

WATER SUPPLY OUTLOOK



CALIFORNIA AND NORTHERN NEVADA

**JANUARY
2007**



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

January 1, 2007

This water supply year got off to a slow start with below average seasonal precipitation and snow packs so far in many of the major watersheds in California's central valley. Seasonal snow pack accumulations are generally in the 45 to 70 percent of average range. One notable exception is the Upper Klamath basin where snow packs are just below average. On a promising note, reservoir storage is above average in the region. Early projections indicate that most basins are forecast to receive below average runoff this spring. Events during the next two months should give a better indicator of what's in store for water supply this year.

California was spared from the copious precipitation and the resulting flood damage that occurred in many parts of Oregon and Washington during November. However, storm tracks did favor the Klamath and Trinity basins in November and December with seasonal amounts ranging from average to above average. Seasonal amounts so far are below average from the upper Sacramento basin to the Merced and much below average from the upper San Joaquin to the Tule River basin. Seasonal totals are much below average for the East Side Sierra basins but range from below average for the lower Humboldt basin to near average for the upper Humboldt.

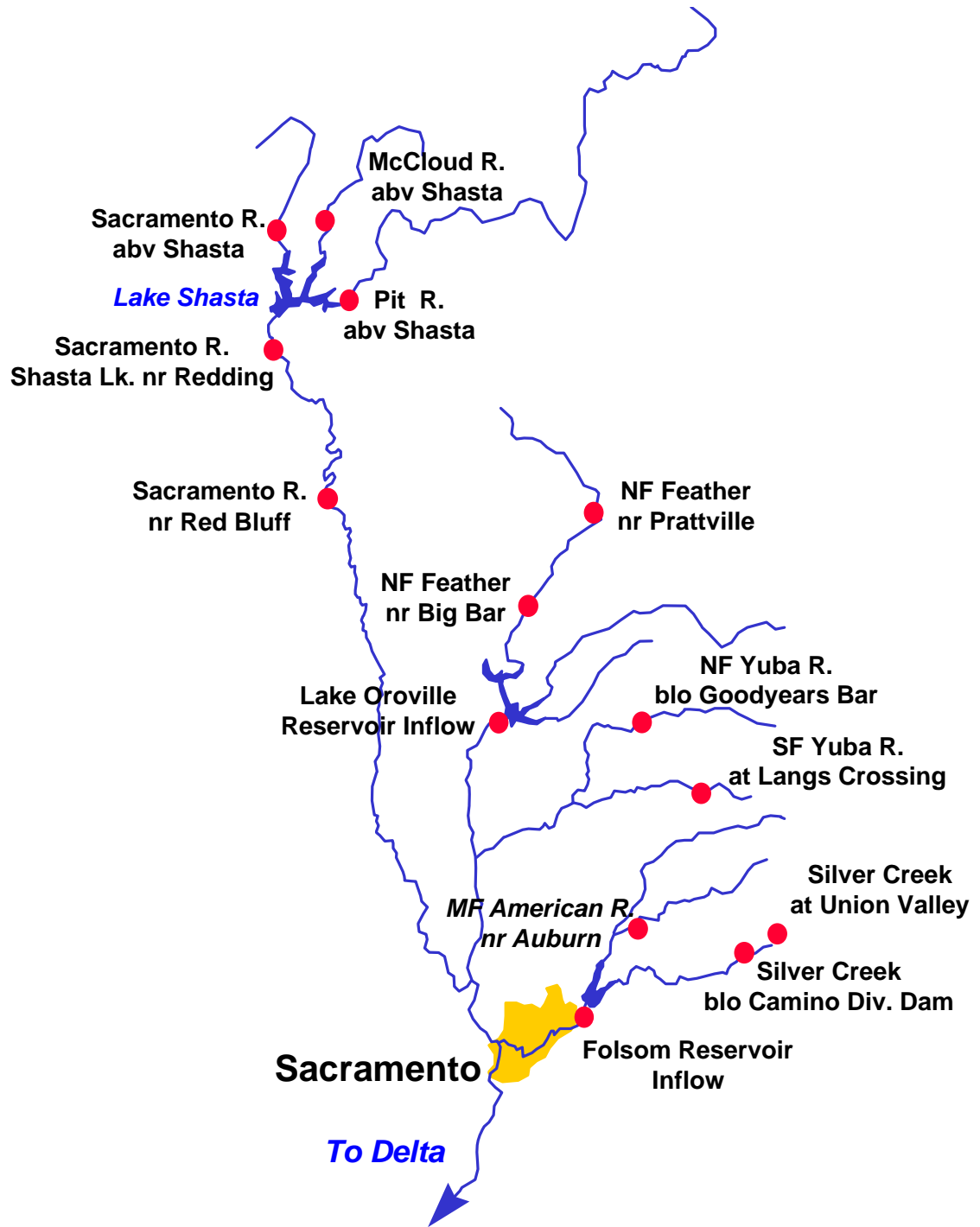
As of January 1st, the snow pack in California's Sierra Nevada stands at 61 percent of the average to date. So far, the Klamath basin has reported the best accumulations with the snow pack at 92 percent of average. The northern Sierra stands at 71 percent of average for this date, the central--57 percent and the southern Sierra--61 percent. The Tahoe-Truckee basin is currently reporting a snow pack at 51 percent of the average-to-date; the Carson-Walker stands at 45 percent. The snow pack in the Humboldt basin is at 67 percent of the average-to-date.

December runoff amounts were generally below average in California's Central Valley. Amounts varied from 33 percent for the Tuolumne basin to 90 percent for the Trinity basin. East side Sierra basins received about 65 percent of the monthly average while the Upper Klamath Lake basin recorded 91 percent of the December average. The Humboldt River at Palisade received 56 percent of the monthly average.

