California Cooperative
Snow Surveys
Bulletin 120-2-01

State of California
The Resources Agency

Department of
Water Resources

Water Conditions in California

Report 2 March 1, 2001

Gray Davis
Governor
State of California

Mary D. Nichols
Secretary for Resources
The Resources Agency

Thomas M. Hannigan
Director
Department of Water Resources

STATE OF CALIFORNIA
Gray Davis, Governor

THE RESOURCES AGENCY
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COOPERATING AGENCIES

Public Agencies
Buena Vista Water Storage District
East Bay Municipal Utility District
Eldorado Irrigation District
Friant Water Users Association
Kaweah Delta Water Conservation District
Kern Delta Water District
Kings River Conservation District
Lower Tule River Irrigation District
Merced Irrigation District
Modesto Irrigation District
Nevada Irrigation District
North Kern Water Storage District
Northern California Power Agency
Oakdale Irrigation District
Omochumne-Hartnell Water District
Oroville-Wyandotte Irrigation District
Placer County Water Agency
Sacramento Municipal Utility District
San Joaquin Exchange Contractors Water Association
South San Joaquin Irrigation District
Tri-Dam Project
Truckee River Basin Water Commission
Tulare Lake Basin Water Storage District
Turlock Irrigation District
Yuba County Water Agency

Private Organizations
J.G. Boswell Company
Kaweah and St. Johns River Association
Kings River Water Association
Tule River Association
State Water Contractors

Municipalities
City of Bakersfield Water Department
City of Los Angeles Department of Water and Power
City and County of San Francisco Hetch Hetchy Water and Power

State Agencies
University of California
Central Sierra Snow Laboratory
Scripps Institution of Oceanography
California Department of Forestry & Fire Protection
California Department of Water Resources

Public Utilities
Pacific Gas and Electric Company
Southern California Edison Company

Federal Agencies
U.S. Department of Agriculture
Forest Service(14 National Forests)
Natural Resource Conservation Service
U.S. Department of Commerce
National Weather Service
U.S. Department of Interior
Bureau of Reclamation
Geological Survey, Water Resources
National Park Service(3 National Parks)
U.S. Department of Army
Corps of Engineers

Other Cooperative Programs
Nevada Cooperative Snow Surveys
Oregon Cooperative Snow Surveys

SUMMARY OF WATER CONDITIONS

March 1, 2001

For the third season in a row, poor water prospects earlier in the season have been brightened by above normal February precipitation. Seasonal accumulations of rain and snow are still below average overall, but have improved significantly from one month ago. Coastal watersheds from San Francisco south have caught up to normal but northern and central California regions remain well below average. Except for the northeastern part of the State and major Delta exports, water supplies are expected to be adequate this year.

Forecasts of April through July runoff have been raised to about 70 percent overall, with highest percentages in the Shasta − Trinity area and lowest in the Northern Lahontan Region. Water year forecasts, assuming normal weather henceforth, are about 60 percent of average statewide compared to 95 percent actual runoff last year.

Snowpack water content has improved to 85 percent of average for this date, compared to 120 percent last year. The pack is about 70 percent of the April 1 average, which is the date of maximum accumulation. As noted last month, the bigger percentages are in the lower portion of the snow zone; amounts near the crest of the Sierra are considerably lighter.

Precipitation during February was about 120 percent of average for the month and boosted seasonal precipitation to 75 percent of average compared to 60 percent one month ago and 105 percent a year ago. Monthly precipitation was heaviest in the southern part of the State and in the coastal regions from San Francisco Bay southward.

Runoff so far this season continues to lag and is about 40 percent of average compared to 95 percent one year ago. February runoff was about 50 percent of average. Estimated runoff of the eight major rivers of the Sacramento and San Joaquin River regions was 1.5 million acre−feet in February.

Reservoir storage increased at approximately the normal pace during the month and is near average for this date statewide. Last year storage was higher at 120 percent of average. Lake Oroville gained about 0.1 million acre−feet during February but remains much below average.

