

WATER SUPPLY OUTLOOK



CALIFORNIA AND NORTHERN NEVADA

FEBRUARY
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 TELelemetry. 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

February 1, 2008

A cold and wet storm arrived on the 4th through the 6th of January which finally brought significant accumulation to a somewhat meager snow pack. A series of rather persistent and cold storm systems then continued through the last ten days of the month, bringing copious precipitation to low elevation stations in California's Central Valley as well as adding to the low and high elevation snow pack. February 1st snow pack conditions are above average for the entire Sierra Nevada. Although this year's water supply season is off to a promising start, events during the next two months will determine if the near average forecasts for this year's spring runoff will take hold.

Precipitation amounts were much above average during January. Monthly percentages were in the 115 to 170 percent range for the west slope Sierra Nevada watersheds. East Side Sierra basins received 145 to 300 percent of the January average. The upper Humboldt basin averaged 145 percent, the lower Humboldt, 115 percent. The Upper Klamath Lake basin recorded 145 percent of the monthly average. Seasonal averages (October 1, 2007 to January 31, 2008) for basins in the west slope Sierra Nevada range from just below average to just above average. East Side Sierra basins vary from 80 to 110 percent. Seasonal averages are about 110 percent for the Humboldt and Upper Klamath Lake basin.

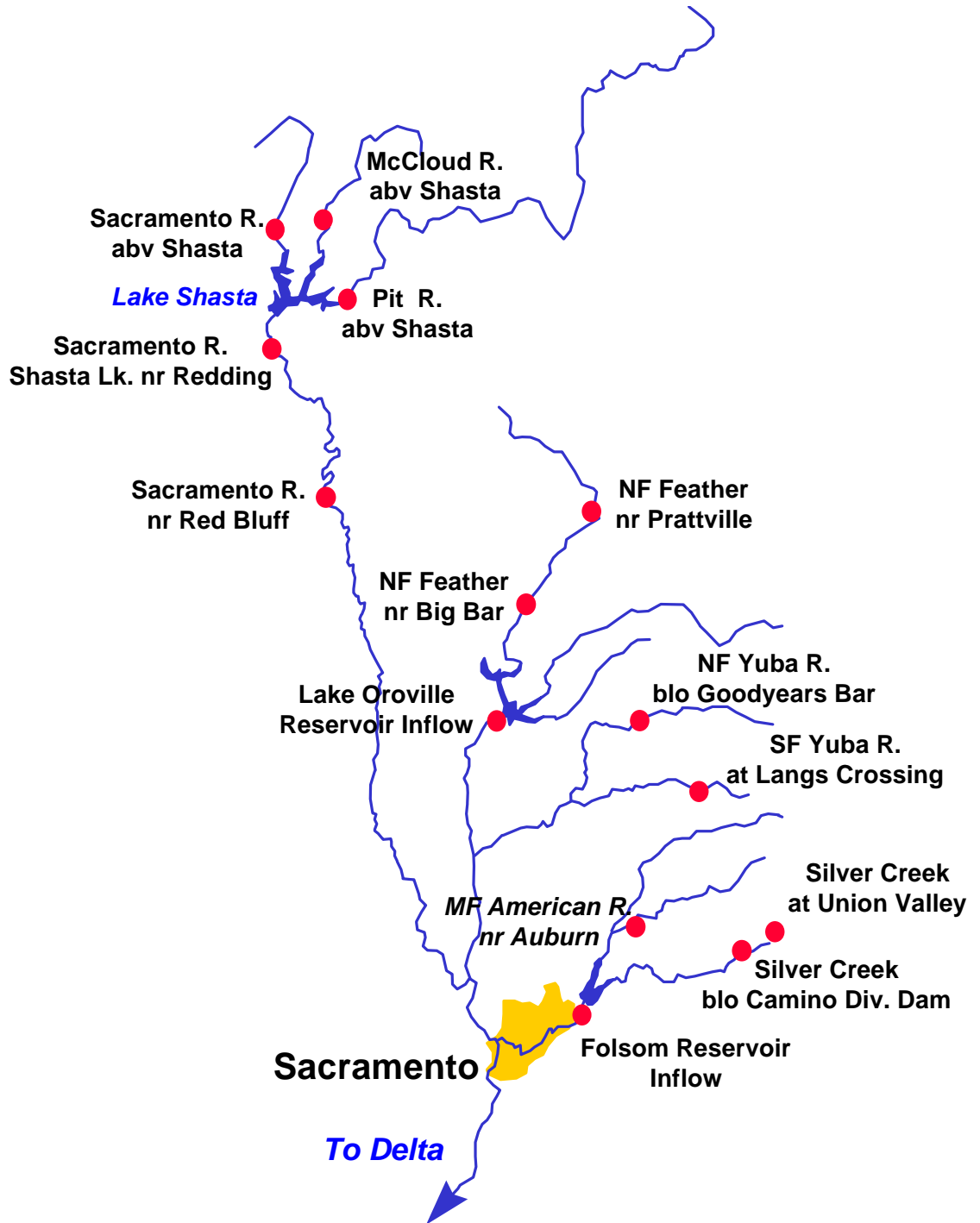
The Sierra snowpack is in good condition for this time of the year. Using snow pillow measurements as a rough approximation, there was about a 40 to 60 percent increase to the April 1st average snow pack from last January 1st. According to snow courses measured by the California State Cooperative Snow Surveys, the April 1st average stands at approximately 80 percent for the Sacramento and San Joaquin region and 85 percent for the Tulare Lake basin. February 1st averages are about 125 percent for the Sacramento and San Joaquin regions and 140 percent for Tulare Lake. Good snow accumulation continued over the crest of the Sierra Nevada with snow packs in the Tahoe-Truckee basins now about 110 percent of average and the Carson-Walker at 115 percent. The pack stands at about 100 percent of average for the Humboldt basin in Nevada and 125 percent for the Upper Klamath Lake basin.

Much of the precipitation fell as snow at both low and high elevations which was a factor in keeping monthly runoff below average and reducing inflows into the mountain reservoirs. January runoff was much below average ranging from 47 percent for the San Joaquin drainage to 57 percent for the Tulare Lake basin. East side Sierra basins received 36 percent of the monthly average while the Humboldt River at Palisade recorded only 37 percent. The Upper Klamath Lake basin received 69 percent of the January average.