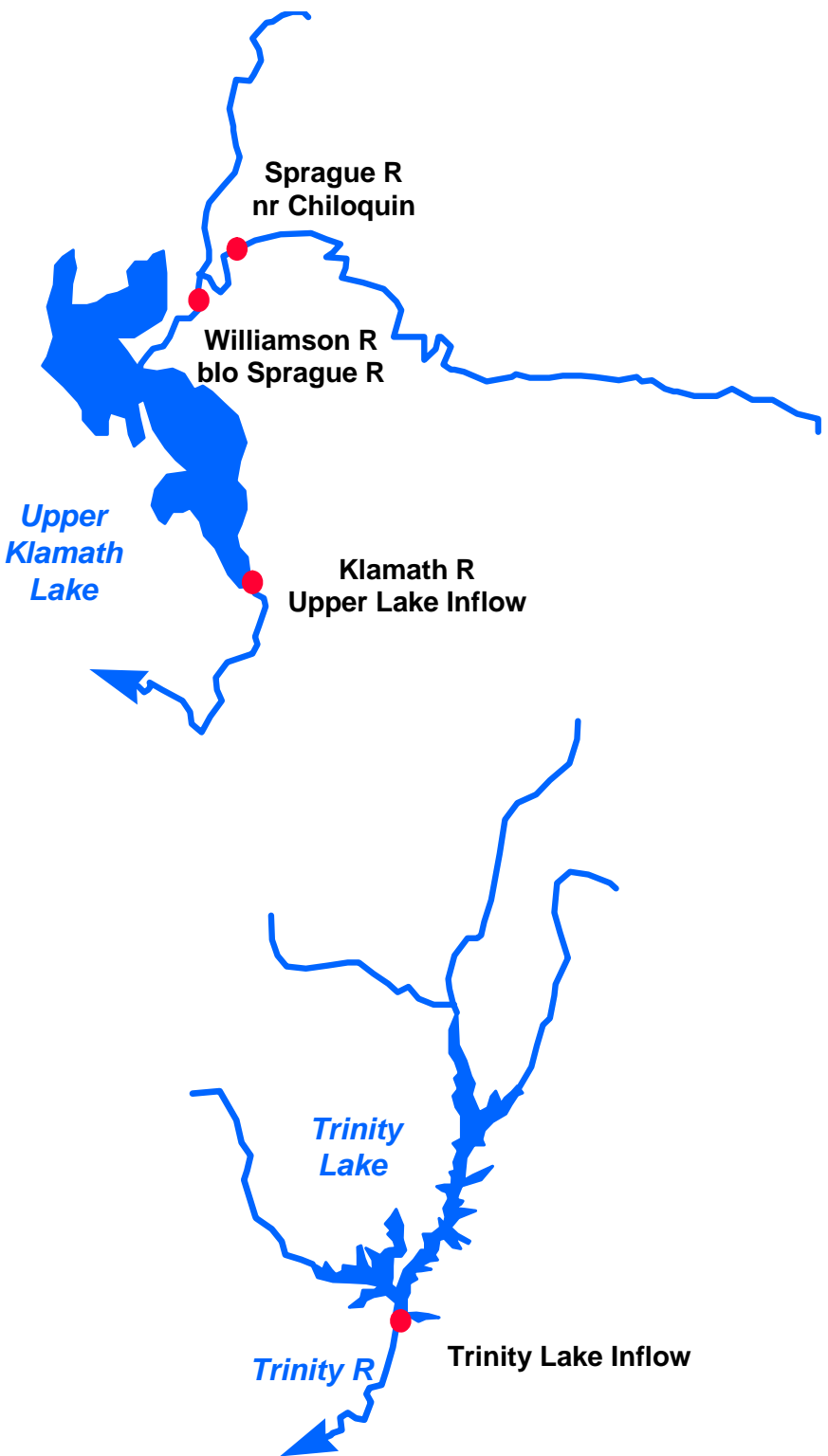
Storage in many of California's major reservoirs are above average due to excellent carryover from the wet conditions of the previous year. Stored water in the Sacramento basin was at 117 percent of average for the date, the San Joaquin at 132 percent, and the Tulare Lake basin at 117 percent. East-side Sierra reservoirs were at 135 percent of average. The lake level at Lake Tahoe stood at 6227.05 feet as of December 31st and usable storage was 492,900 acre feet or 141 percent of average. It was 243,000 acre feet at this time last year. Storage at Lahontan Reservoir in Nevada stands at 108 percent while Rye Patch Reservoir is at 152 percent of the average-to-date. Storage at Upper Klamath Lake is about 110 percent of average.

This month's spring runoff projections reflect the below average snowpack conditions present in the Sierra Nevada. Spring runoff forecasts for watersheds in northern California range from 74 to 87 percent while the southern Sierra Nevada basins range from 62 to 79 percent. April through July forecasts vary from 83 percent for the Trinity Lake inflow to 62 percent for the Kaweah, Tule and Kern. Forecasts range from 48 to 62 percent for east side Sierra basins and 65 to 79 percent in the Humboldt basin. The March through September forecast for the Upper Klamath Lake inflow is 97 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	460	91	600	320	505
Sprague River Chiloquin, nr	Mar-Sep	270	89	380	161	305
Upper Klamath Falls River Inflow	Mar-Sep	690	97	945	440	715
Lost River Gerber Reservoir Inflow	Feb-Jul	38	81	69	7.5	47
Clear Lake Reservoir Inflow	Feb-Jul	80	76	147	12.6	105
Scott River Fort Jones, nr	Apr-Jul	150	83	257	101	181
Trinity River Trinity Lake Inflow	Apr-Jul	525	83	890	350	635

Trinity River - Inflow at Lewiston Lake Distribution (kAF)

Exceedence														
Probability	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Apr-Jul	Water Yr
90%	11.3	47.2	98.8	53	105	125	130	140	60	20	17	10	350	759
50%	11.3	47.2	98.8	72	155	190	195	210	90	30	20	15	525	1076
10%	11.3	47.2	98.8	113	260	320	330	355	155	50	25	20	890	1727

SACRAMENTO RIVER BASIN

SACRAMENTO RIVER ABOVE BEND BRIDGE

Pit River Montgomery Ck, nr	Apr-Jul	800	75	1390	505	1070
Mccloud River Shasta Lk, abv	Apr-Jul	310	84	530	200	370
Sacramento River Delta	Apr-Jul	240	83	420	160	290
Shasta Dam	Apr-Jul	1550	87	2240	1030	1790
Bend Bridge, abv, Red Bluff, nr	Apr-Jul	2150	88	3190	1340	2440

FEATHER RIVER ABOVE OROVILLE RESERVOIR

NF Feather River Prattville, nr	Apr-Jul	225	68	415	140	333*
Big Bar	Apr-Jul	700	73	1250	425	962*
Feather River Oroville Reservoir Inflow	Apr-Jul	1310	74	2300	790	1760

Water Supply Forecasts

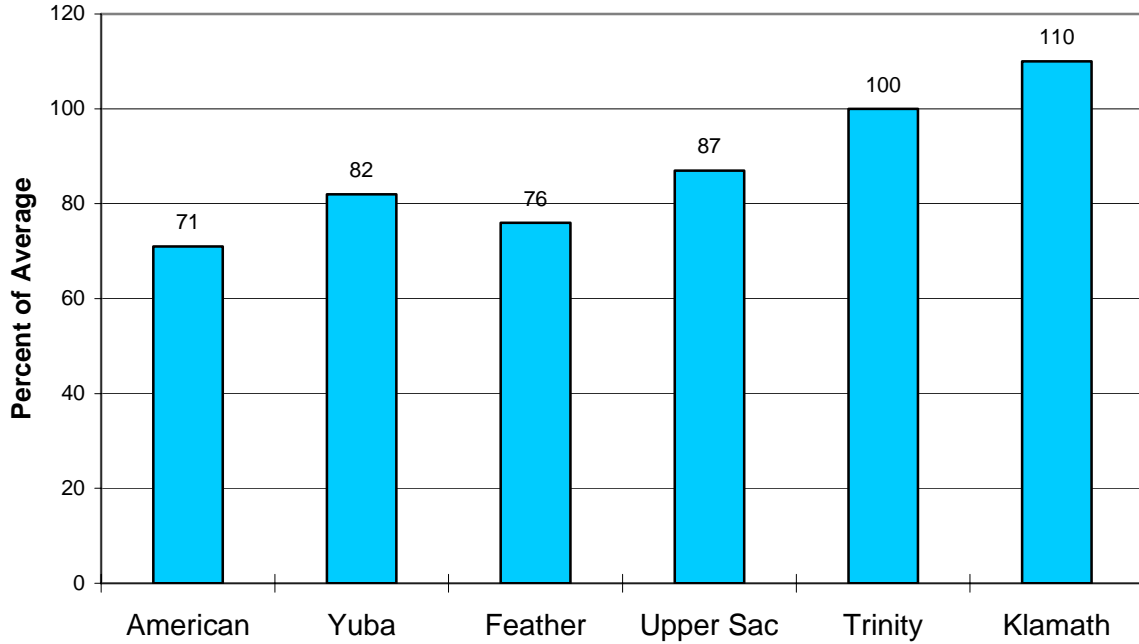
		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
YUBA RIVER ABOVE SMARTVILLE						
North Yuba River						
Goodyears Bar, blo	Apr-Jul	215	79	365	128	273*
South Yuba River						
Langs Crossing	Apr-Jul	180	80	315	106	225*
Yuba River						
Smartville, nr	Apr-Jul	790	79	1390	480	995
AMERICAN RIVER ABOVE FOLSOM RESERVOIR						
MF American River						
Auburn, nr	Apr-Jul	390	80	690	235	490*
Silver Ck						
Union Valley	Apr-Jul	78	80	135	46	98*
Camino Dam, blo	Apr-Jul	125	79	220	75	158*
American River						
Folsom Reservoir Inflow	Apr-Jul	1010	82	1760	615	1230

*30 Year Averages for 1971-2000 are incomplete. Those forecast points with an asterisk have incomplete averages, so 1961-1990 averages are listed. The new averages will be incorporated into this report when the complete data sets become available.