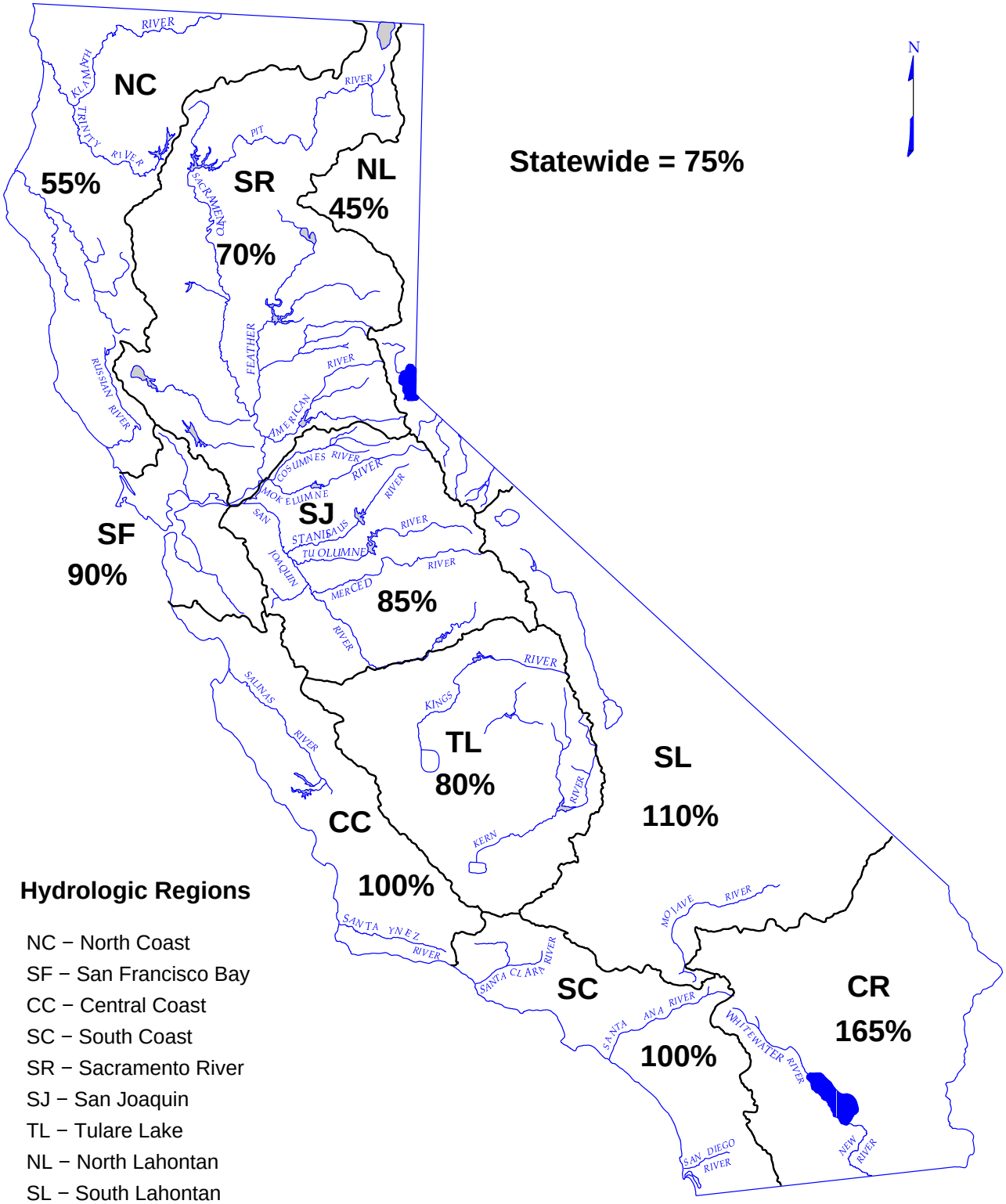
SUMMARY OF WATER CONDITIONS IN PERCENT OF AVERAGE

HYDROLOGIC REGION	PRECIPITATION OCTOBER 1 TO DATE	MARCH 1 SNOW WATER CONTENT	MARCH 1 RESERVOIR STORAGE	RUNOFF OCTOBER 1 TO DATE	APR−JULY RUNOFF FORECAST	WATER YEAR RUNOFF FORECAST
NORTH COAST	55	90	95	25	80	60
SAN FRANCISCO BAY	90	−−	105	40	−−	−−
CENTRAL COAST	100	−−	130	50	−−	−−
SOUTH COAST	100	−−	95	25	−−	−−
SACRAMENTO RIVER	70	85	95	50	70	60
SAN JOAQUIN RIVER	85	85	115	35	70	60
TULARE LAKE	80	85	90	40	65	60
NORTH LAHONTAN	45	65	120	45	55	50
SOUTH LAHONTAN	110	75	105	75	80	75
COLORADO RIVER−DESERT	165	−−	−−	−−	−−	−−
STATEWIDE	75	85	100	40	70	60

SEASONAL PRECIPITATION

IN PERCENT OF AVERAGE TO DATE

October 1, 2000 through February 28, 2001



Hydrologic Regions

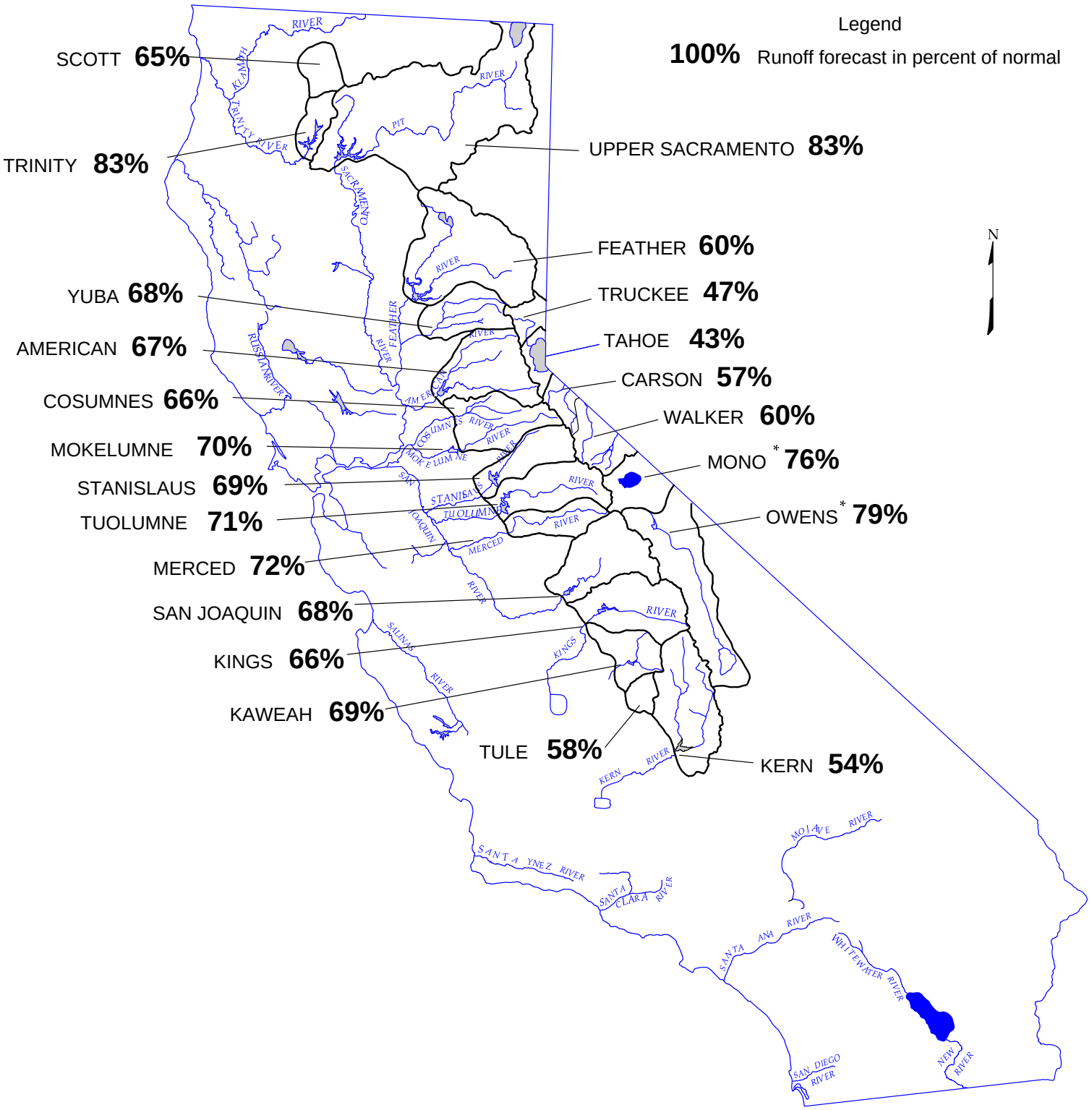
NC − North Coast
SF − San Francisco Bay
CC − Central Coast
SC − South Coast
SR − Sacramento River
SJ − San Joaquin
TL − Tulare Lake
NL − North Lahontan
SL − South Lahontan
CR − Colorado River−Desert

WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

FORECAST OF APRIL – JULY

UNIMPAIRED SNOWMELT RUNOFF

March 1, 2001



* FORECAST BY DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGELES

MARCH 1, 2001 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1) HISTORICAL 50 Yr Avg (2)	Max of Record	Min of Record	FORECAST Apr-Jul Forecasts	Pct of Avg	80 % Probability Range (1)
SACRAMENTO RIVER						
Upper Sacramento River						
Sacramento River at Shasta Lake (3)	297	702	39	270	91%	
McCloud River at Shasta Lake	392	850	185	340	87%	
Pit River at Shasta Lake	1,056	2,203	480	830	79%	
Total Inflow to Shasta Lake	1,801	3,525	726	**1,500**	83%	1,120 - 2,280
Sacramento River above Bend Bridge, near Red Bluff	2,451	5,075	943	**1,900**	78%	1,400 - 3,040
Feather River						
Feather River at Lake Almanor near Prattville (3)	333	675	120	210	63%	
North Fork at Pulga (3)	1,028	2,416	243	620	60%	
Middle Fork near Clio (4)	86	518	4	45	52%	
South Fork at Ponderosa Dam (3)	110	267	13	60	55%	
Total Inflow to Oroville Reservoir	1,831	4,676	392	**1,100**	60%	750 - 2,060
Yuba River						
North Yuba below Goodyears Bar (3)	286	647	51	190	66%	
Inflow to Jackson Mdws and Bowman Reservoirs (3)	112	236	25	75	67%	
South Yuba at Langs Crossing (3)	233	481	57	150	64%	
Yuba River at Smartville	1,029	2,424	200	**700**	68%	440 - 1,250
American River						
North Fork at North Fork Dam (3)	262	716	43	170	65%	
Middle Fork near Auburn (3)	522	1,406	100	340	65%	
Silver Creek Below Camino Diversion Dam (3)	173	386	37	110	64%	
Total Inflow to Folsom Reservoir	1,261	3,074	229	**840**	67%	540 - 1,550
SAN JOAQUIN RIVER						
Cosumnes River at Michigan Bar	128	363	8	**85**	66%	50 - 185
Mokelumne River						
North Fork near West Point (5)	437	829	104	290	66%	
Total Inflow to Pardee Reservoir	459	1,065	102	**320**	70%	220 - 540
Stanislaus River						
Middle Fork below Beardsley Dam (3)	334	702	64	220	66%	
North Fork Inflow to McKays Point Dam (3)	224	503	34	150	67%	
Total Inflow to New Melones Reservoir	699	1,710	116	**480**	69%	280 - 810
Tuolumne River						
Cherry Creek & Eleanor Creek near Hetch Hetchy (3)	322	727	97	230	71%	
Tuolumme River near Hetch Hetchy (3)	606	1,392	153	440	73%	
Total Inflow to Don Pedro Reservoir	1,184	2,682	301	**840**	71%	550 - 1,330
Merced River						
Merced River at Pohono Bridge (3)	362	888	80	270	75%	
Total Inflow to Lake McClure	611	1,587	123	**440**	72%	320 - 750
San Joaquin River						
San Joaquin River at Mammoth Pool (6)	1,014	2,279	235	680	67%	
Big Creek below Huntington Lake (6)	95	264	11	60	63%	
South Fork near Florence Lake (6)	202	511	58	130	64%	
Total Inflow to Millerton Lake	1,212	3,355	262	**830**	68%	550 - 1,380
TULARE LAKE						
Kings River						
North Fork Kings River near Cliff Camp (3)	239	565	50	150	63%	
Total Inflow to Pine Flat Reservoir	1,183	3,114	273	**780**	66%	510 - 1,290
Kaweah River at Terminus Reservoir	276	814	61	**190**	69%	130 - 330
Tule River at Success Reservoir	59	259	2	**34**	58%	20 - 78
Kern River						
Kern River near Kernville (3)	373	1,203	83	200	54%	
Total Inflow to Isabella Reservoir	442	1,657	84	**240**	54%	170 - 490

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1946-1995 unless otherwise not
(3) 50 year average based on years 1941-9
(4) 44 year average based on years 1936-79
(5) 36 year average based on years 1936-7
(6) 45 year average based on years 1936-8