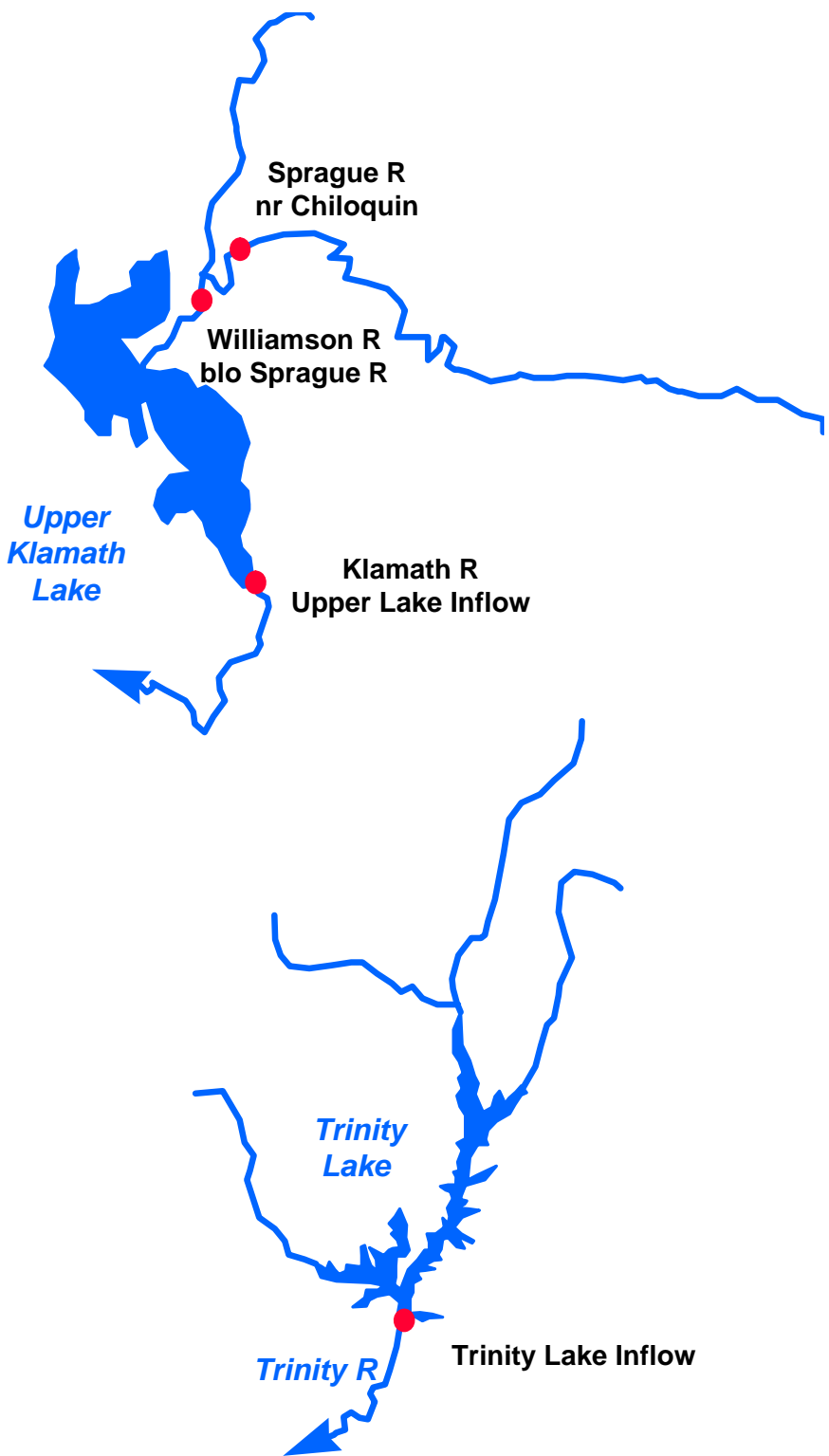
Apart from a few in the northern and central Sierra, most of the large Sierra Nevada reservoirs feeding into California's central valley still have below average storage. Stored water in the Sacramento region as of January 31st was at 78 percent of average for the date, the San Joaquin at 92 percent, and the Tulare Lake watershed at 63 percent. East-side Sierra reservoirs were at 85 percent of average. The lake level at Lake Tahoe stood at 6225.02 feet as of January 31st. This represents 67 percent of average. Storage at Lahontan Reservoir in Nevada stands at 58 percent as of January 31st while Rye Patch Reservoir is at 61 percent. Storage at Upper Klamath Lake is about 76 percent of average.

Forecasts improved somewhat over last month with most basins expected to receive near average spring runoff. April through July runoff forecasts varies from 91 percent for the Mokelumne basin to 115 percent of average for the Trinity Lake Inflow. Most forecasts are in the 93 to 100 percent range. Forecasts vary from 100 to 110 percent of average for the east side Sierra Nevada basins and 88 to 96 percent for forecast points on the main stem Humboldt River. The March through September forecast for the Upper Klamath Lake inflow is 95 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	Mar-Sep	490	97	640	340	505
Sprague River Chiloquin, nr	Mar-Sep	310	102	435	185	305
Upper Klamath Falls River Inflow	Mar-Sep	680	95	885	475	715
Lost River Gerber Reservoir Inflow	Feb-Jul	45	96	71	18.8	47
Clear Lake Reservoir Inflow	Feb-Jul	105	100	156	45	105
Scott River Fort Jones, nr	Apr-Jul	205	113	305	120	181
Trinity River Trinity Lake Inflow	Apr-Jul	730	115	1080	445	635

Trinity River - Inflow at Lewiston Lake Distribution (kAF)

Exceedence Probability	Oct-Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Apr-Jul	Water Yr
90%	156	65	105	135	190	90	30	19	12	445	802
50%	156	105	205	230	275	165	60	22	16	730	1234
10%	156	160	320	360	380	260	80	27	20	1080	1763

		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	1010	94	1610	685	1070
Mccloud River Shasta Lk, abv	Apr-Jul	390	105	590	240	370
Sacramento River Delta	Apr-Jul	305	105	460	190	290
Shasta Dam	Apr-Jul	1700	95	2680	1200	1790
Bend Bridge, abv, Red Bluff, nr	Apr-Jul	2270	93	3630	1590	2440

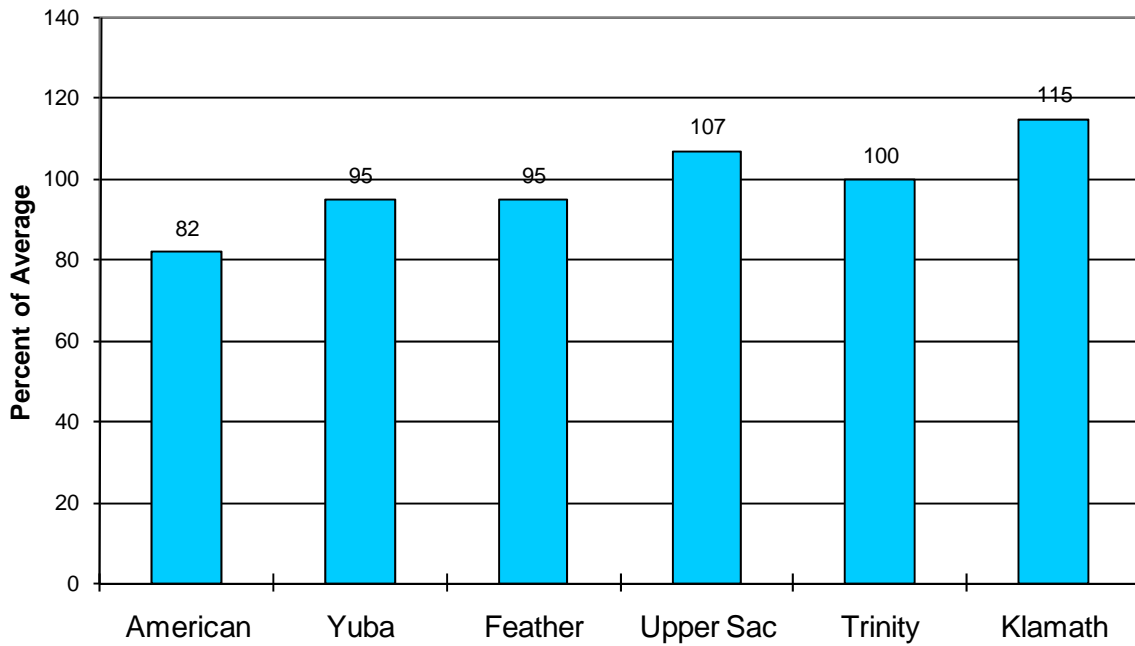
Water Supply Forecasts

		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	305	92	505	180	333*
Big Bar	Apr-Jul	925	96	1470	550	962*
Feather River						
Oroville	Apr-Jul	1690	96	2830	990	1760
YUBA RIVER ABOVE SMARTVILLE						
North Yuba River						
Goodyears Bar, blo	Apr-Jul	260	95	450	150	273*
South Yuba River						
Langs Crossing	Apr-Jul	215	96	370	125	225*
Yuba River						
Smartville, nr	Apr-Jul	950	95	1600	560	995
AMERICAN RIVER ABOVE FOLSOM RESERVOIR						
MF American River						
Auburn, nr	Apr-Jul	485	99	800	295	490*
Silver Ck						
Union Valley	Apr-Jul	100	102	162	62	98*
Camino Dam, blo	Apr-Jul	160	101	260	99	158*
American River						
Folsom Reservoir Inflow	Apr-Jul	1250	102	2060	770	1230

