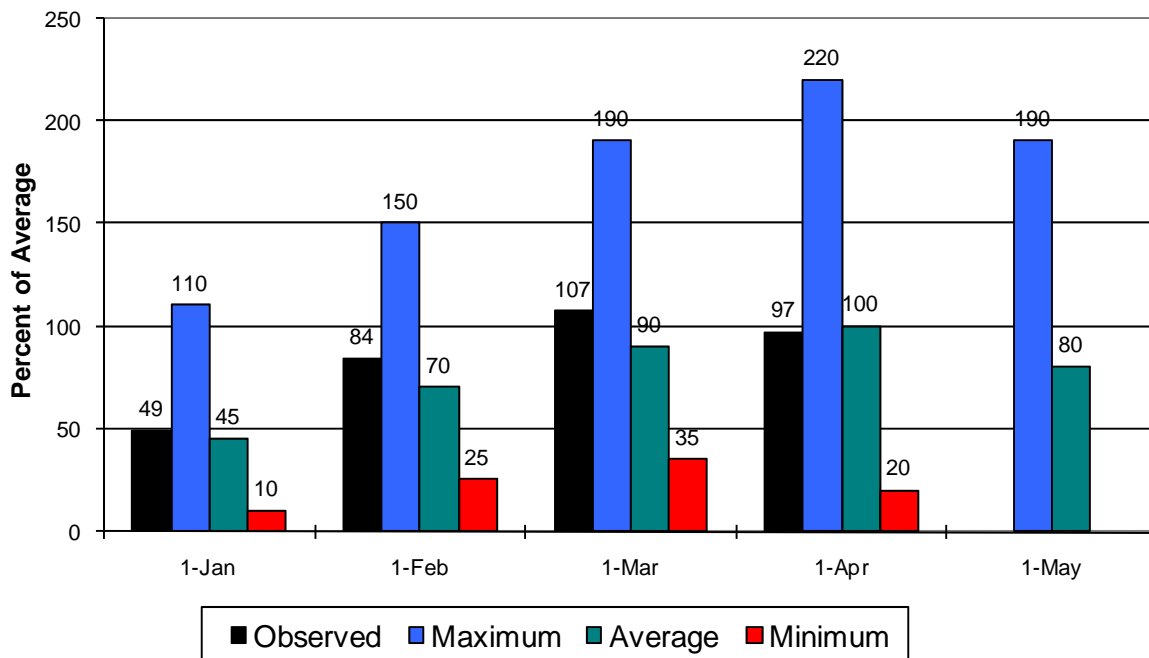
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Sacramento/Trinity/Klamath River Basins