MARCH 1, 2001 FORECASTS
WATER YEAR UNIMPAIRED RUNOFF

Unimpaired Runoff in 1,000 Acre-Feet (1)														
HISTORICAL			**DISTRIBUTION**								**FORECAST**			
50 Yr Avg (2)	Max of Record	Min of Record	Oct Thru Jan*	Feb *	Mar	Apr	May	Jun	Jul	Aug & Sep	Water Year Forecasts	Pct of Avg	80 % Probability Range (1)	
856	1,964	165												
1,184	2,353	577												
3,078	5,647	1,484												
5,896	10,796	2,479	1,210	555	725	580	420	280	220	420	**4,410**	75%	3,760 -	5,800
8,518	17,180	3,294	1,645	920	1,105	740	540	350	270	500	**6,070**	71%	5,160 -	8,170
780	1,269	366												
2,417	4,400	666												
219	637	24												
291	562	32												
4,526	9,492	994	495	220	445	470	360	170	100	140	**2,400**	53%	1,880 -	3,870
564	1,056	102												
181	292	30												
379	565	98												
2,337	4,926	369	165	95	260	300	280	95	25	30	**1,250**	53%	890 -	2,050
616	1,234	66												
1,070	2,575	144												
318	705	59												
2,674	6,381	349	180	105	300	350	330	140	20	15	**1,440**	54%	1,020 -	2,420
378	1,253	20	19	21	54	50	25	7	3	1	**180**	48%	120 -	345
626	1,009	197												
736	1,800	129	35	15	55	120	150	45	5	5	**430**	58%	300 -	690
471	929	88												
1,131	2,952	155	65	35	90	170	200	90	20	10	**680**	60%	450 -	1,090
461	1,147	123												
770	1,661	258												
1,857	4,430	383	90	60	145	250	360	190	40	25	**1,160**	62%	820 -	1,770
461	1,020	92												
952	2,859	150	40	30	80	130	190	100	20	10	**600**	63%	460 -	980
1,337	2,964	308												
112	298	14												
248	653	71												
1,753	4,642	362	80	40	110	200	350	220	60	40	**1,100**	63%	780 -	1,770
284	607	58												
1,647	4,294	383	70	35	75	180	340	210	50	30	**990**	60%	690 -	1,590
431	1,402	92	25	13	27	55	80	45	10	5	**260**	60%	190 -	440
135	615	16	12	7	15	16	13	4	1	0	**68**	50%	45 -	135
558	1,577	163												
694	2,309	175	50	20	35	65	85	65	25	25	**370**	53%	280 -	690

* Unimpaired runoff in prior months based on measured flows

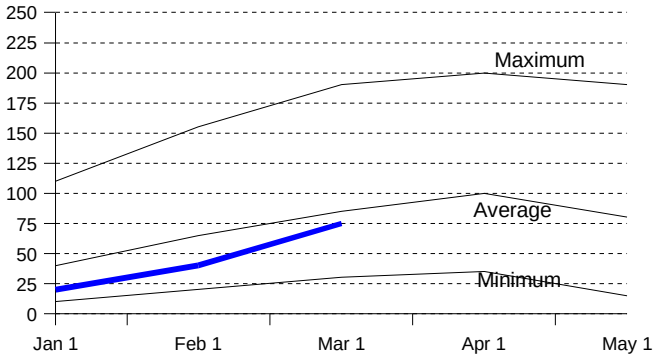
MARCH 1, 2001 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1) HISTORICAL 50 Yr Avg (2)	Max of Record	Min of Record	FORECAST Apr-Jul Forecasts	Pct of Avg
NORTH COAST					
Trinity River					
Total Inflow to Lewiston Lake	642	1,593	80	**530**	83%
Scott River					
Near Fort Jones	200	n/a	n/a	**130**	65%
Klamath River					
Total inflow to Upper Klamath Lake (3)	509	758	280	**255**	50%
NORTH LAHONTAN					
Truckee River					
Lake Tahoe to Farad accretions	264	713	58	**125**	47%
Lake Tahoe Rise (assuming gates closed, in feet)	1.4	3.6	0.2	**0.6**	43%
Carson River					
West Fork at Woodfords	54	135	12	**30**	56%
East Fork near Gardnerville	183	407	43	**105**	57%
Walker River					
West Fork near Coleville	143	330	35	**90**	63%
East Fork near Bridgeport	61	209	7	**30**	49%
SOUTH LAHONTAN					
Owens River					
Total tributary flow to Owens River (4)	226	579	96	**179**	79%

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1946-1995 unless otherwise not
(3) Forecast by U.S. Natural Resources Conservation Service and National Weather Service California-Nevada River Forecast Cer
April through Septembe forecast, 30 year average based on years 1961-199
(4) Forecast by Department of Water and Power, City of Los Angele

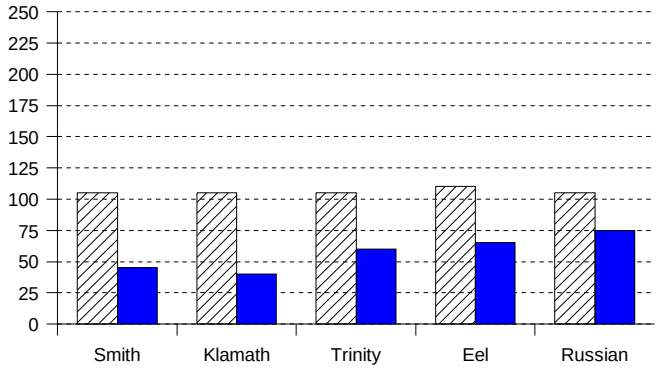
Snowpack Accumulation

Water Content in % of April 1 Average



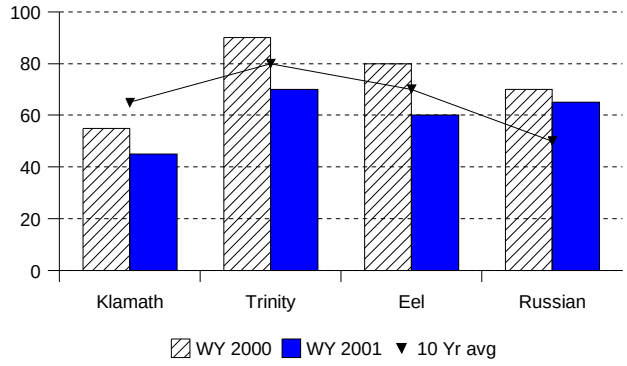
Precipitation

October 1 to date in % of Average



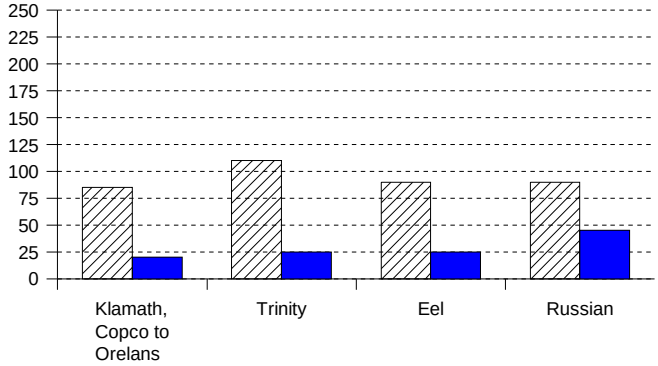
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