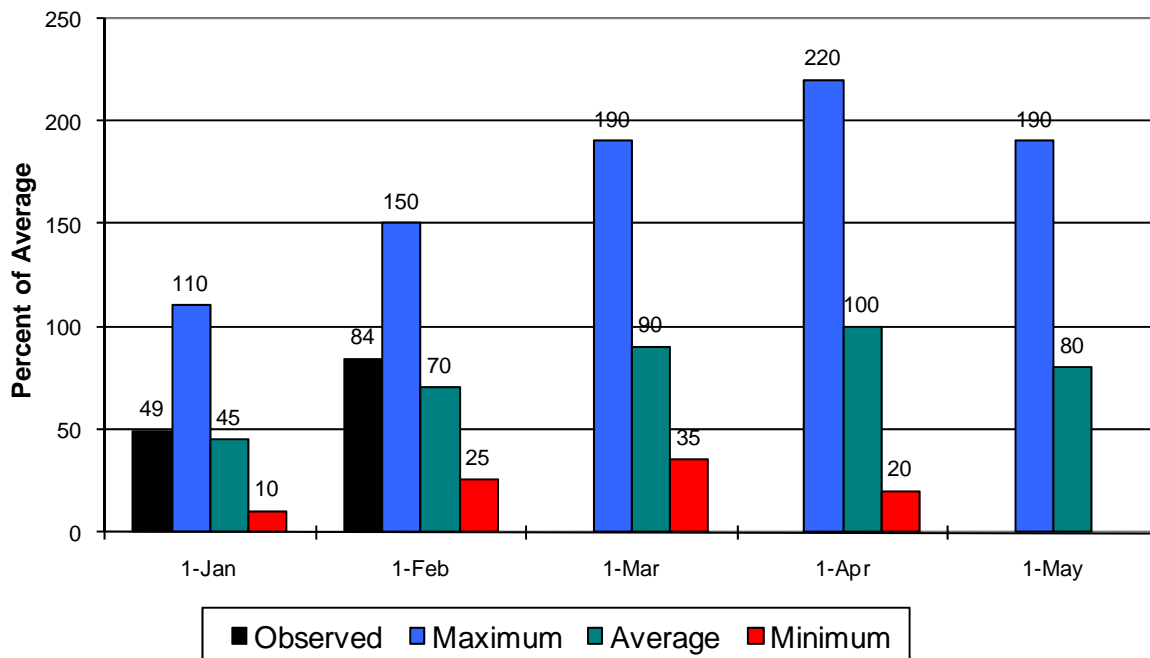
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Sacramento/Trinity/Klamath River Basins

Seasonal Basin Precipitation October 1 to Date

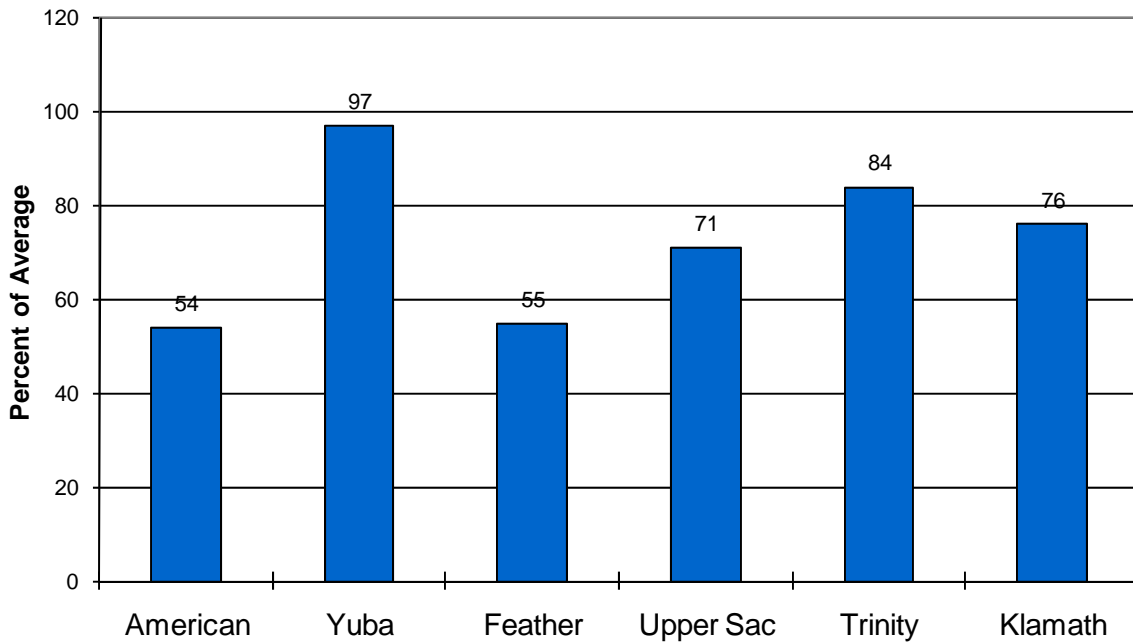


Seasonal Basin Snowpack Water Content in % of April 1 Average

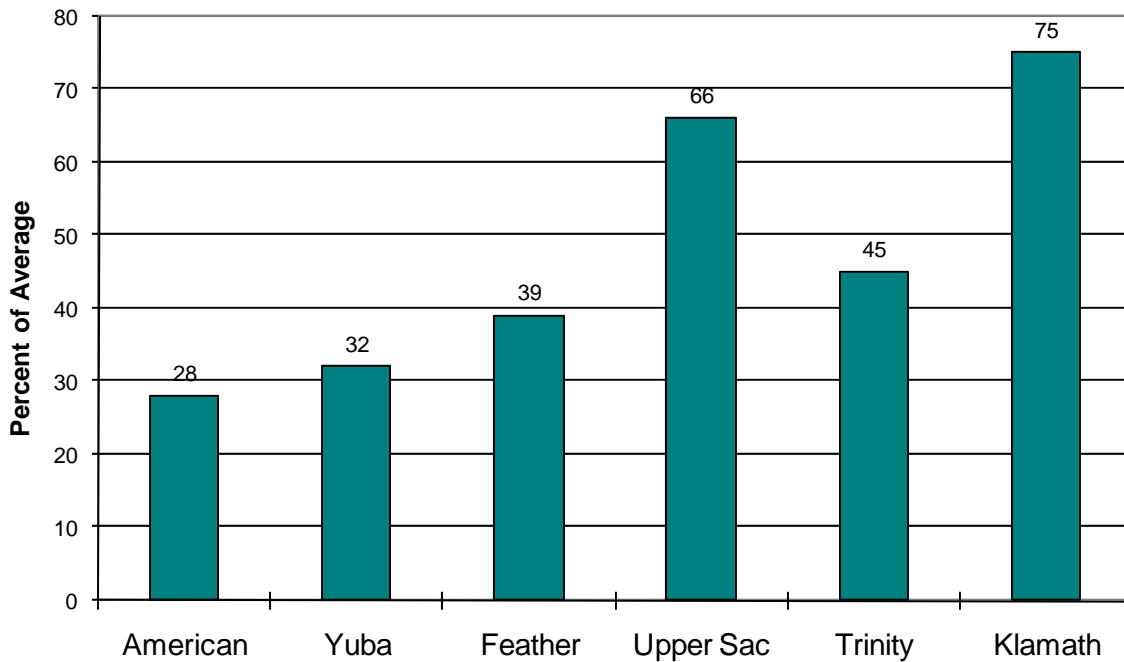


Sacramento/Trinity/Klamath River Basins

Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Seasonal Basin Runoff October 1 to Date