Seasonal Basin Precipitation October 1 to Date

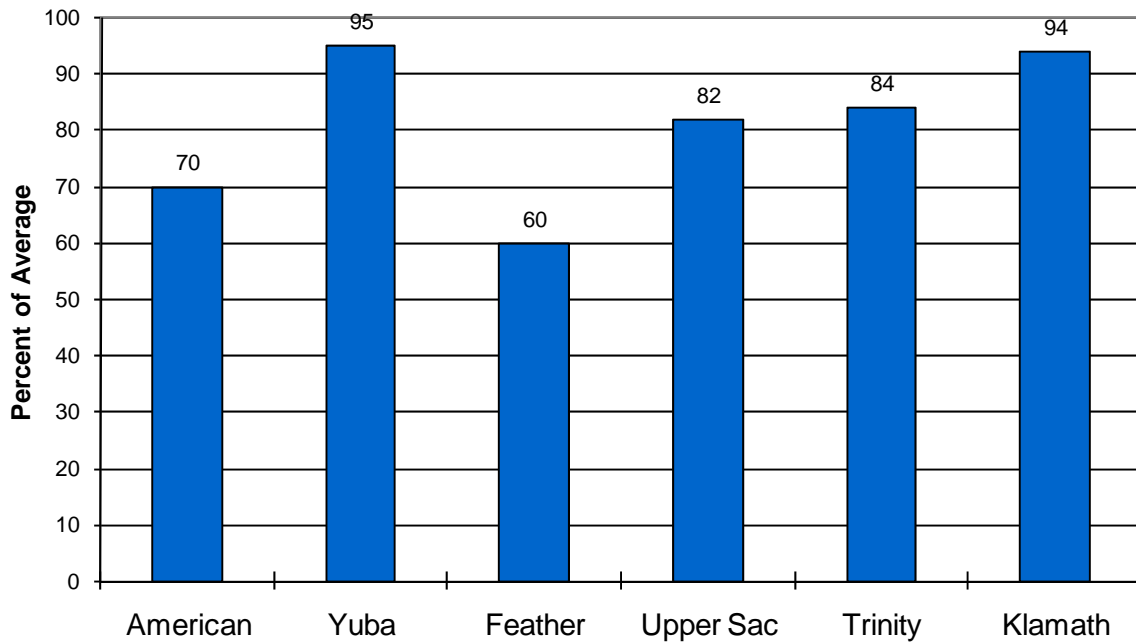


Seasonal Basin Snowpack Water Content in % of April 1 Average

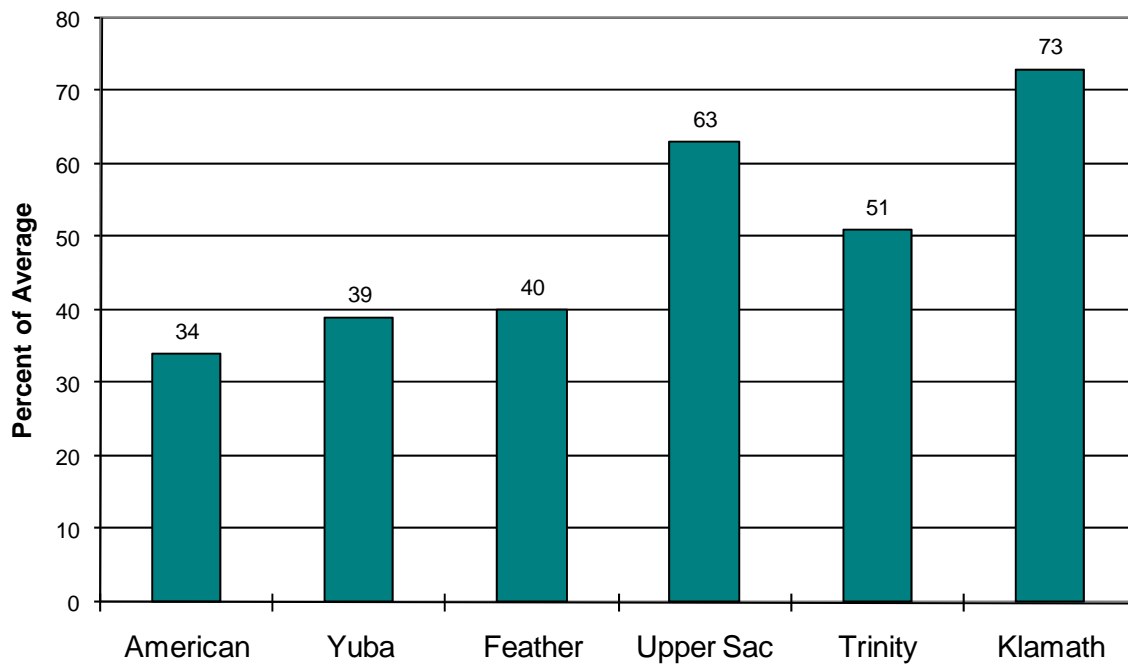


Sacramento/Trinity/Klamath River Basins

Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Seasonal Basin Runoff October 1 to Date



San Joaquin Basin



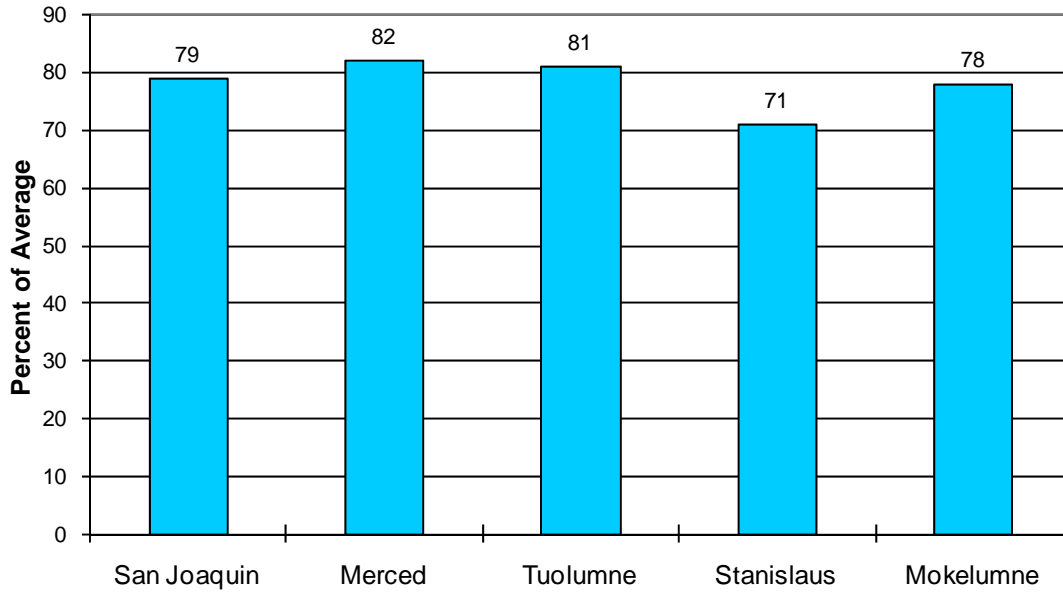
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
SAN JOAQUIN BASIN						
SF San Joaquin River						
Hooper Ck, blo, Florence Lk, nr	Apr-Jul	165	86	240	92	192*
San Joaquin River						
Millerton Lk	Apr-Jul	1000	79	1200	800	1270
Merced River						
Pohono Bridge, at, Yosemite, nr	Apr-Jul	320	89	410	230	360*
Merced Falls, blo	Apr-Jul	480	74	630	330	645
Tuolumne River						
Hetch Hetchy, nr	Apr-Jul	530	89	620	440	596*
La Grange, nr	Apr-Jul	990	80	1210	780	1230
MF Stanislaus River						
Beardsley Dam, blo	Apr-Jul	250	78	330	170	320*
Stanislaus River						
New Melones Dam	Apr-Jul	550	79	700	400	695
NF Mokelumne River						
West Point	Apr-Jul	320	77	420	220	416*
Mokelumne River						
Mokelumne Hill	Apr-Jul	340	74	440	250	460
Cosumnes River						
Michigan Bar	Apr-Jul	75	61	160	30	123

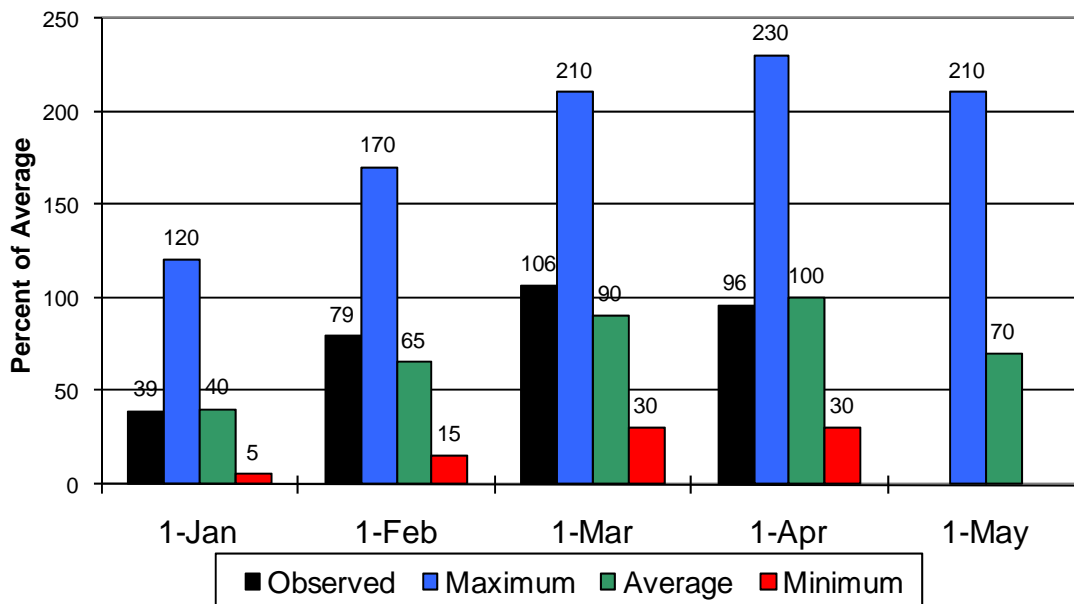
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San Joaquin Basin