Sacramento/Trinity/Klamath River Basins

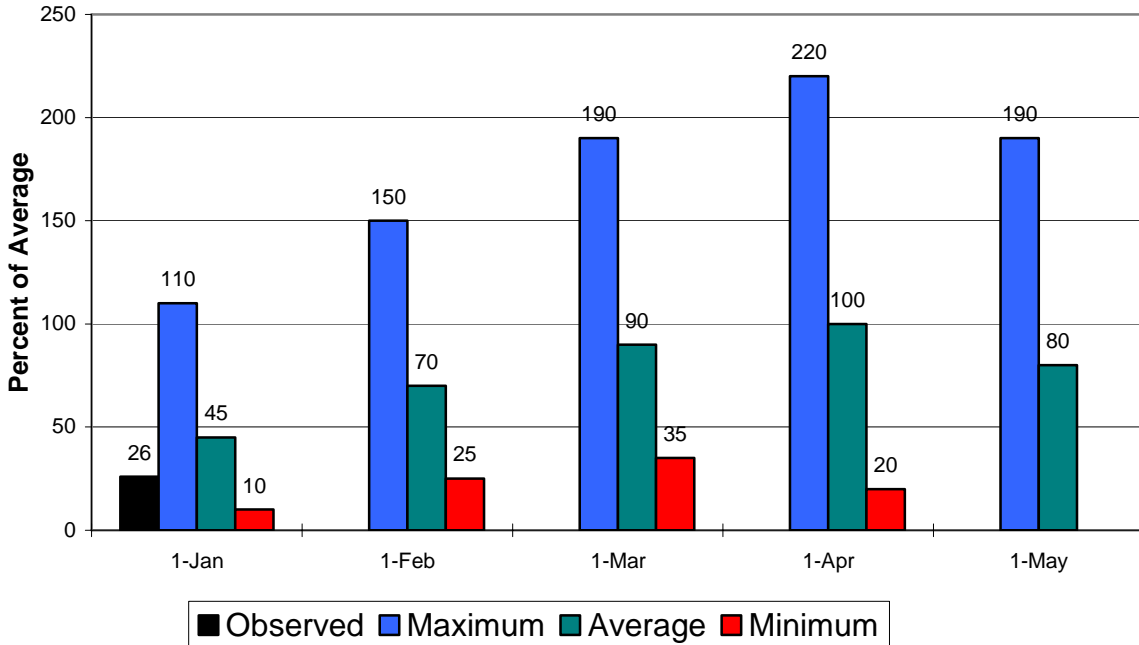
Seasonal Basin Precipitation

October 1 to Date



Seasonal Basin Snowpack

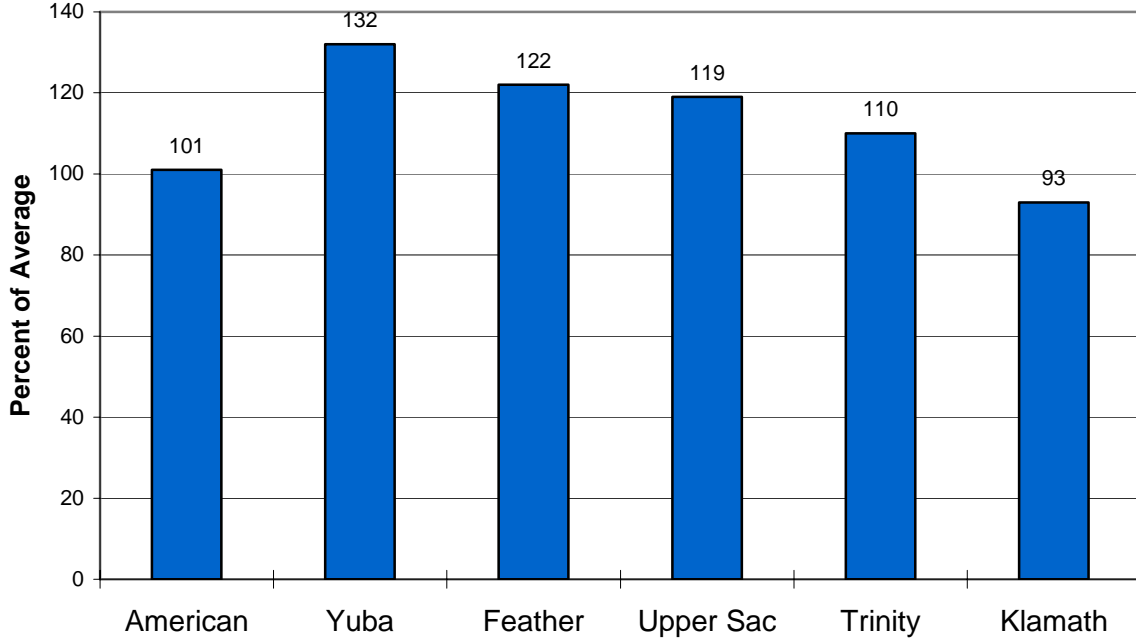
Water Content in % of April 1 Average



Sacramento/Trinity/Klamath River Basins

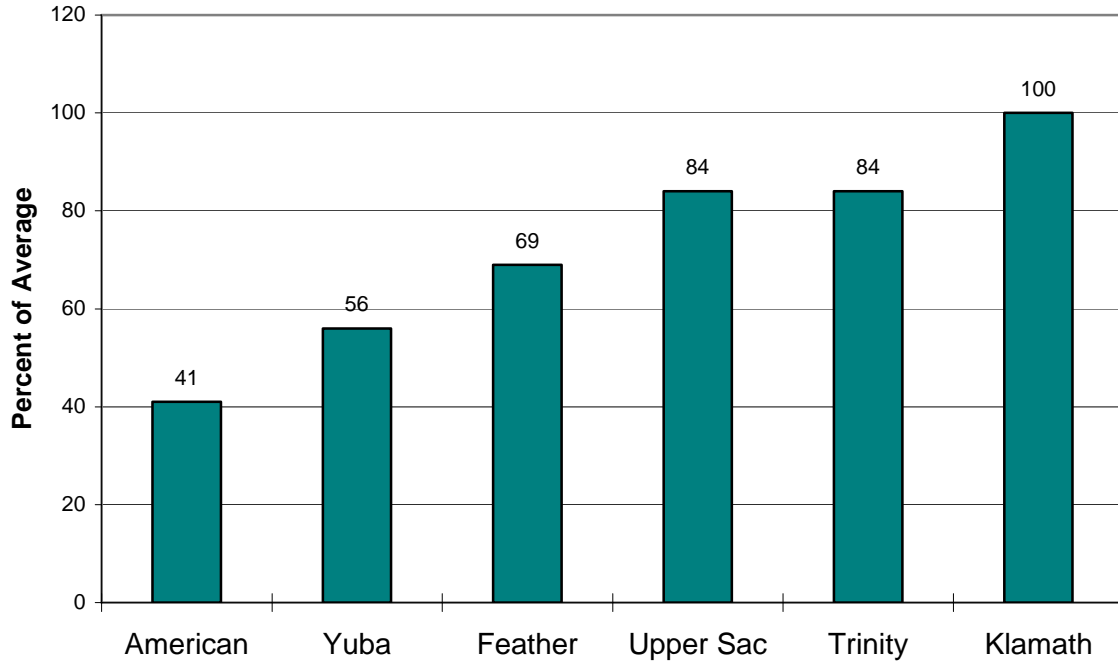
Basin Reservoir Storage

Contents of Major Reservoirs in % of Average



Seasonal Basin Runoff

October 1 to Date



San Joaquin Basin



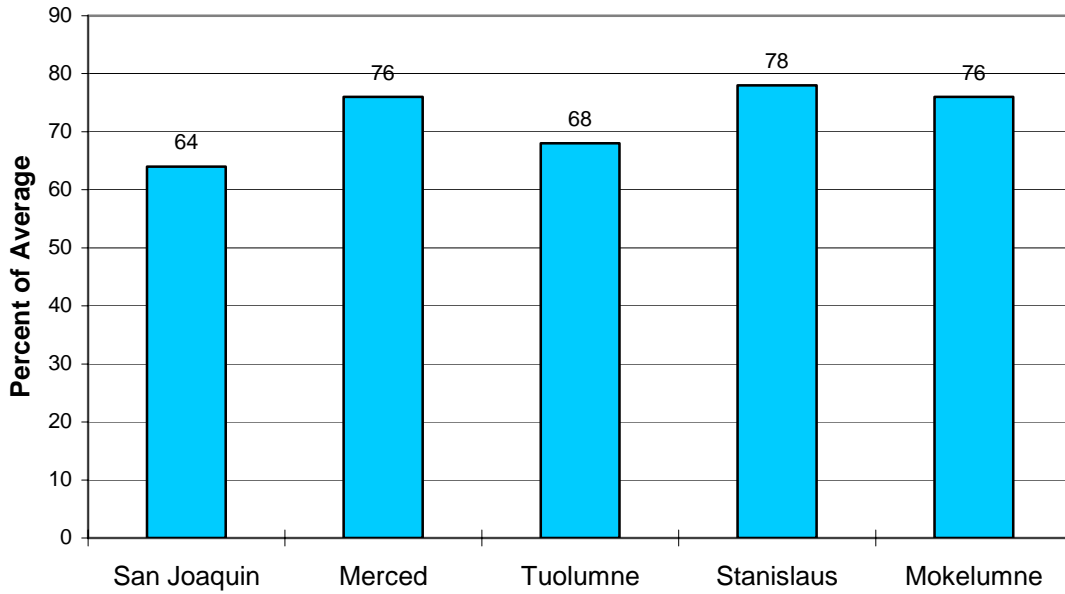
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
<hr/>						
SF San Joaquin River						
Hooper Ck, blo, Florence Lk, nr	Apr-Jul	140	73	200	60	192*
San Joaquin River						
Millerton Lk	Apr-Jul	890	70	1600	350	1270