NORTH COAST REGION

SNOWPACK− First of the month measurements made at 10 snow courses indicate an area wide snow water equivalent of 22.4 inches. This is 90 percent of the March 1 average and 75 percent of the seasonal (April 1) average. Last year at this time the pack was holding 41.0 inches of water.

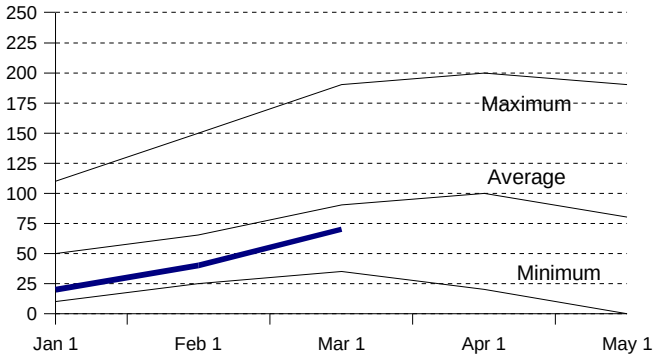
PRECIPITATION − Seasonal precipitation (October 1 through the end of last month) on this area was 55 percent of normal. Precipitation last month was about 80 percent of the monthly average. Seasonal precipitation at this time last year stood at 105 percent of normal.

RESERVOIR STORAGE− First of the month storage in 7 reservoirs was 2.1 million acre−feet which is 95 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 115 percent of average.

RUNOFF −Seasonal runoff of streams draining the area totaled 1.8 million acre−feet which is 25 percent of the average for this period. Last year, runoff for the same period was 90 percent of average.

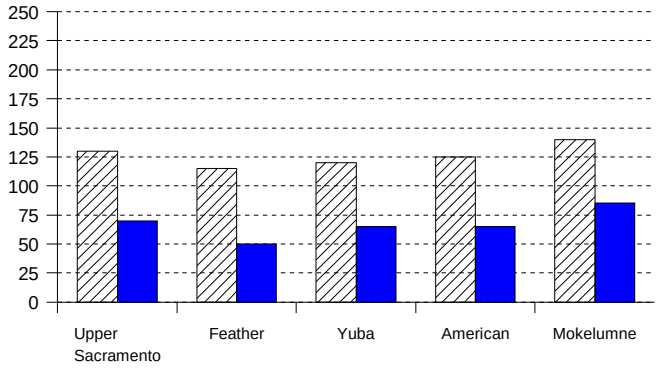
Snowpack Accumulation

Water Content in % of April 1 Average



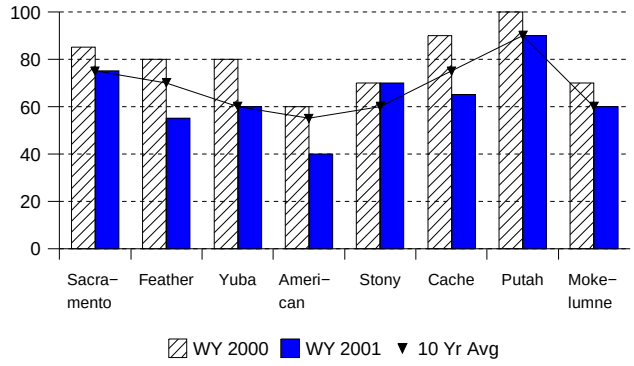
Precipitation

October 1 to date in % of Average



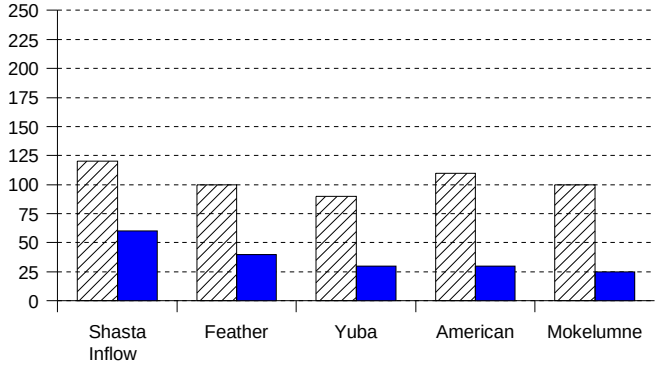
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SACRAMENTO RIVER REGION

SNOWPACK− First of the month measurements made at 68 snow courses indicate an area wide snow water equivalent of 21.8 inches. This is 85 percent of the March 1 average and 70 percent of the seasonal (April 1) average. Last year at this time the pack was holding 31.4 inches of water.

PRECIPITATION − Seasonal precipitation (October 1 through the end of last month) on this area was 70 percent of normal. Precipitation last month was about 110 percent of the monthly average. Seasonal precipitation at this time last year stood at 120 percent of normal.

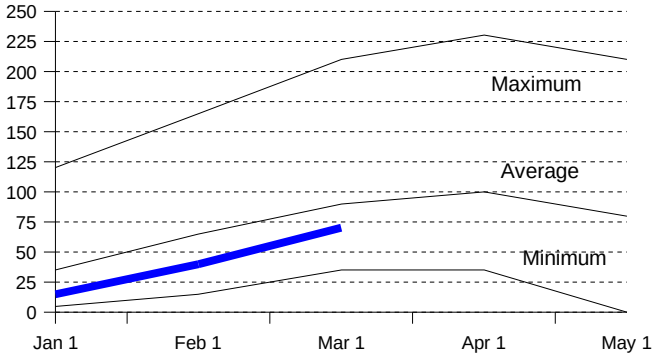
RESERVOIR STORAGE− First of the month storage in 43 reservoirs was 10.3 million acre−feet which is 95 percent of average. About 65 percent of available capacity was being used. Storage in these reservoirs at this time last year was 115 percent of average.