Seasonal Basin Precipitation October 1 to Date

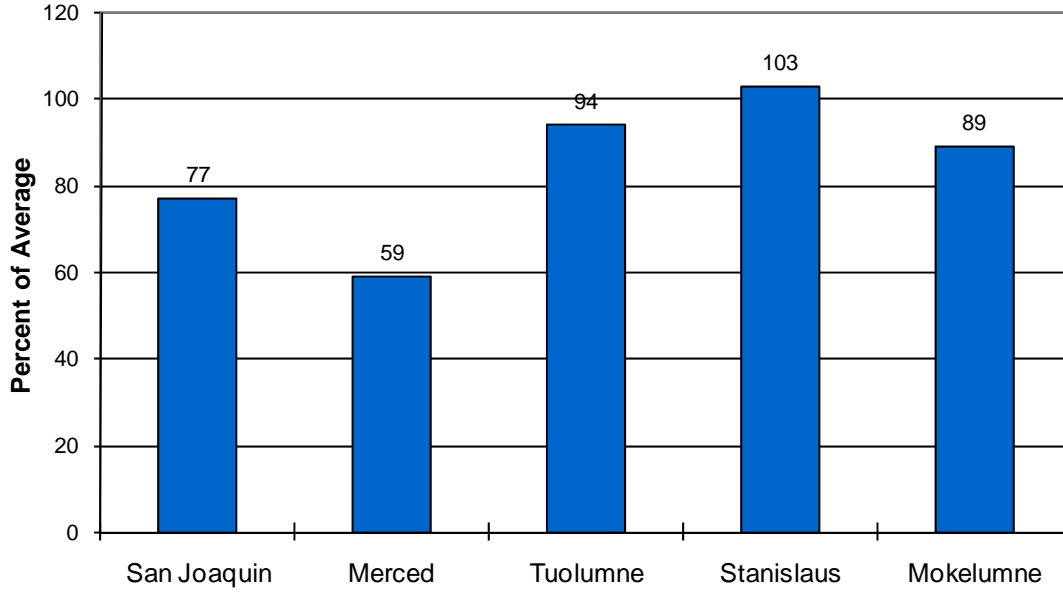


Seasonal Basin Snowpack Water Content in % of April 1 Average

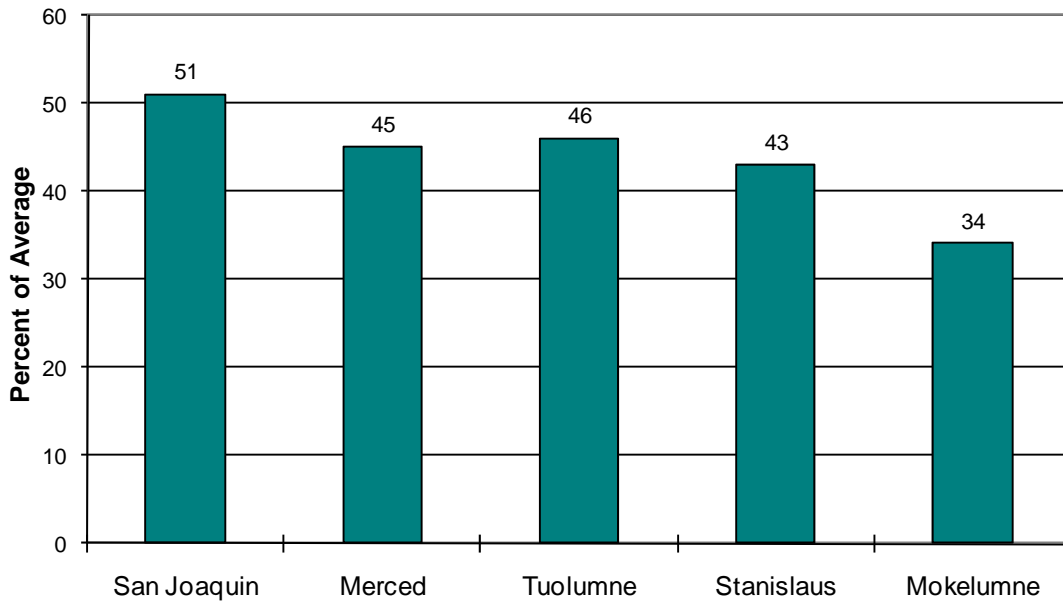


San Joaquin Basin

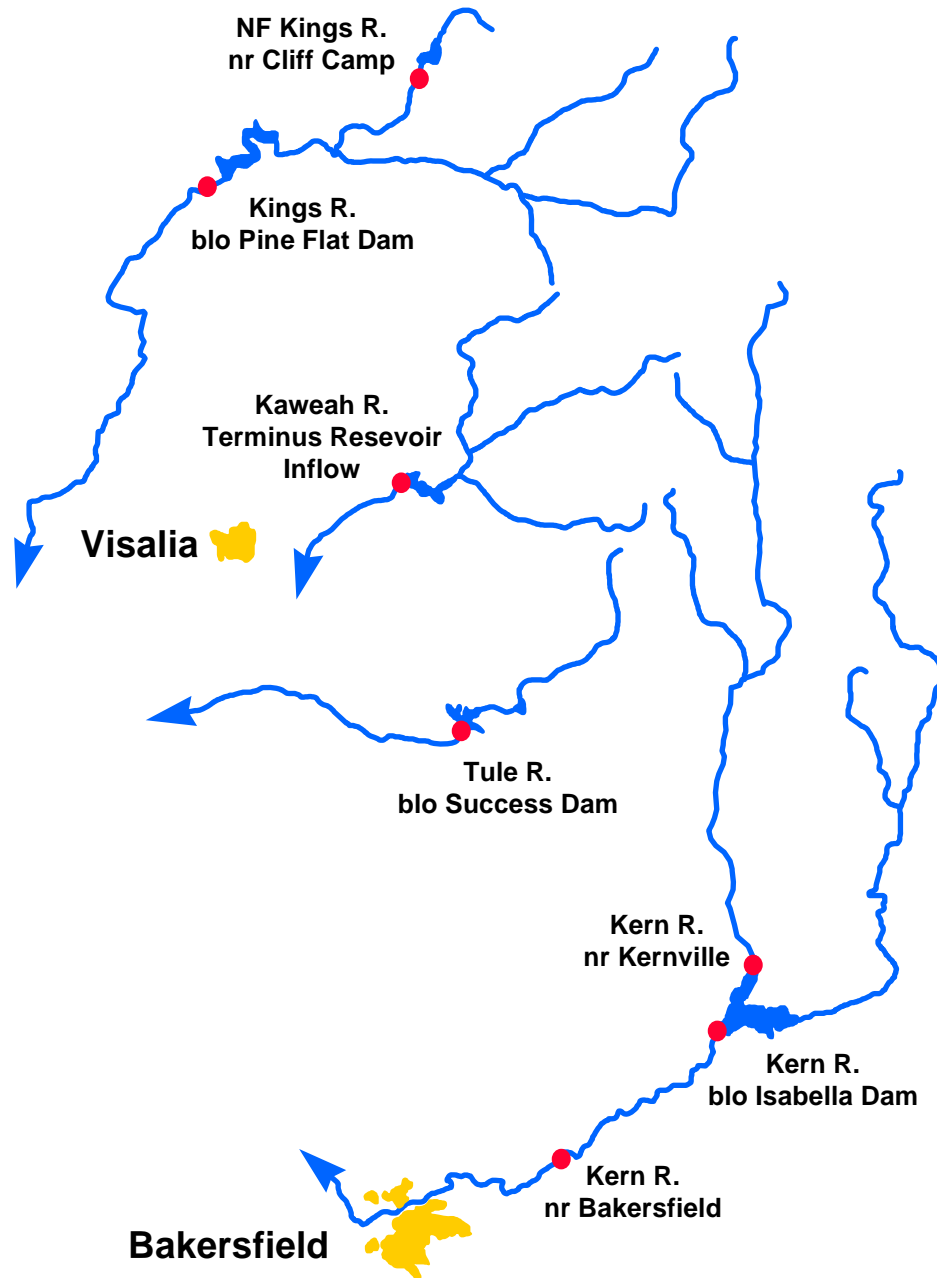
Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Season Basin Runoff October 1 to Date



Tulare Basin



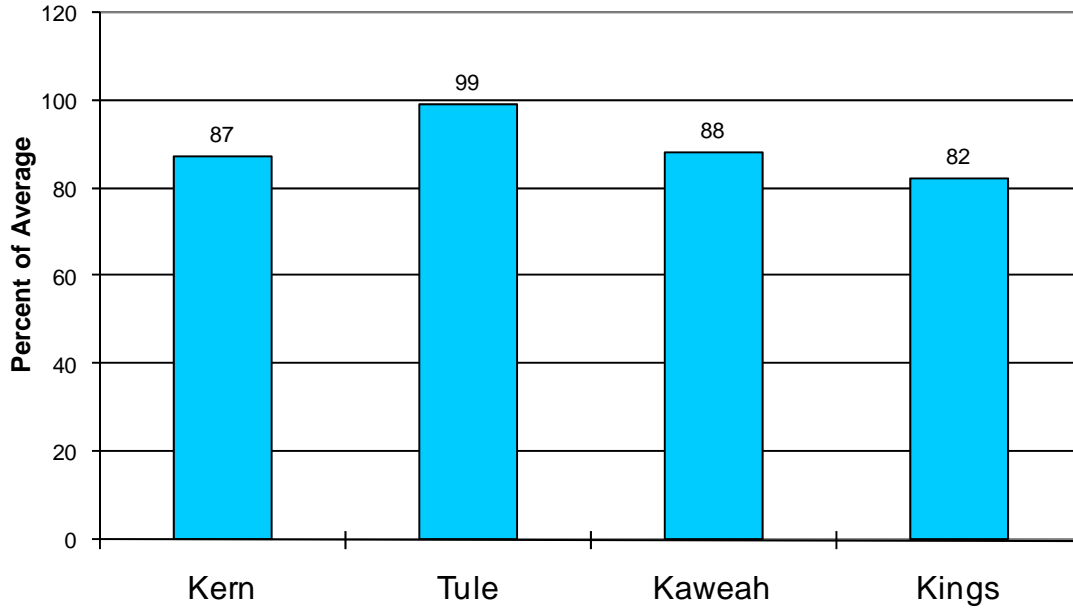
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
TULARE LAKE BASIN						
Kern River						
Kernville, nr	Apr-Jul	340	85	430	250	398*
Isabella Dam, blo	Apr-Jul	400	83	500	300	480
Bakersfield, nr	Apr-Jul	410	84	520	300	490
Tule River						
Success Dam	Apr-Jul	50	76	75	30	66
Kaweah River						
Terminus Dam	Apr-Jul	280	97	360	200	290
NF Kings River						
Cliff Camp, nr	Apr-Jul	230	96	270	170	240*
Kings River						
Pine Flat Dam, blo	Apr-Jul	1060	85	1250	880	1250