Merced River						
Pohono Bridge, at, Yosemite, nr	Apr-Jul	280	78	500	100	360*
Merced Falls, blo	Apr-Jul	450	70	880	130	645
Tuolumne River						
Hetch Hetchy, nr	Apr-Jul	450	76	750	180	596*
La Grange, nr	Apr-Jul	890	72	1550	330	1230
MF Stanislaus River						
Beardsley Dam, blo	Apr-Jul	240	75	420	80	320*
Stanislaus River						
Goodwin Dam, blo, Knights Ferry	Apr-Jul	520	75	940	140	695
NF Mokelumne River						
West Point	Apr-Jul	330	79	600	150	416*
Mokelumne River						
Mokelumne Hill	Apr-Jul	340	74	600	130	460
Cosumnes River						
Michigan Bar	Apr-Jul	85	69	180	12.0	123

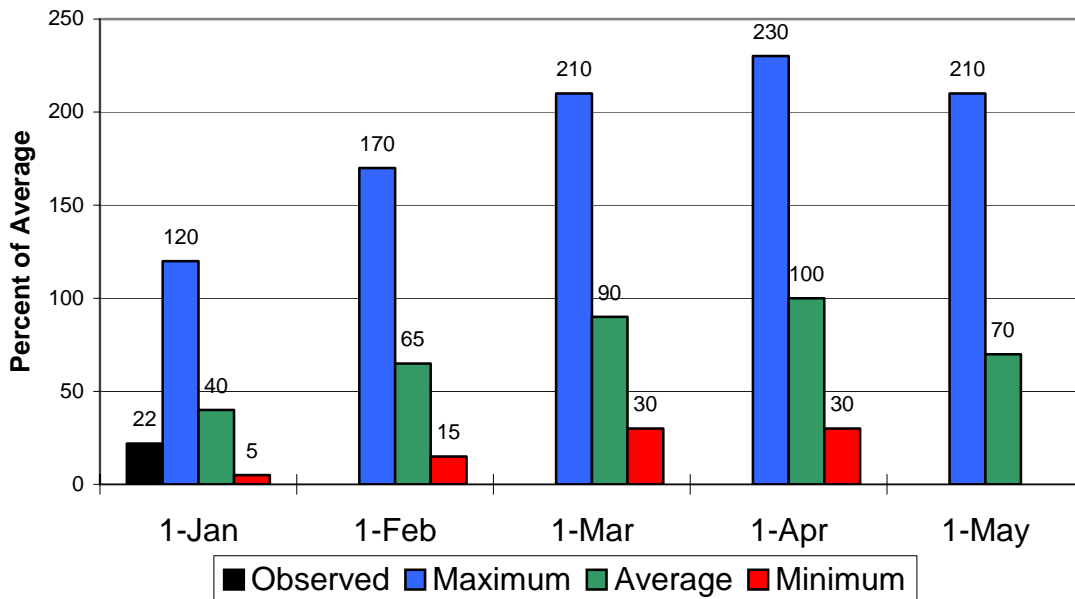
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San Joaquin Basin