San Joaquin Basin



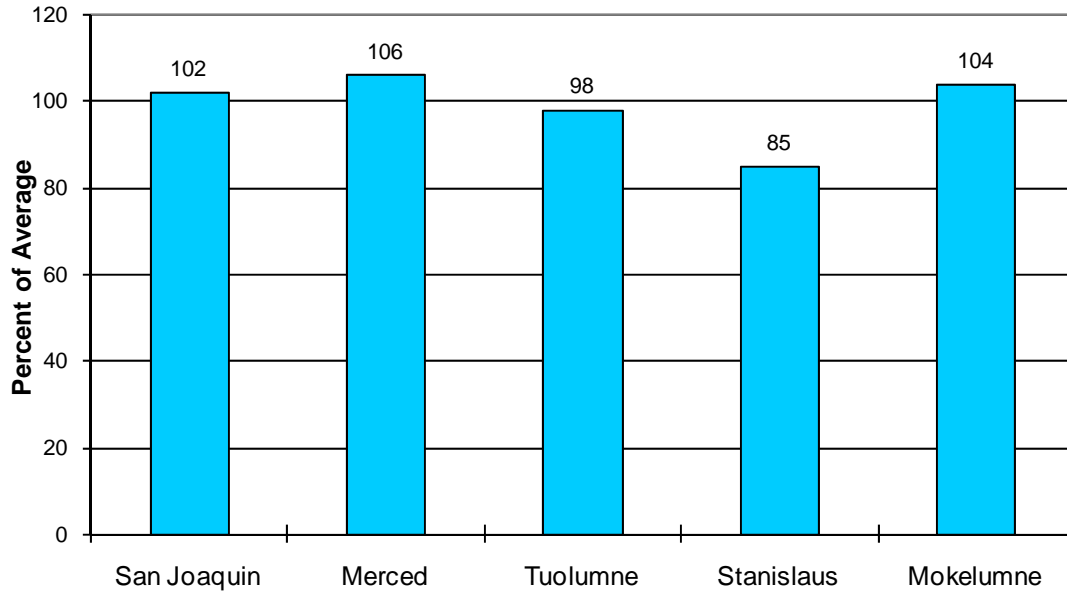
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
SF San Joaquin River						
Hooper Ck, blo, Florence Lk, nr	Apr-Jul	195	102	270	120	192*
San Joaquin River						
Millerton Lk	Apr-Jul	1250	98	1650	850	1270
Merced River						
Pohono Bridge, at, Yosemite, nr	Apr-Jul	380	106	540	180	360*
Merced Falls, blo	Apr-Jul	600	93	880	320	645
Tuolumne River						
Hetch Hetchy, nr	Apr-Jul	620	104	830	410	596*
La Grange, nr	Apr-Jul	1200	98	1610	790	1230
MF Stanislaus River						
Beardsley Dam, blo	Apr-Jul	300	94	430	170	320*
Stanislaus River						
New Melones Dam	Apr-Jul	650	94	890	410	695
NF Mokelumne River						
West Point	Apr-Jul	410	99	580	240	416*
Mokelumne River						
Mokelumne Hill	Apr-Jul	420	91	590	250	460
Cosumnes River						
Michigan Bar	Apr-Jul	120	98	250	40	123

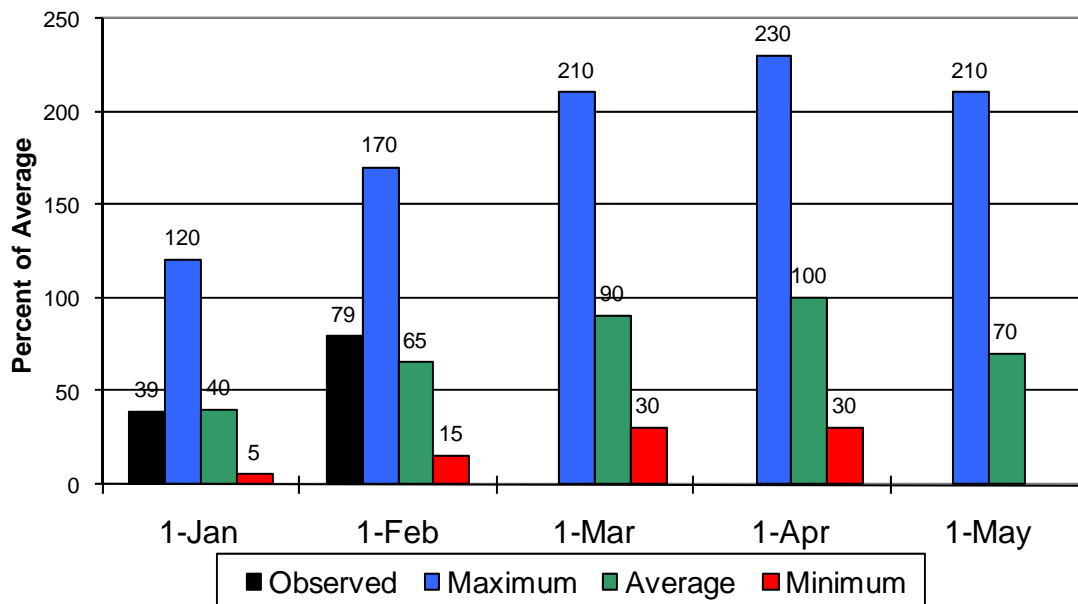
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San Joaquin Basin