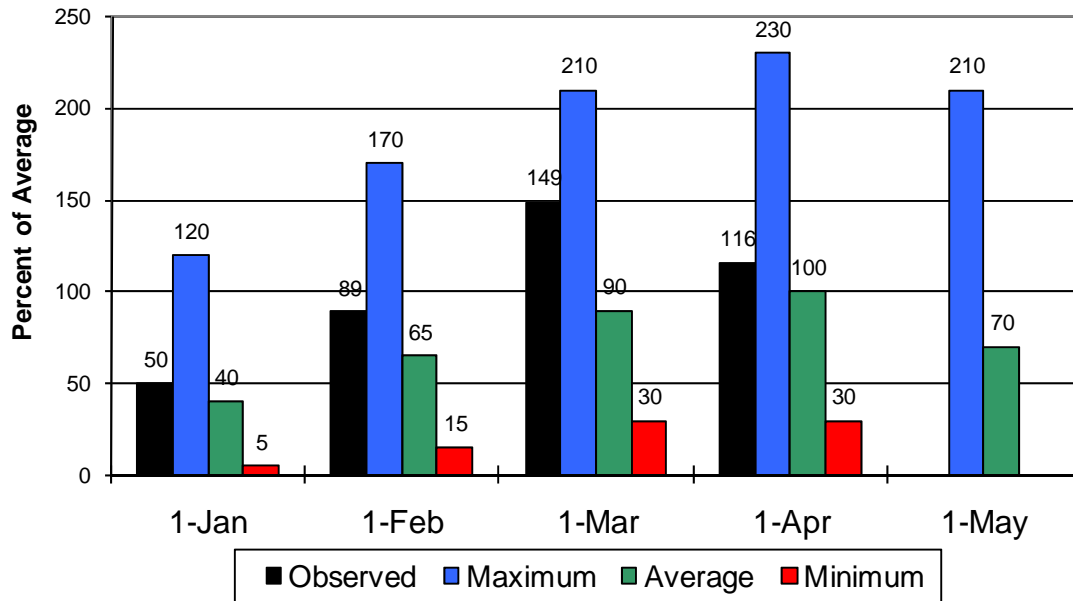
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Tulare Lake Basin

Seasonal Precipitation October 1 to Date



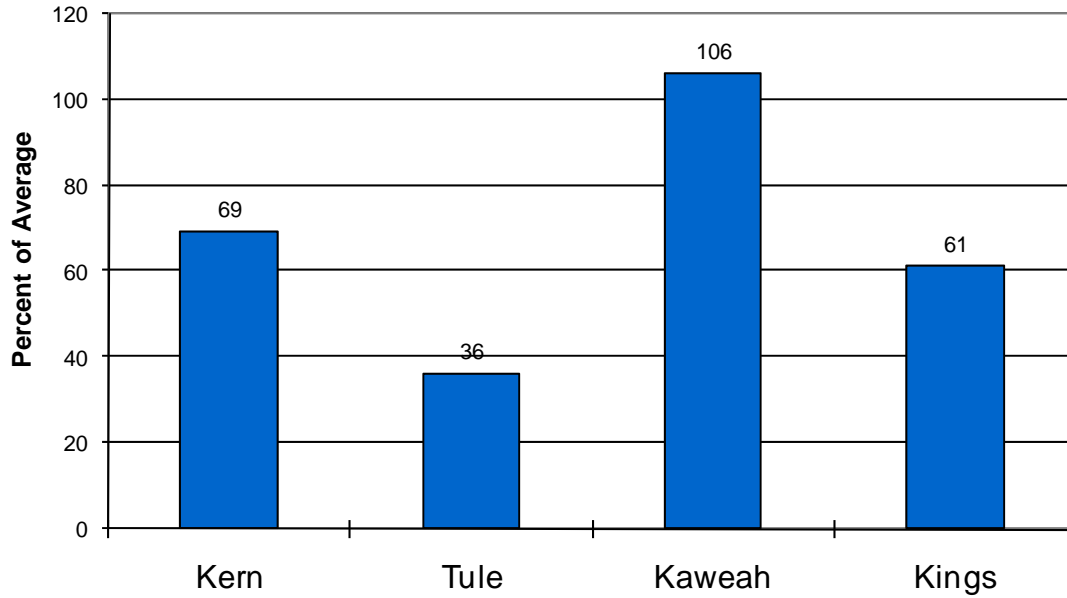
Seasonal Basin Snowpack Water Content in % of April 1 Average