Seasonal Basin Precipitation October 1 to Date

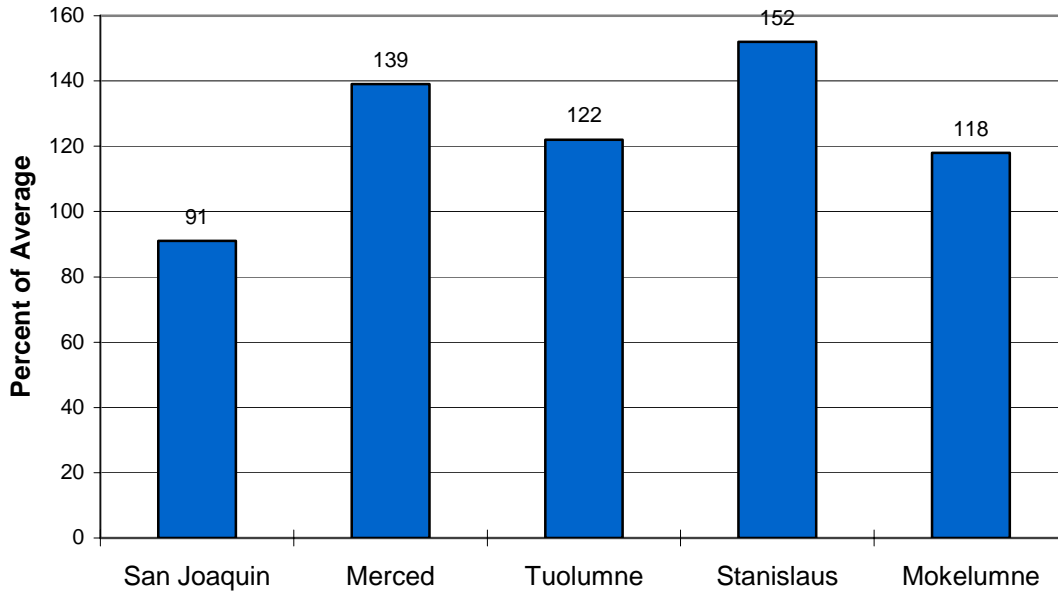


Seasonal Basin Snowpack Water Content in % of April 1 Average

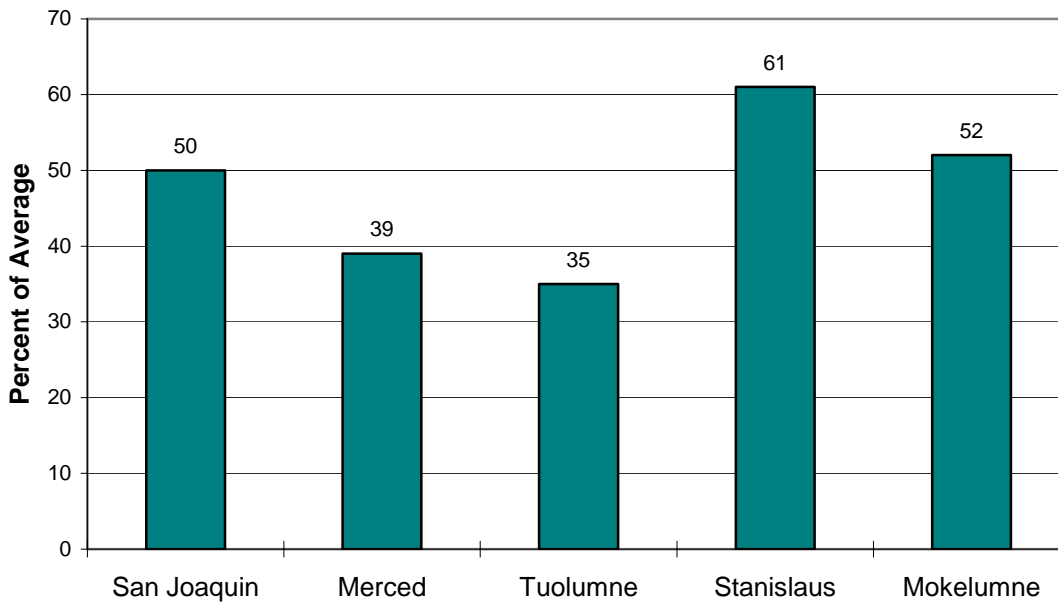


San Joaquin Basin

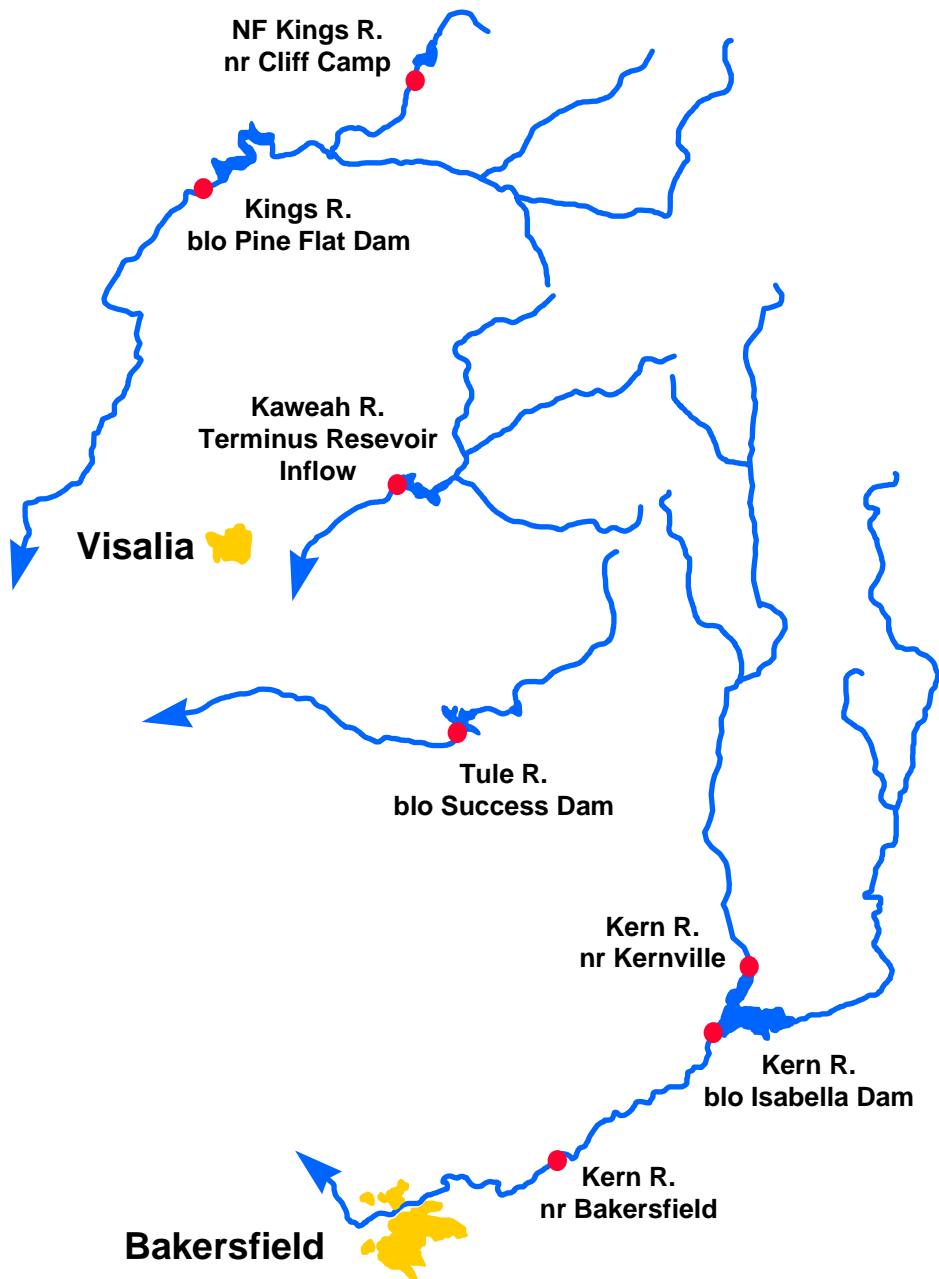
Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Season Basin Runoff October 1 to Date