RUNOFF − Seasonal runoff of streams draining the area totaled 3.8 million acre−feet which is 50 percent of average for this period. Last year, runoff for the same period was 105 percent of average.

The **Sacramento Region 40−30−30 Water Supply Index** is forecast to be 6.3 assuming median meteorological conditions for the remainder of the year. This classifies the year as " dry" in the Sacramento Valley according to the State Water Resources Control Board.

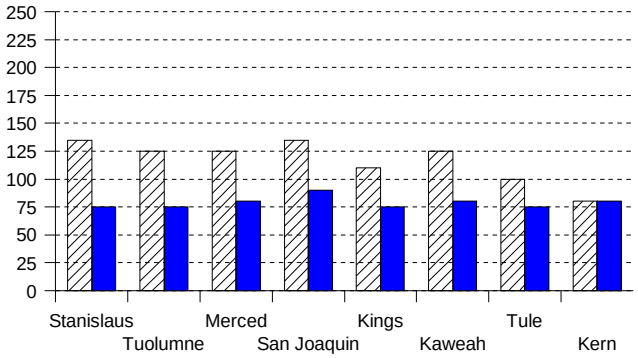
Snowpack Accumulation

Water Content in % of April 1 Average



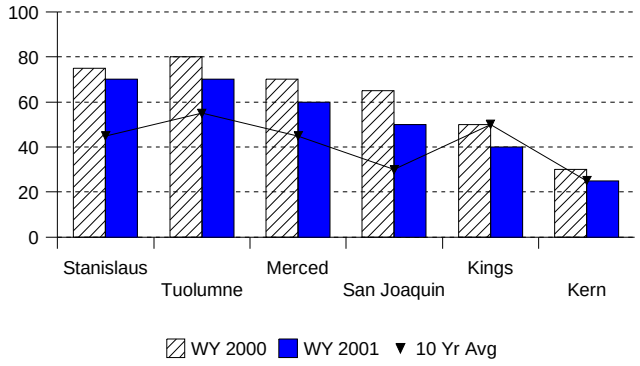
Precipitation

October 1 to date in % of Average



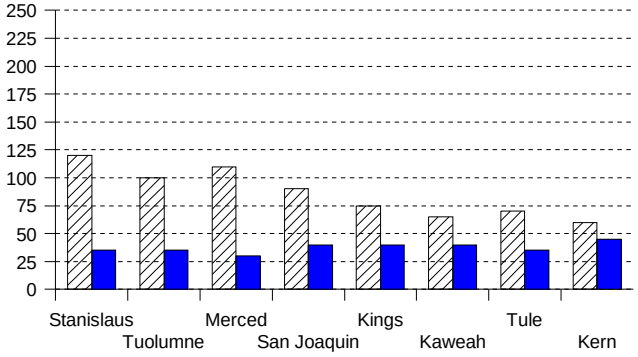
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

SNOWPACK− First of the month measurements made at 55 **San Joaquin Region** snow courses indicate an area wide snow water equivalent of 21.7 inches. This is 85 percent of the March 1 average and 70 percent of seasonal (April 1) average. Last year at this time the pack was holding 30.5 inches of water.
At the same time 32 **Tulare Lake Region** snow courses indicated a basin−wide snow water equivalent of 16.8 inches which is 85 percent of the average for March 1 and 70 percent of the seasonal average. Last year at this time the basin was holding 21.4 inches of water.

PRECIPITATION − Seasonal precipitation (October 1 through the end of last month) on the **San Joaquin Region** was 85 percent of normal. Precipitation last month was about 105 percent of the monthly average. Seasonal precipitation at this time last year stood at 130 percent of normal.
Seasonal precipitation on the **Tulare Lake Region** was 80 percent of normal. Precipitation last month was about 125 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal.

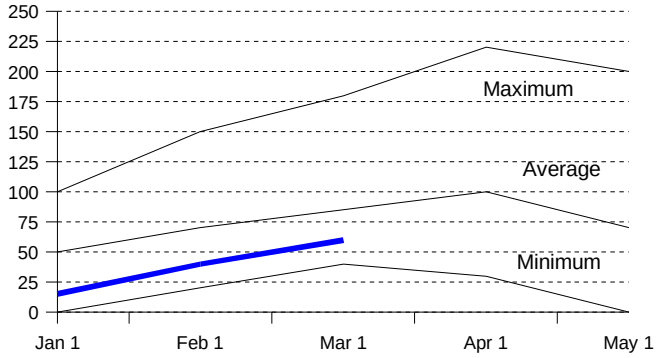
RESERVOIR STORAGE− First of the month storage in 34 **San Joaquin Region** reservoirs was 7.9 million acre−feet which is 115 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was also 130 percent of average.
First of the month storage in 6 **Tulare Lake Region** reservoirs was 709 thousand acre−feet which is 90 percent of average and about 35 percent of available capacity. Storage in these reservoirs at this time last year was 110 percent of average.

RUNOFF− Seasonal runoff of streams draining the **San Joaquin Region** totaled 529 thousand acre−feet which is 35 percent of average for this period. Last year, runoff for the same period was 105 percent of average. Seasonal runoff of streams draining the **Tulare Lake Basin** totaled 232 thousand acre−feet which is 40 percent of average for this period. Last year runoff for this same period was 65 percent of average.

The **San Joaquin Region 60−20−20 Water Supply Index** is forecast to be 2.4 assuming median meteorological conditions. This classifies the year as "dry" in the San Joaquin Region according to the State Water Resources Control Board.