Tulare Lake Basin

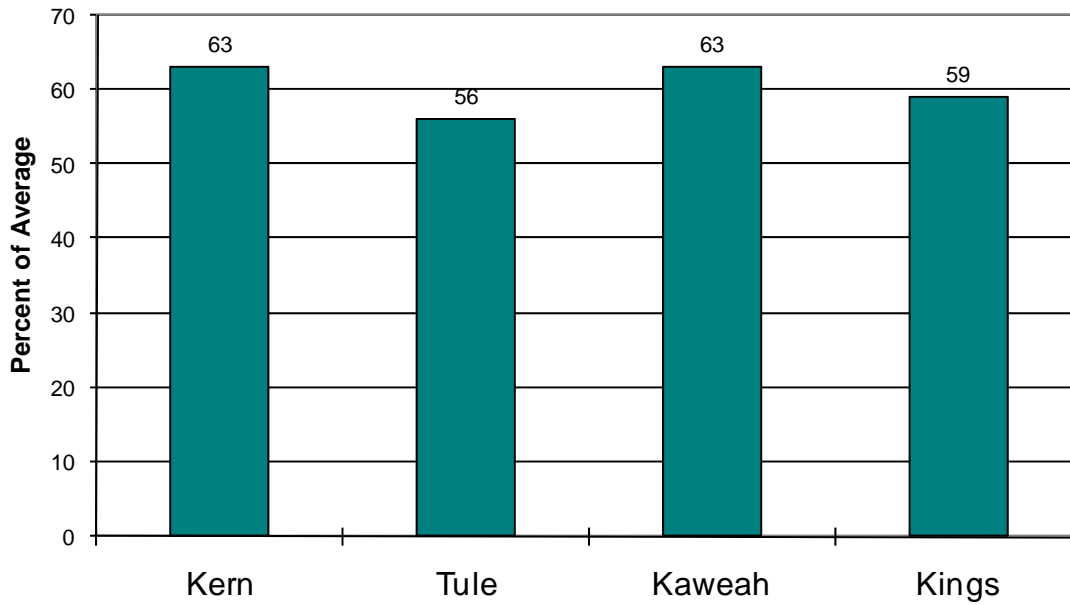
Basin Reservoir Storage

Contents of Major Reservoirs in % of Average

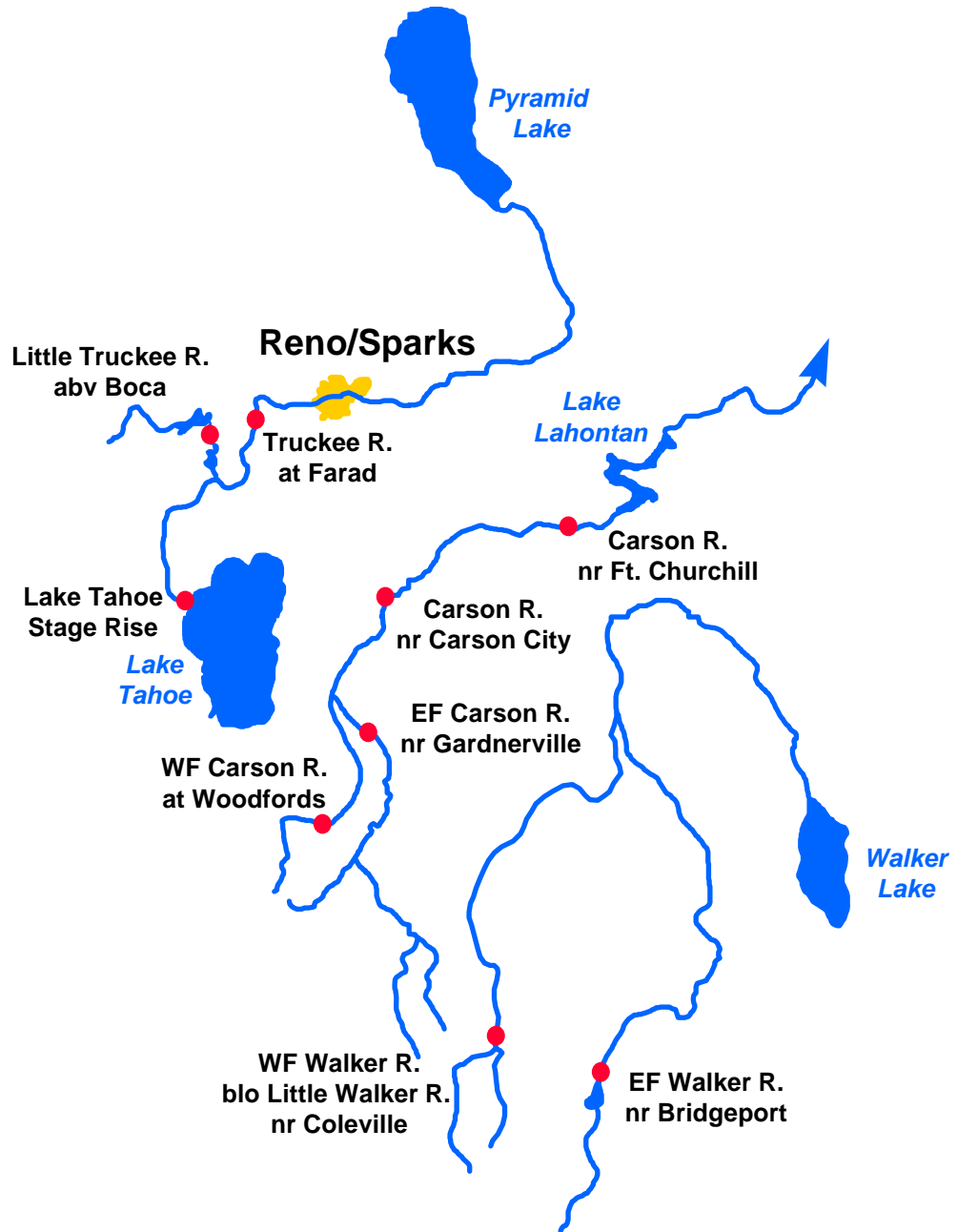


Seasonal Basin Runoff

October 1 to Date



East Side Sierra Nevada Basins



Water Supply Forecasts

Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
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Truckee River

Truckee River Lake Tahoe Stage Rise	Apr-High	1.10	80	1.71	0.68	1.38
Ltl Truckee River Stampede Dam	Apr-Jul	65	81	112	40	80
Truckee River Farad	Apr-Jul	210	81	330	127	260