Tulare Basin

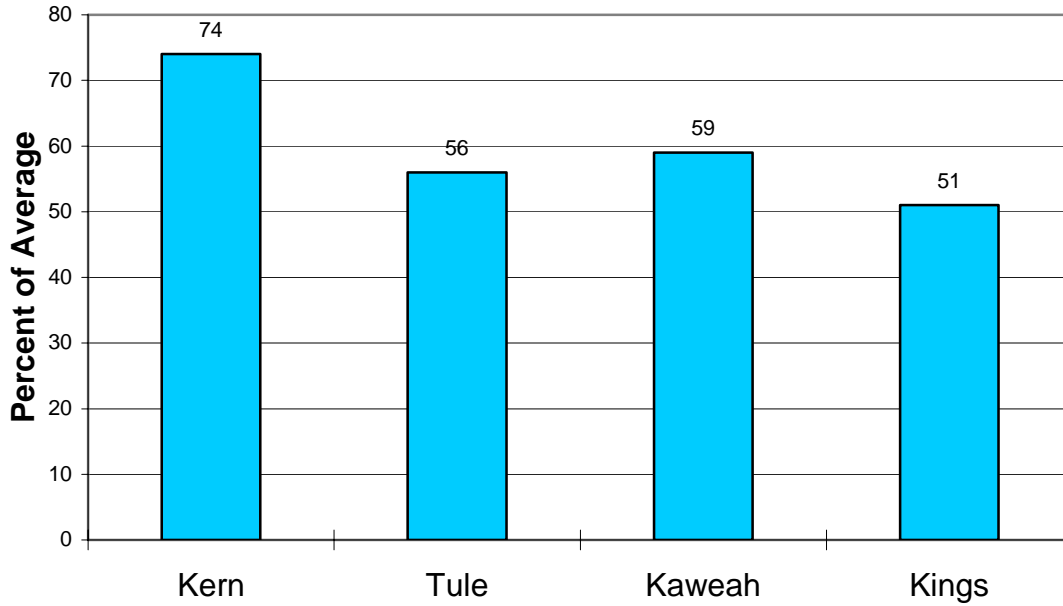


Water Supply Forecasts

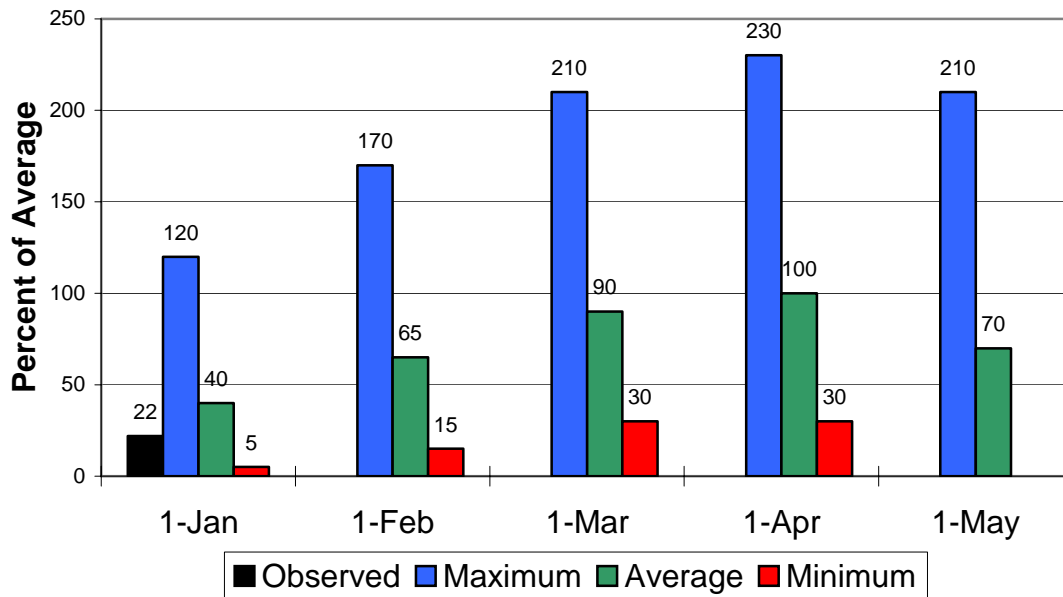
		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Kern River						
Kernville, nr	Apr-Jul	260	65	600	100	398*
Isabella Dam, blo	Apr-Jul	300	62	780	120	480
Bakersfield, nr	Apr-Jul	310	63	790	130	490
Tule River						
Success Dam	Apr-Jul	41	62	100	10.0	66
Kaweah River						
Terminus Dam	Apr-Jul	180	62	400	70	290
NF Kings River						
Cliff Camp, nr	Apr-Jul	175	73	300	55	240*
Kings River						
Pine Flat Dam, blo	Apr-Jul	840	67	1600	300	1250

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Tulare Lake Basin Seasonal Precipitation October 1 to Date