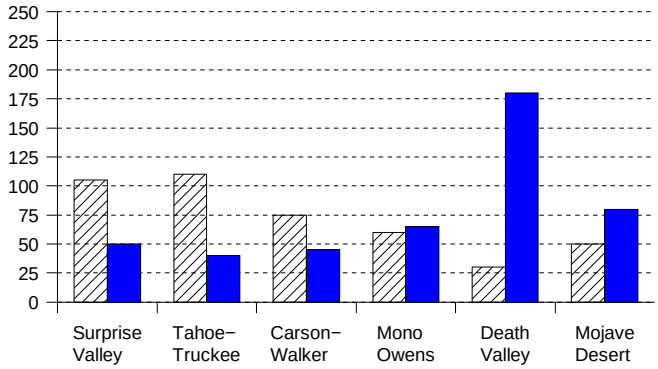
Snowpack Accumulation

Water Content in % of April 1 Average



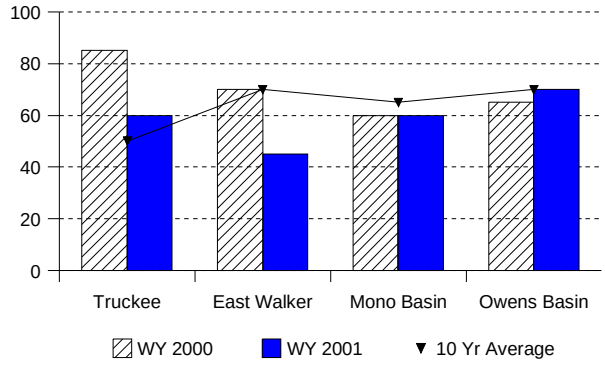
Precipitation

October 1 to date in % of Average



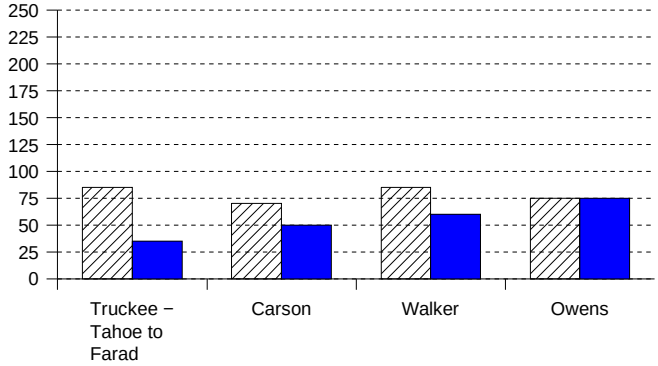
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



NORTH AND SOUTH LAHONTAN REGIONS

SNOWPACK− First of the month measurements made at 11 **North Lahontan snow** courses indicate an area wide snow water equivalent of 15.0 inches. This is 65 percent of the March 1 average and 55 percent of seasonal (April 1) average. Last year at this time the pack was holding 23.3 inches of water. At the same time 19 **South Lahontan Region** snow courses indicated a basin−wide snow water equivalent of 12.8 inches which is 75 percent of the average for March 1 and 65 percent of the seasonal average. Last year at this time the basin was holding 18.2 inches of water.

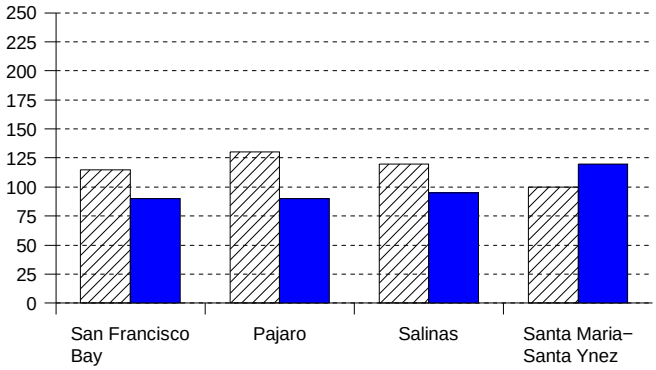
PRECIPITATION − Seasonal precipitation (October 1 through the end of last month) on the **North Lahontan** was 45 percent of normal. Precipitation last month was about 65 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.
Seasonal precipitation on the **South Lahontan** was 110 percent of normal. Precipitation last month was about 230 percent of the monthly average. Seasonal precipitation at this time last year stood at 50 percent of normal.

RESERVOIR STORAGE− First of the month storage in 5 **North Lahontan** reservoirs was 631 thousand acre−feet which is 120 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 165 percent of average. Lake Tahoe was 3.3 feet above its natural rim on March 1.
First of the month storage in 8 **South Lahontan** reservoirs was 288 thousand acre−feet which is 105 percent of average and about 70 percent of available capacity. Storage in these reservoirs at this time last year was 100 percent of average.

RUNOFF− Seasonal runoff of streams draining the **North Lahontan Region** totaled 89 thousand acre−feet which is 45 percent of average for this period. Last year, runoff for the same period was 80 percent of average.
Seasonal runoff of the Owens River in the **South Lahontan Region** totaled 40 thousand acre−feet which is 75 percent of average for this period. Last year runoff for this same period was also at 75 percent of average.

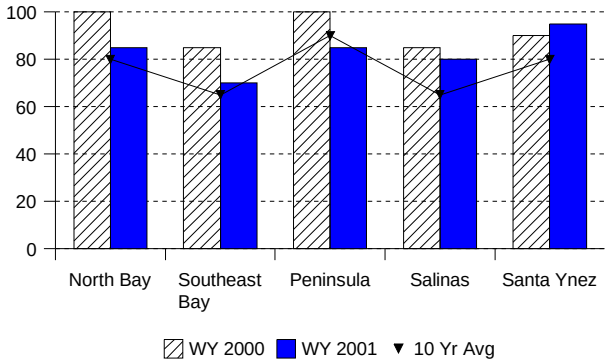
Precipitation

October 1 to date in % of Average



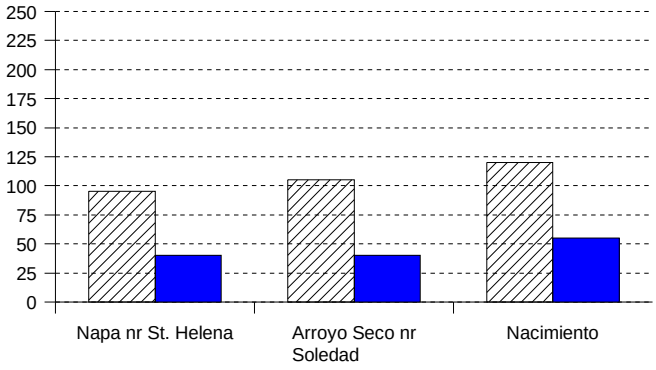
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SAN FRANCISCO BAY AND CENTRAL COAST REGIONS