Seasonal Basin Precipitation October 1 to Date

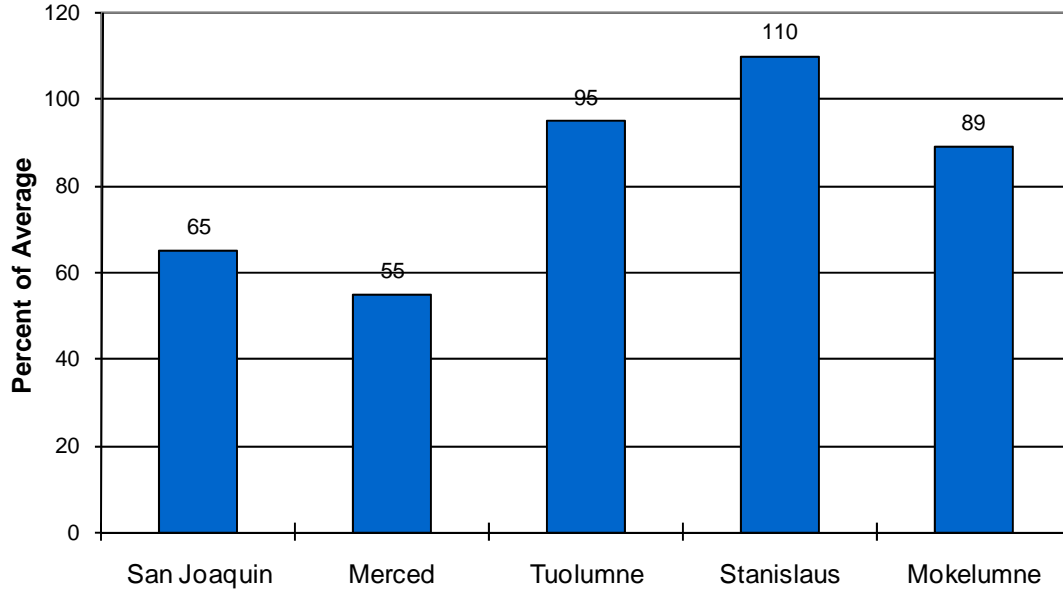


Seasonal Basin Snowpack Water Content in % of April 1 Average

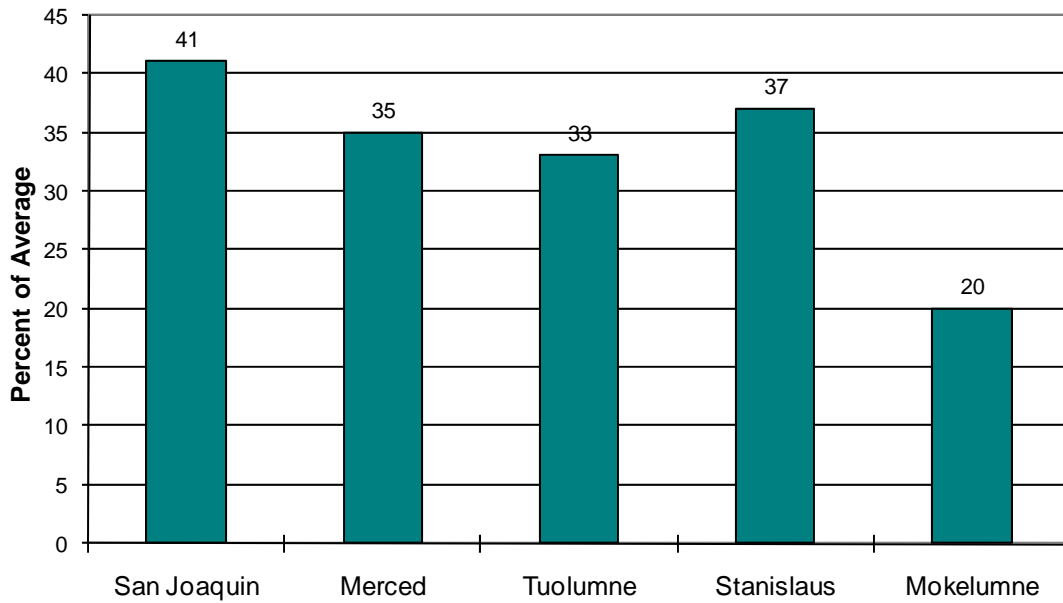


San Joaquin Basin

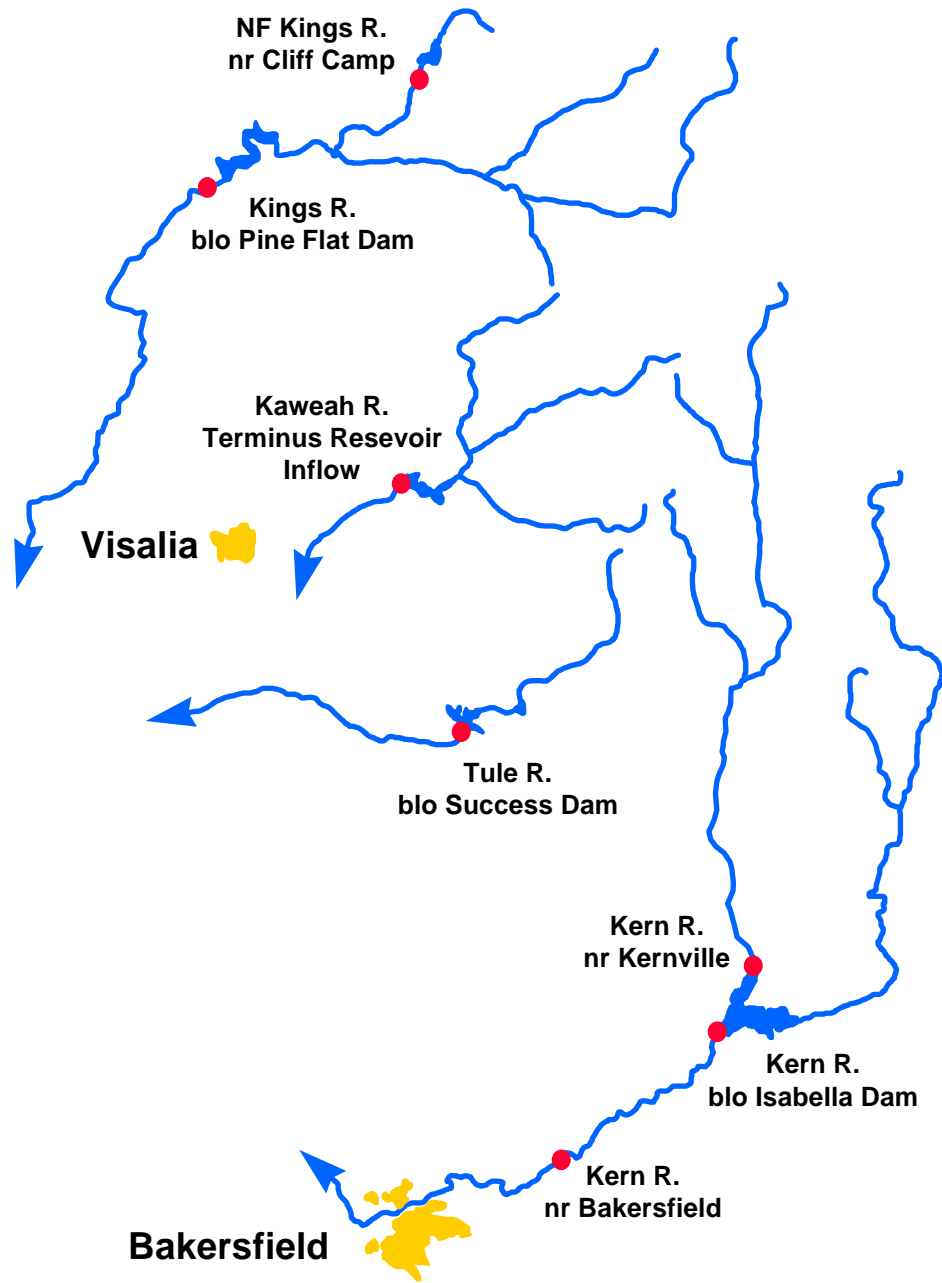
Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Season Basin Runoff October 1 to Date



Tulare Basin



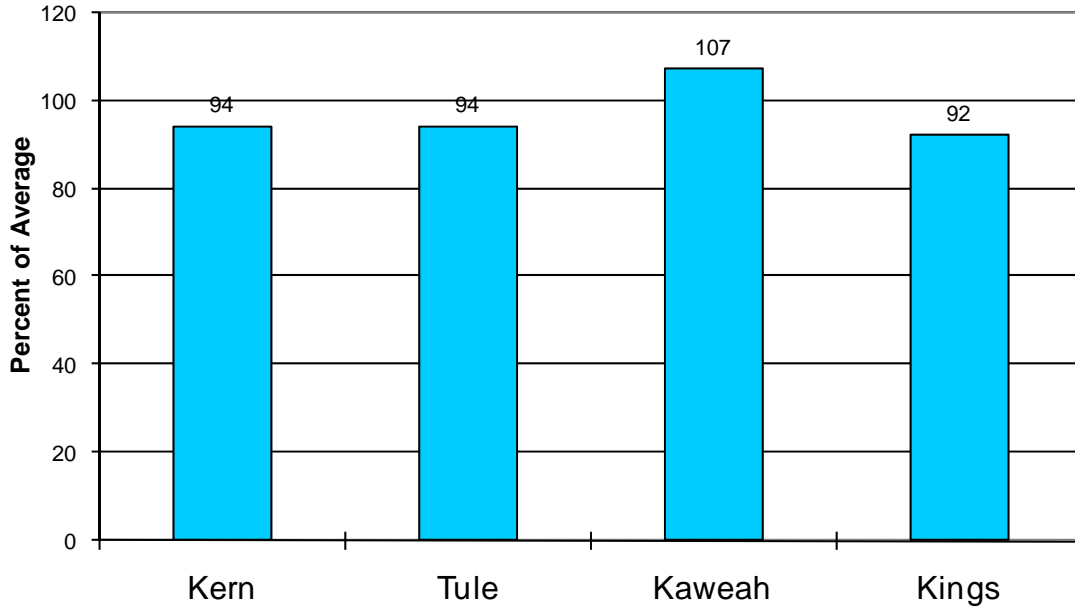
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Kern River						
Kernville, nr	Apr-Jul	410	103	680	210	398*
Isabella Dam, blo	Apr-Jul	500	104	800	280	480
Bakersfield, nr	Apr-Jul	515	105	810	290	490
Tule River						
Success Dam	Apr-Jul	64	97	104	24	66
Kaweah River						
Terminus Dam	Apr-Jul	300	103	450	150	290
NF Kings River						
Cliff Camp, nr	Apr-Jul	260	108	375	144	240*
Kings River						
Pine Flat Dam, blo	Apr-Jul	1240	99	1680	800	1250