Carson River

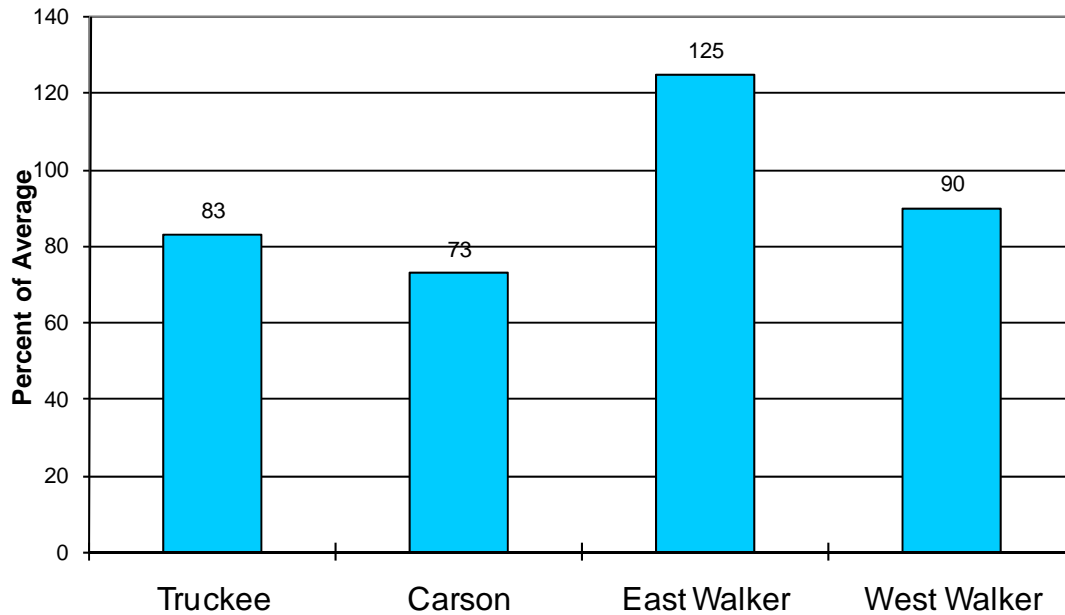
EF Carson River Gardnerville, nr	Apr-Jul	160	85	205	104	189
WF Carson River Woodfords	Apr-Jul	45	80	63	32	56
Carson River Carson City, nr	Apr-Jul	140	74	250	100	188
Fort Churchill, nr	Apr-Jul	125	70	225	91	178

Walker River

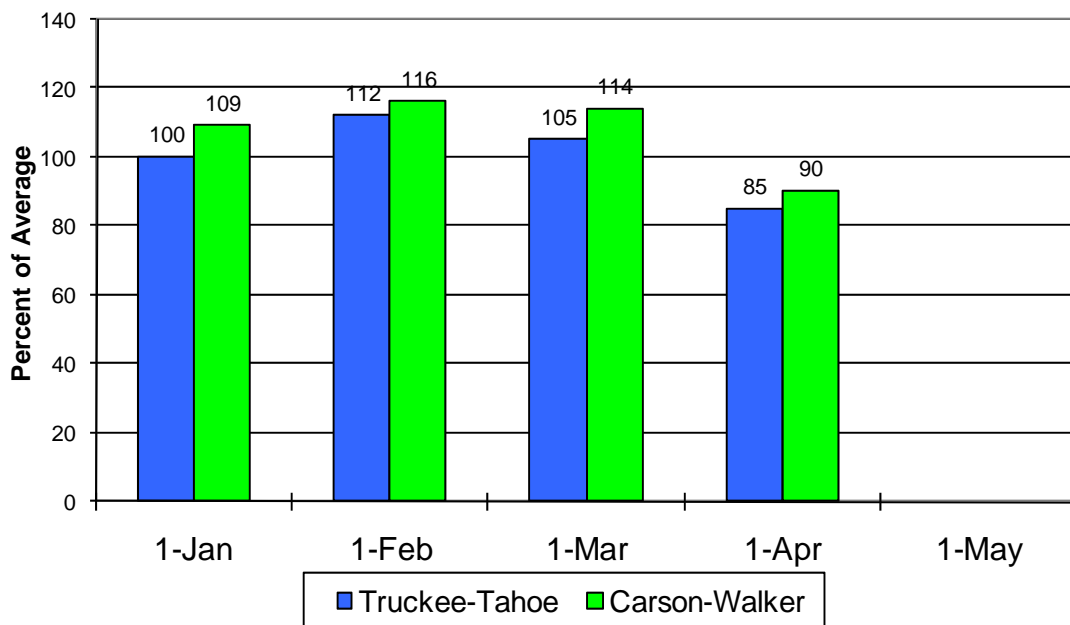
East Walker River Bridgeport, nr	Apr-Aug	60	90	86	40	67
West Walker River Ltl Walker, blo, Coleville, nr	Apr-Jul	135	87	175	101	156