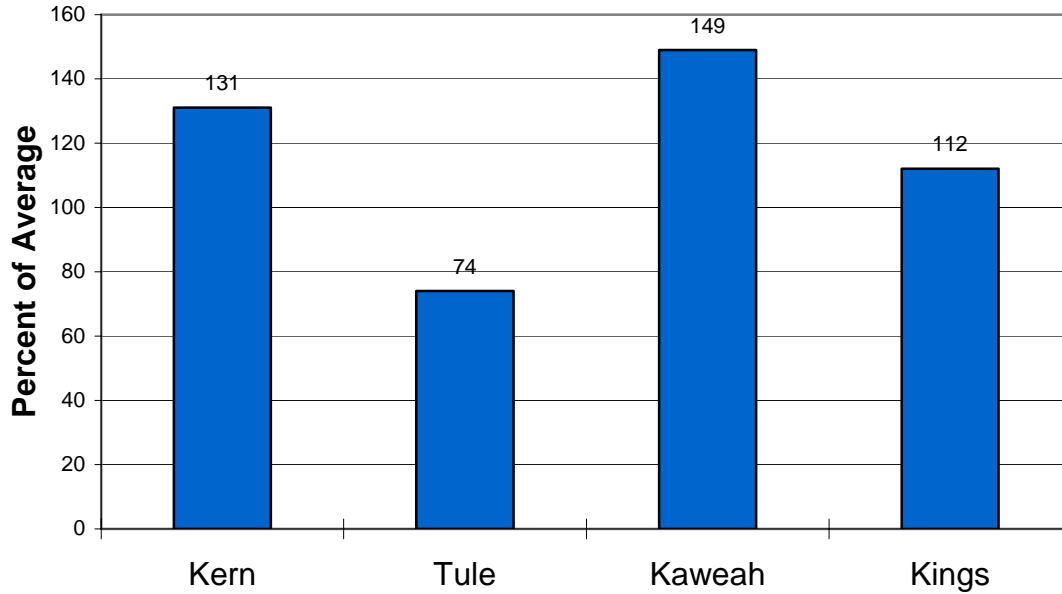


Seasonal Basin Snowpack Water Content in % of April 1 Average

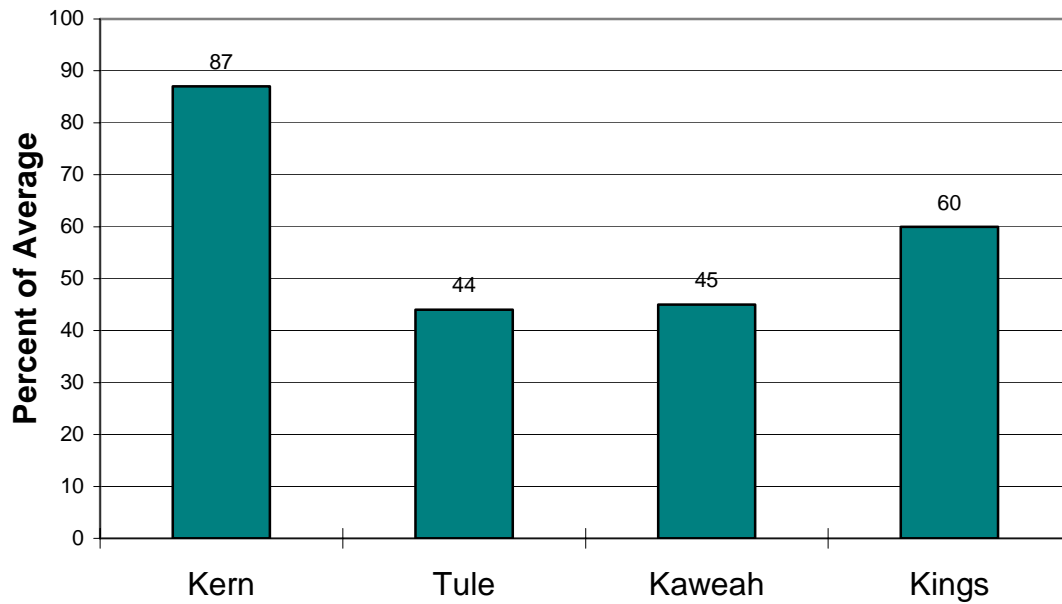


Tulare Lake Basin

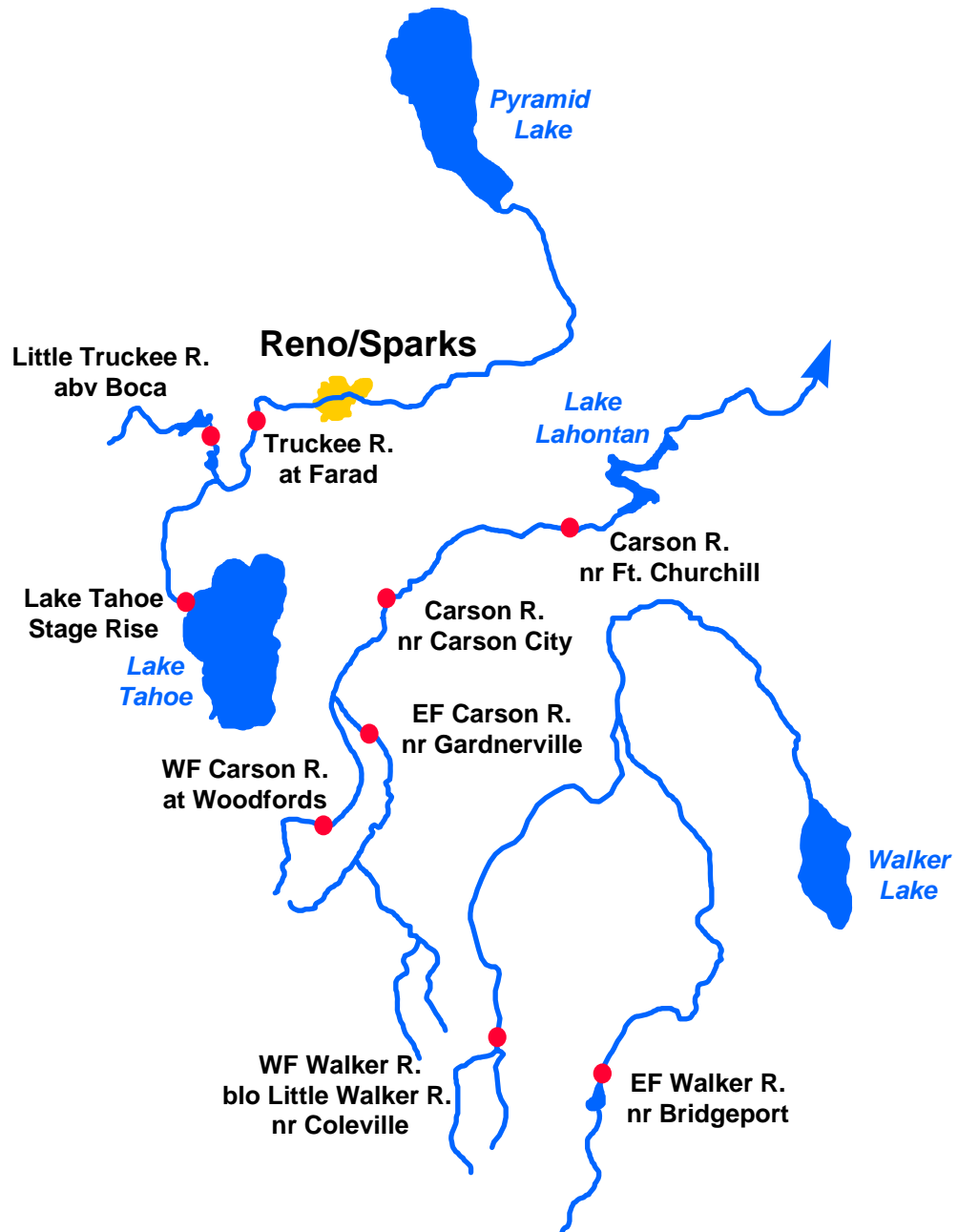
Basin Reservoir Storage Contents of Major Reservoirs in % of Average



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	0.80	58	1.84	0.21	1.38
Ltl Truckee River Boca Res, abv, Truckee, nr	Apr-Jul	45	56	100	16.0	80
Truckee River Farad	Apr-Jul	150	58	325	49	260

Carson River

EF Carson River Gardnerville, nr	Apr-Jul	115	61	225	23	189
WF Carson River Woodfords	Apr-Jul	35	62	67	6.7	56
Carson River Carson City, nr	Apr-Jul	100	53	245	17.1	188
Fort Churchill, nr	Apr-Jul	85	48	230	17.8	178

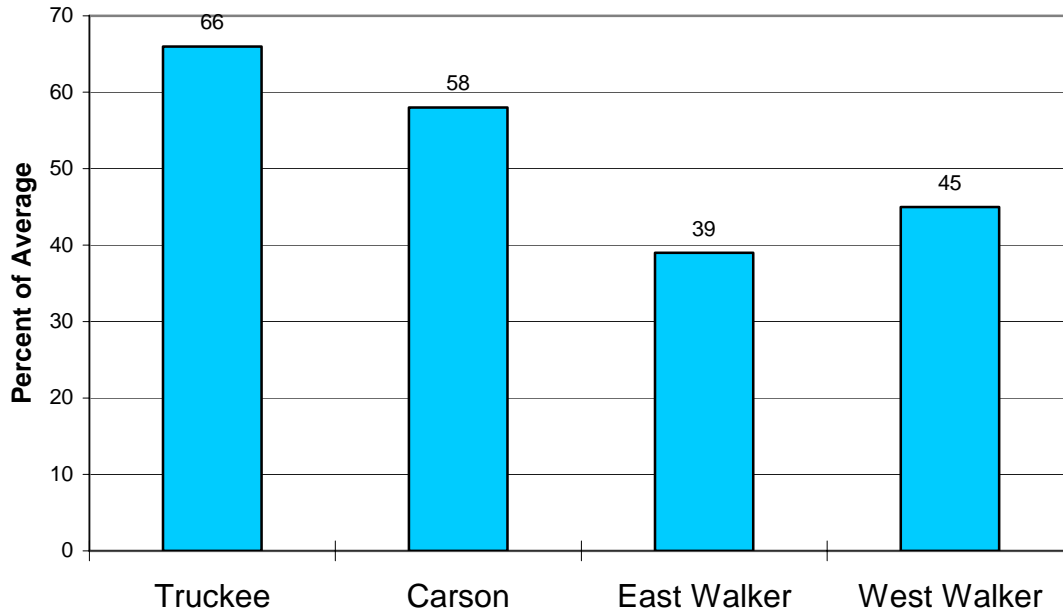
Walker River

East Walker River Bridgeport, nr	Apr-Aug	38	57	80	8.0	67
West Walker River Ltl Walker, blo, Coleville, nr	Apr-Jul	90	58	173	36	156