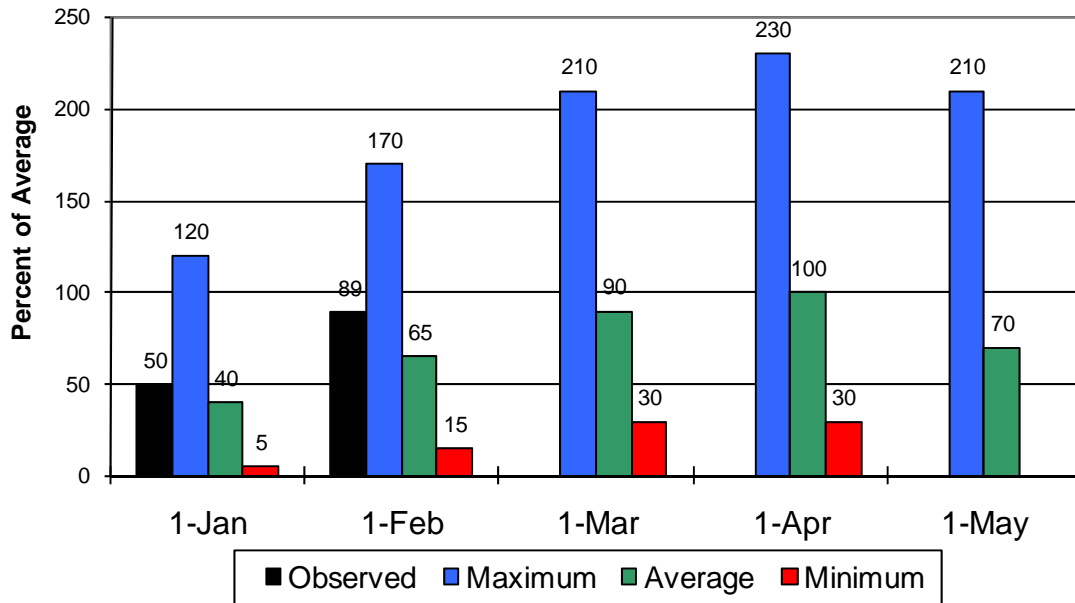
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Tulare Lake Basin

Seasonal Precipitation October 1 to Date



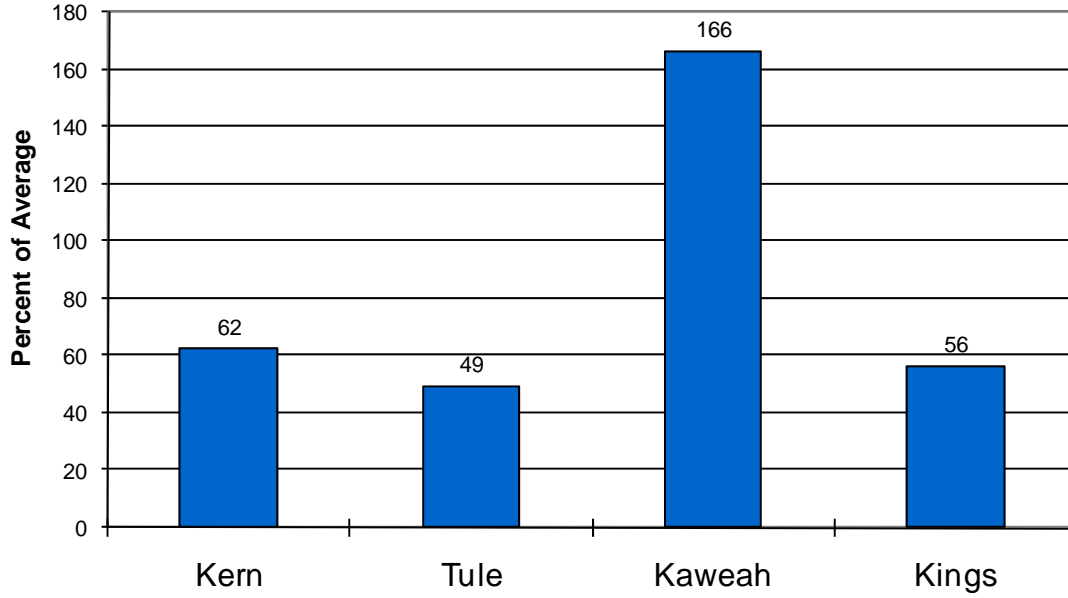
Seasonal Basin Snowpack Water Content in % of April 1 Average