East Side Sierra Nevada Basins

Seasonal Basin Precipitation October 1 to Date

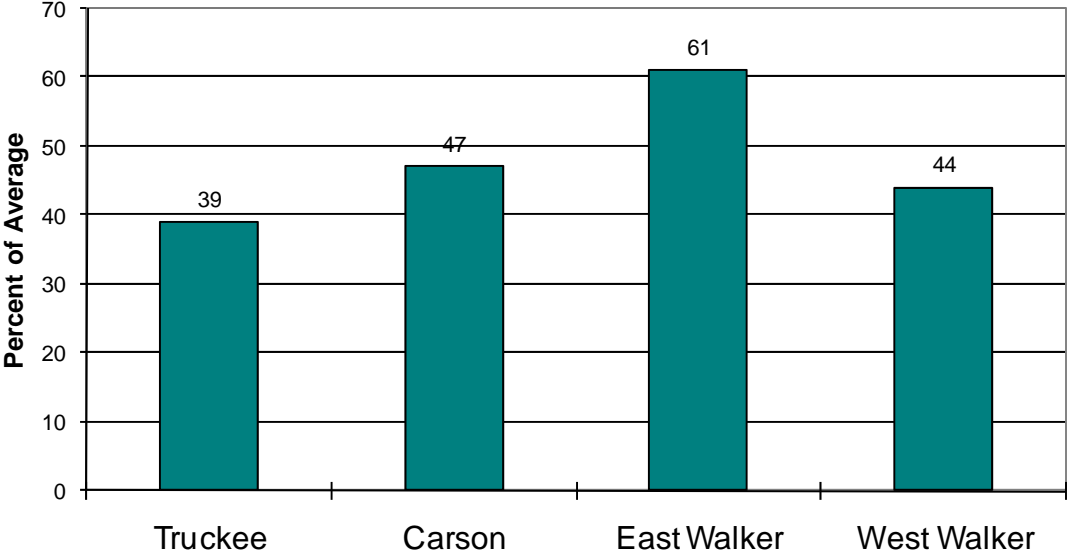


Basin Snowpack % of Average SWE to Date

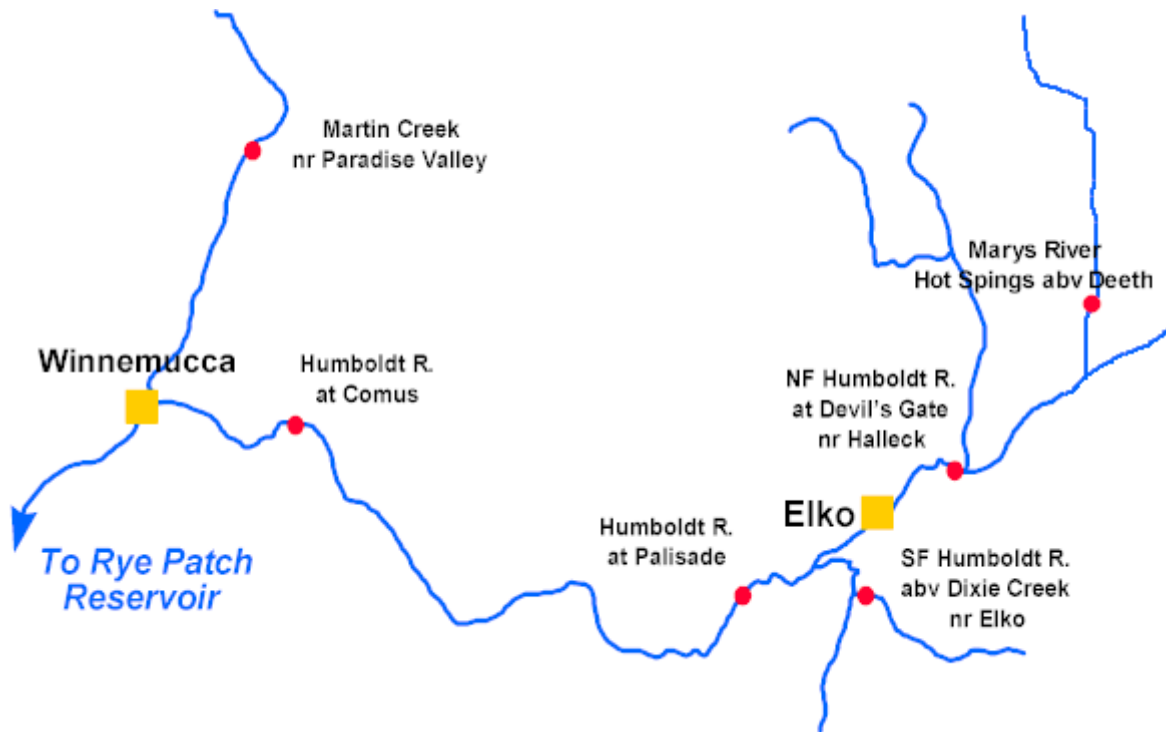


East Side Sierra Nevada Basins

Seasonal Basin Runoff October 1 to Date



Humboldt River Basin



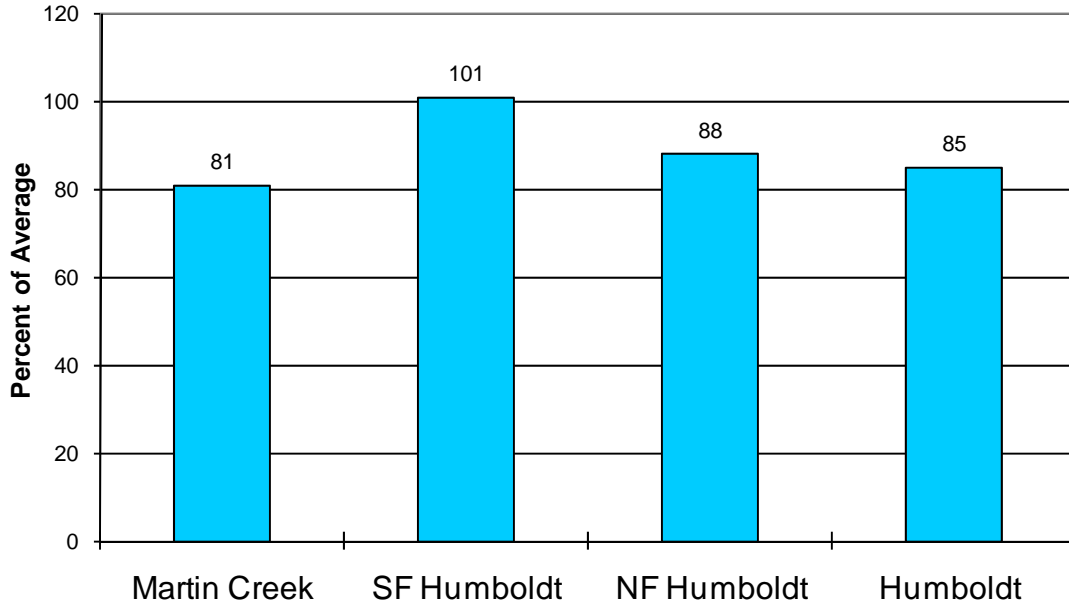
Water Supply Forecasts

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NF Humboldt River						
Devlis Gate, at, Halleck, nr	Apr-Jul	32	94	50	15.0	34*
SF Humboldt River						
Dixie Ck, abv, Elko, nr	Apr-Jul	83	109	120	45	76
Marys River						
Hot Springs, abv, Deeth, nr	Apr-Jul	37	95	50	25	39
Humboldt River						
Elko, nr	Apr-Jul	150	97	235	65	154
Palisade	Apr-Jul	245	98	375	115	250
Comus	Apr-Jul	230	102	350	110	225
Imlay, nr	Apr-Jul	190	101	315	65	188
Martin Ck						
Paradise Vly, nr	Apr-Jul	20	107	29	11.0	18.7

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Humboldt River Basin

Seasonal Basin Precipitation October 1 to Date



Basin Snowpack % of Average SWE to Date