East Side Sierra Nevada Basins

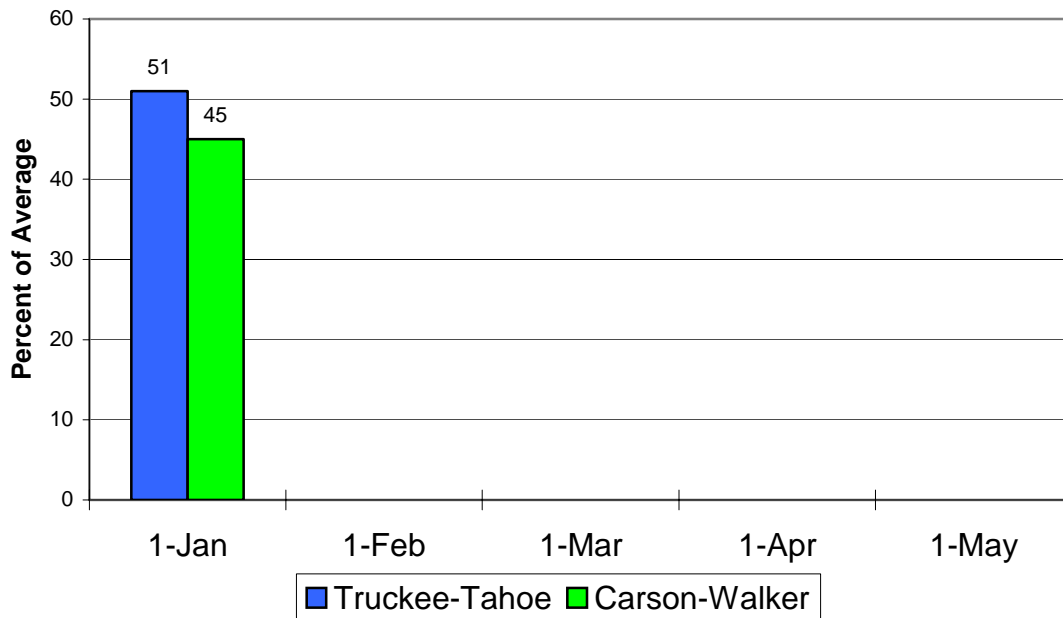
Seasonal Basin Precipitation

October 1 to Date



Basin Snowpack

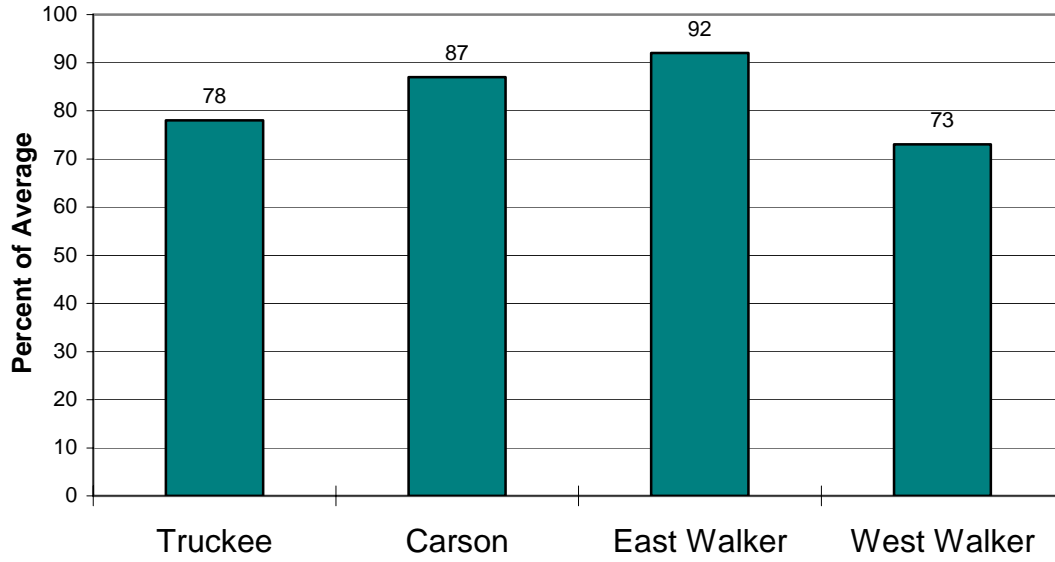
% of Average SWE to Date



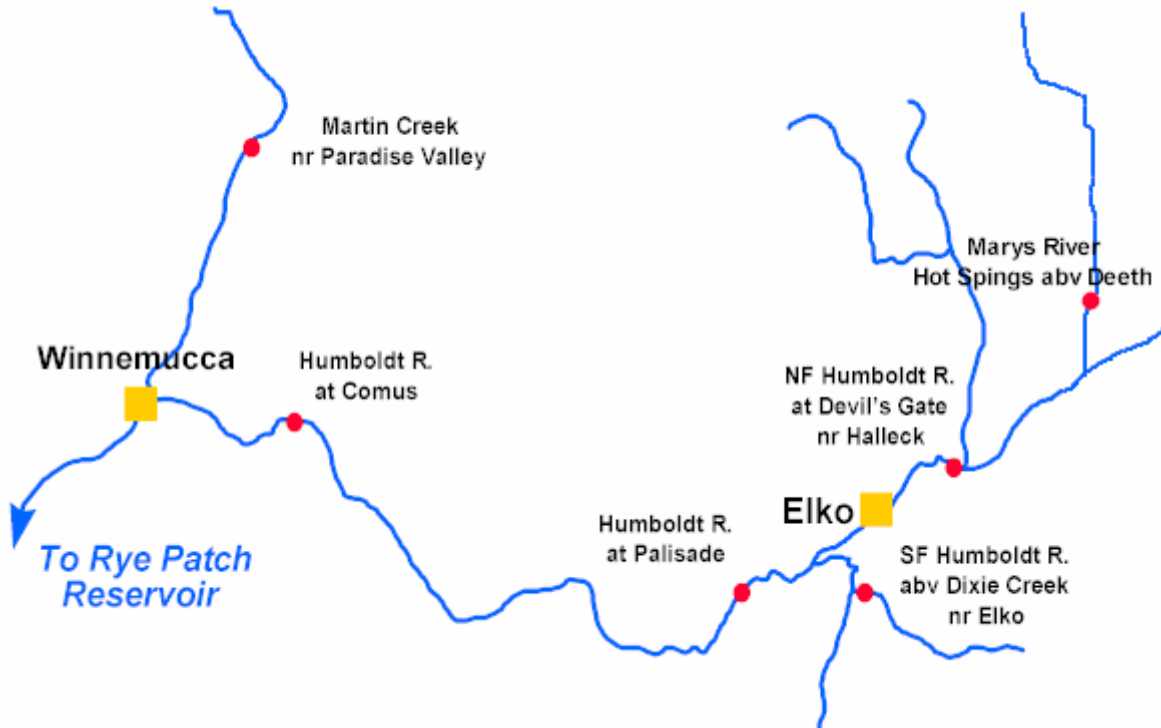
East Side Sierra Nevada Basins

Seasonal Basin Runoff

October 1 to Date



Humboldt River Basin



Water Supply Forecasts

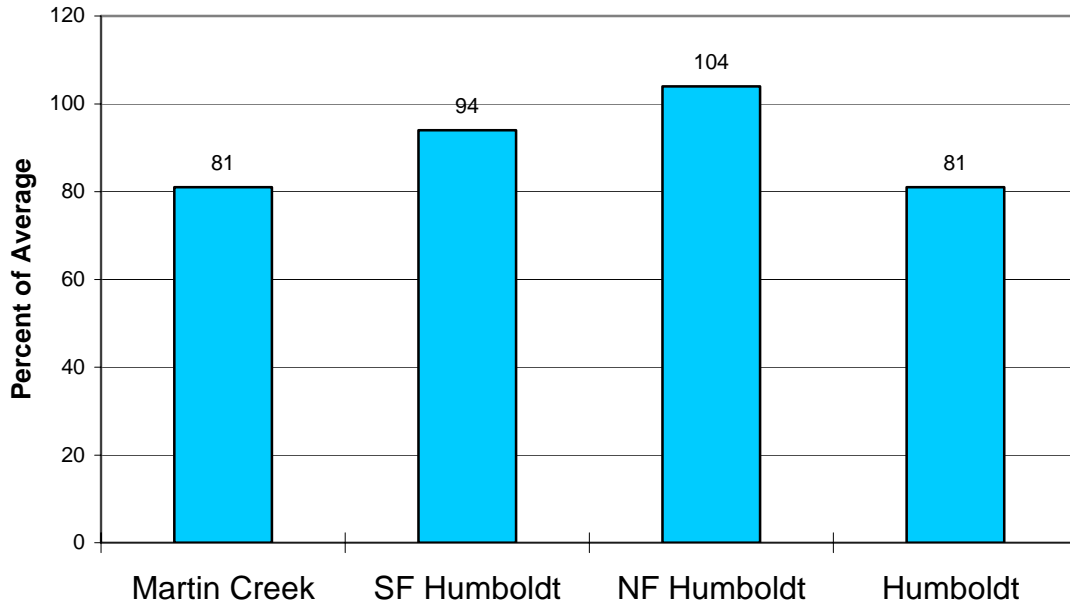
		Most Prob Vol KAF	Most Prob %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
NF Humboldt River						
Devlis Gate, at, Halleck, nr	Apr-Jul	25	74	45	5.0	34*
SF Humboldt River						
Dixie Ck, abv, Elko, nr	Apr-Jul	60	79	102	18.0	76
Marys River						
Hot Springs, abv, Deeth, nr	Apr-Jul	30	77	50	10.0	39
Humboldt River						
Elko, nr	Apr-Jul	100	65	180	20	154
Palisade	Apr-Jul	170	68	310	30	250
Comus	Apr-Jul	150	67	300	20	225
Martin Ck						
Paradise Vly, nr	Apr-Jul	13.0	70	23	3.0	18.7

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Humboldt River Basin

Seasonal Basin Precipitation

October 1 to Date



Basin Snowpack

% of Average SWE to Date