Tulare Lake Basin

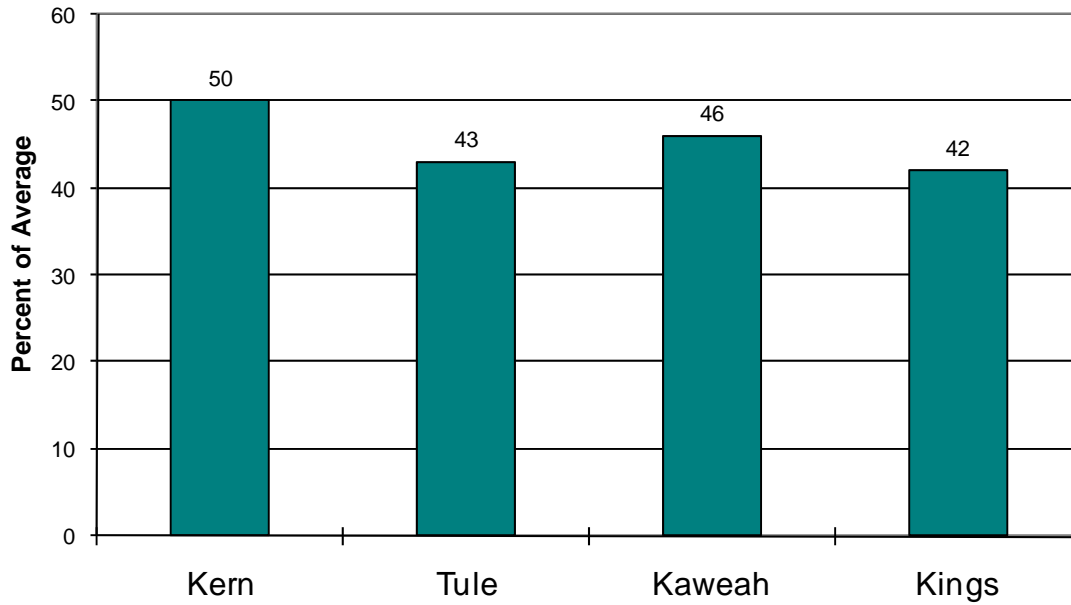
Basin Reservoir Storage

Contents of Major Reservoirs in % of Average

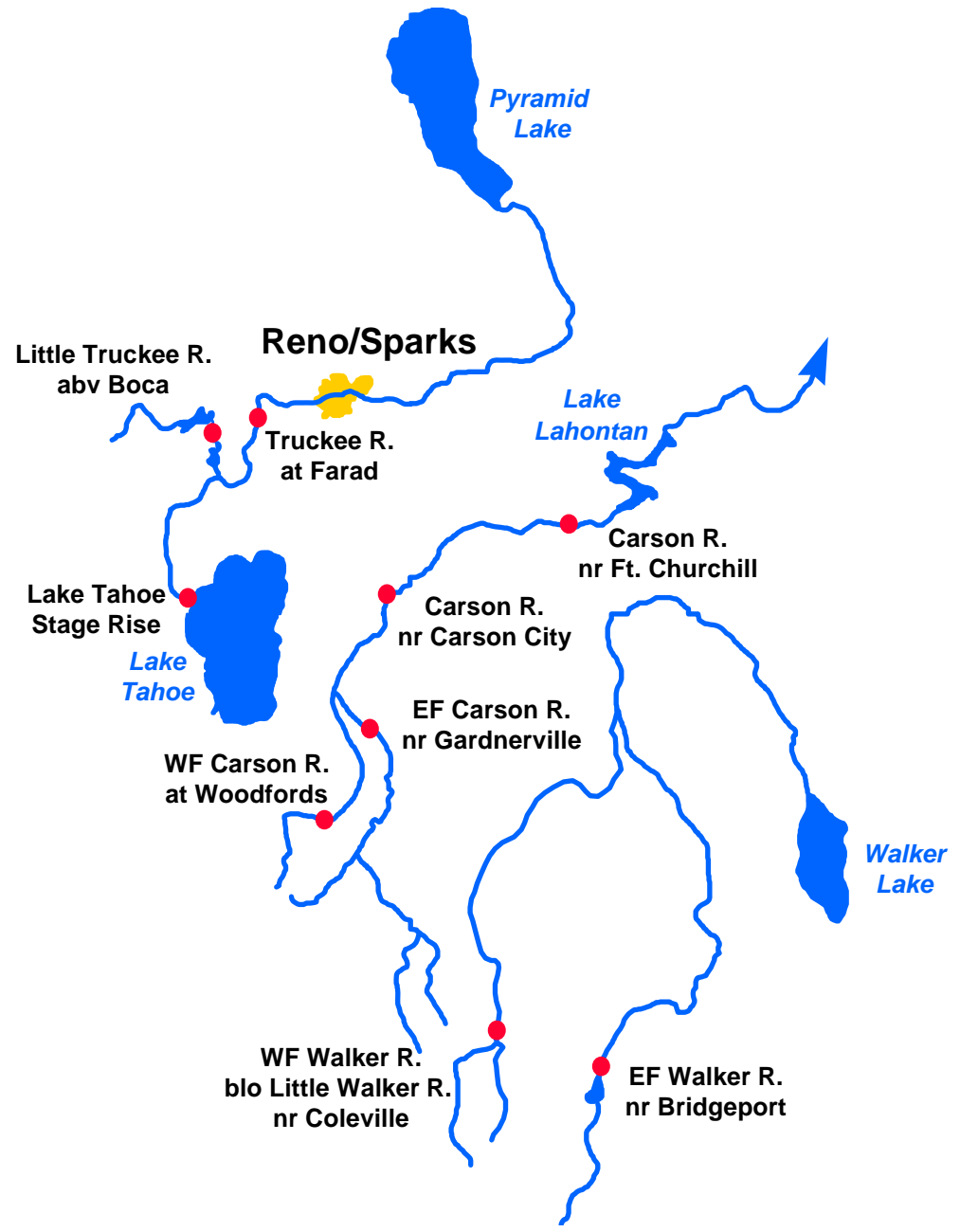


Seasonal Basin Runoff

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	1.40	101	2.1	0.50	1.38
Ltl Truckee River Stampede Dam	Apr-Jul	80	100	145	38	80
Truckee River Farad	Apr-Jul	260	100	390	131	260

Carson River

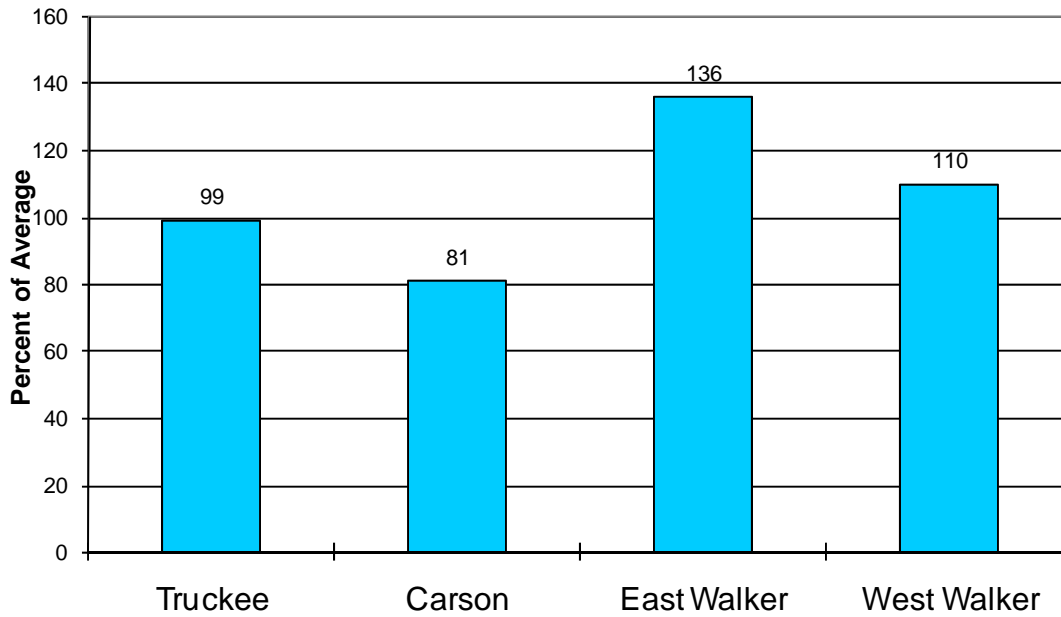
EF Carson River Gardnerville, nr	Apr-Jul	190	101	265	113	189
WF Carson River Woodfords	Apr-Jul	56	100	79	33	56
Carson River Carson City, nr	Apr-Jul	190	101	295	83	188
Fort Churchill, nr	Apr-Jul	195	110	265	86	178

Walker River

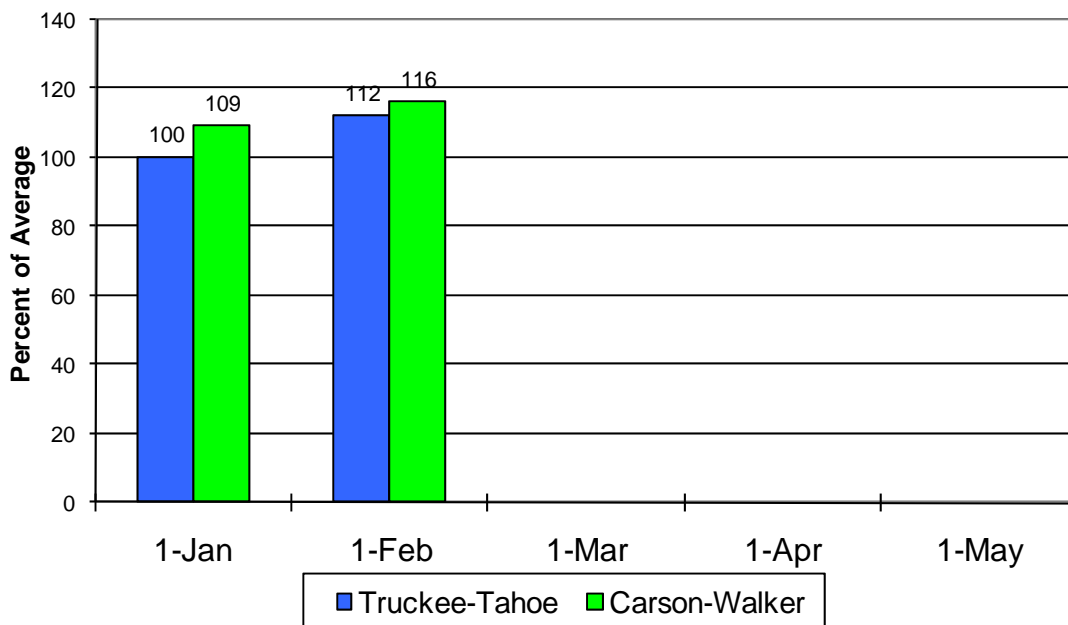
East Walker River Bridgeport, nr	Apr-Aug	74	110	111	44	67
West Walker River Ltl Walker, blo, Coleville, nr	Apr-Jul	165	106	220	108	156

East Side Sierra Nevada Basins

Seasonal Basin Precipitation October 1 to Date

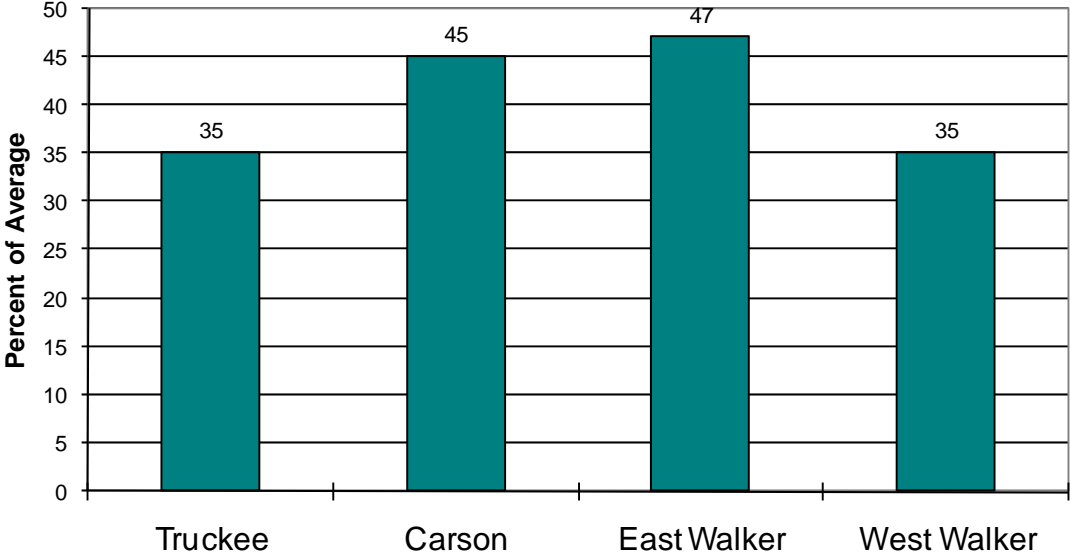


Basin Snowpack % of Average SWE to Date

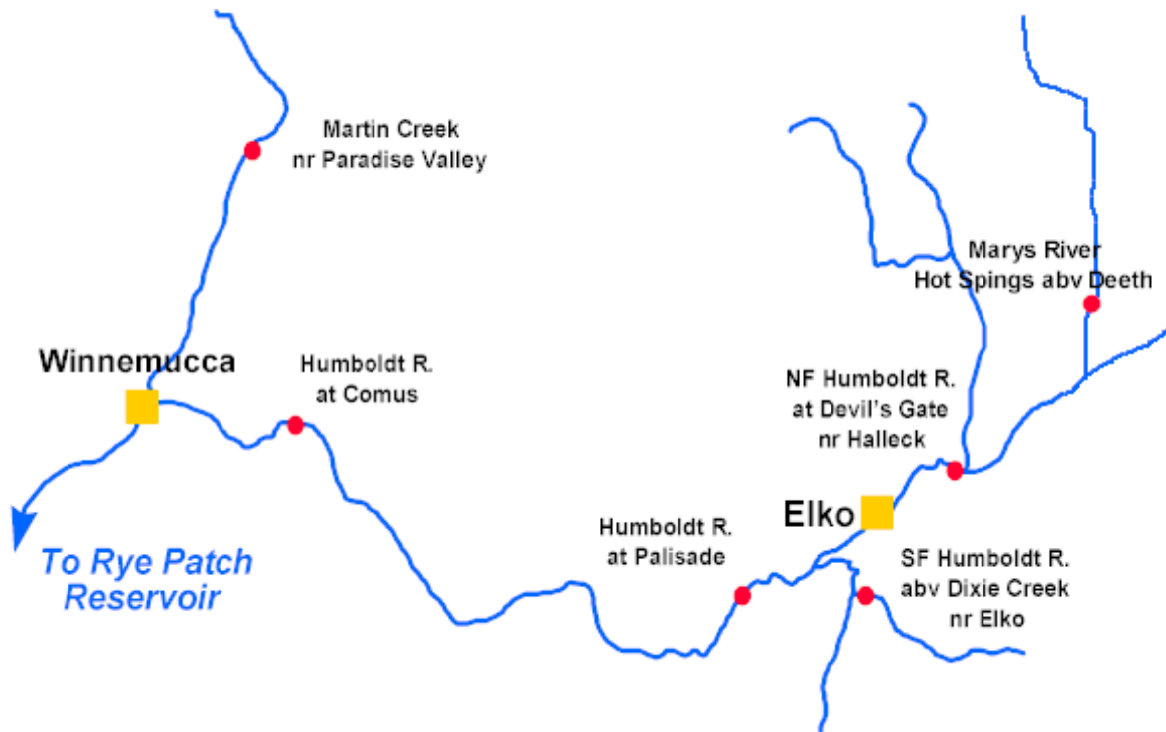


East Side Sierra Nevada Basins

Seasonal Basin Runoff October 1 to Date



Humboldt River Basin



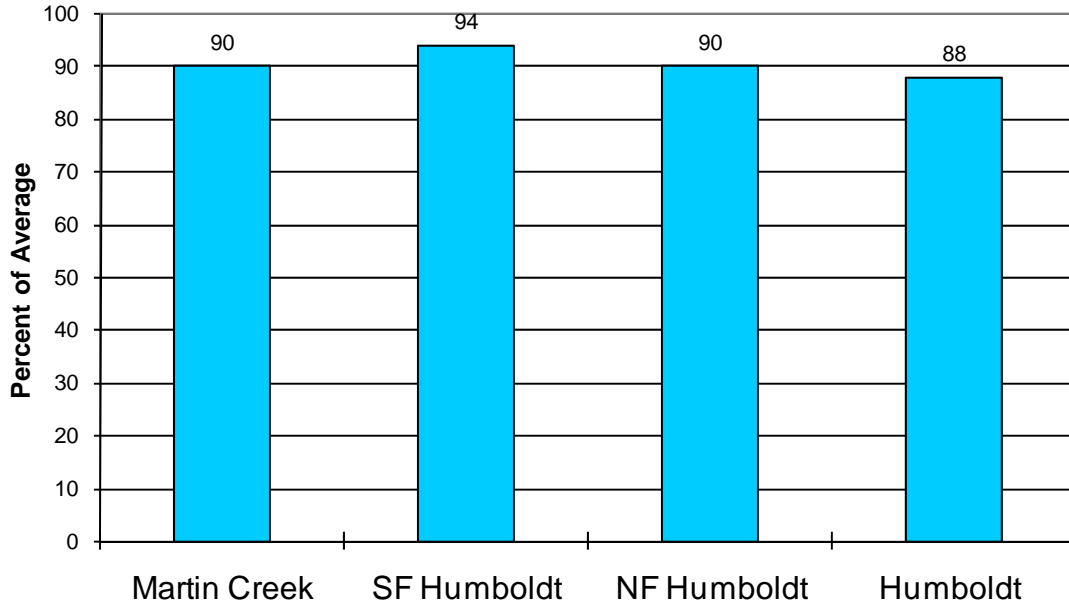
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
NF Humboldt River						
Devlis Gate, at, Halleck, nr	Apr-Jul	33	97	50	15.0	34*
SF Humboldt River						
Dixie Ck, abv, Elko, nr	Apr-Jul	76	100	120	30	76
Marys River						
Hot Springs, abv, Deeth, nr	Apr-Jul	38	97	56	20	39
Humboldt River						
Elko, nr	Apr-Jul	145	94	240	50	154
Palisade	Apr-Jul	240	96	350	130	250
Comus	Apr-Jul	210	93	335	85	225
Imlay, nr	Apr-Jul	165	88	305	25	188
Martin Ck						
Paradise Vly, nr	Apr-Jul	17.0	91	28	5.5	18.7

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Humboldt River Basin

Seasonal Basin Precipitation October 1 to Date



Basin Snowpack % of Average SWE to Date