PRECIPITATION − Seasonal precipitation (October 1 through the end of last month) on the **San Francisco Bay Region** was 90 percent of normal. Precipitation last month was about 170 percent of the monthly average. Seasonal precipitation at this time last year stood at 115 percent of normal.
Seasonal precipitation on the **Central Coast Region** was 100 percent of normal. Precipitation last month was about 145 percent of the monthly average. Seasonal precipitation at this time last year stood at 115 percent of normal.

RESERVOIR STORAGE− First of the month storage in 18 **San Francisco Bay Region** reservoirs was 515 thousand acre−feet which is 105 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 125 percent of average.
First of the month storage in 6 **Central Coast Region** reservoirs was 795 thousand acre−feet which is 130 percent of average and about 80 percent of available capacity. Storage in these reservoirs at this time last year was 135 percent of average.

RUNOFF− Seasonal runoff of the Napa River in the **San Francisco Bay Region** totaled 19 thousand acre−feet which is 40 percent of average for this period. Last year, runoff for the same period was 95 percent of average. Seasonal runoff of streams draining the **Central Coast Region** totaled 104 thousand acre−feet which is 50 percent of average for this period. Last year runoff for this same period was 115 percent of average.

SOUTH COAST AND COLORADO RIVER REGIONS

PRECIPITATION − October through February (seasonal) precipitation on the **South Coast Region** was 100 percent of normal. February precipitation was 180 percent of the monthly average. Seasonal precipitation at this time last year was 60 percent of normal. Seasonal precipitation on the **Colorado River−Desert Region** was 165 percent of normal and last year's seasonal precipitation on the **Colorado River−Desert Region** was 15 percent of normal. Precipitation in February was 290 percent of average.

RESERVOIR STORAGE − March 1 storage in 29 major **South Coast Region** reservoirs was 1.3 million acre−feet or 95 percent of average. About 65 percent of available capacity was being used. Storage in these reservoirs at this time last year was 110 percent of average. On March 1 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 44 million acre−feet or about 110 percent of average. About 80 percent of available capacity was in use. Last year at this time, these reservoirs were storing about 48 million acre−feet.

RUNOFF − Seasonal runoff from selected **South Coast Region** streams totaled 6 thousand acre−feet which is 25 percent of average. Seasonal runoff from these streams last year was 5 percent of average.

COLORADO RIVER − The April −July inflow to Lake Powell is forecast to be 6.5 million acre−feet, which is 84 percent of average. The March 1 snowpack in the Upper Colorado River basin was 80 percent of average, highest in the San Juan at 103 percent and lowest in the Green at 65 percent.

STATE WATER PROJECT

Total storage in the major SWP reservoirs was about 3.22 MAF on February 28, 2001, compared with 4.4 MAF at this time in 2000. On February 28 storage at Lake Oroville was about 1.84 MAF as compared to about 2.77 MAF last year.

The State's share of San Luis Reservoir storage at the end of February was 747 TAF, as compared to about 1.06 MAF at this time last year. The CVP share of San Luis Reservoir filled on January 28, 2001.

The combined storage of SWP's southern reservoirs was about 633 TAF on February 28 as compared to 650 TAF at this time last year.

SWP water deliveries through February 2001 were about 238 TAF. This is a combination of project, transfer, and exchange waters. This was about 161 TAF less than the same time period last year.

Due to better than average precipitation in February the Department increased its allocation from 20% (824 TAF) to 25% (1.03 MAF) for most long−term SWP contractors.

CENTRAL VALLEY PROJECT

As of February 28, 2001 CVP storage was 8.7 million acre−feet which is a decrease of 0.7 million acre feet compared to one year ago, and is approximately 118% of normal for that date.

The Bureau of Reclamation announced initial water allocations for the CVP contractors on February 15, 2001. Based on a conservative water supply forecast prepared from information available February 1, 2001, and a water year inflow into Shasta Reservoir of 3.2 million acre−feet, CVP water allocations were: Agricultural contractors North of Delta 15% and South of Delta 15%; Urban contractors North of Delta 65% and South of Delta 65%; Sacramento River water rights and San Joaquin Exchange Contractors 75%; Wildlife Refuges 75%; Friant Contractors will be 75 percent of Class 1 and zero % of Class 2. Updated allocations will be announced in Mid−March.

MAJOR WATER DISTRIBUTION PROJECTS

RESERVOIR STORAGE

(AVERAGES BASED ON 1946-95 OR PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	STORAGE AT END OF February 2000 1,000 AF	2001 1,000 AF	PERCENT AVERAGE	PERCENT CAPACITY
STATE WATER PROJECT						
Lake Oroville	3,538	2,539	2,766	1,842	73%	52%
San Luis Reservoir (SWP)	1,062	914	1,058	747	82%	70%
Lake Del Valle	77	33	39	31	92%	40%
Lake Silverwood	73	67	69	69	103%	94%
Pyramid Lake	171	162	169	161	99%	94%
Castaic Lake	324	264	291	305	115%	94%
Perris Lake	131	117	120	99	84%	75%
CENTRAL VALLEY PROJECT						
Trinity Lake	2,448	1,823	2,149	1,708	94%	70%
Lake Shasta	4,552	3,301	3,857	3,496	106%	77%
Whiskeytown Lake	241	207	208	211	102%	87%
Folsom Lake	977	559	599	525	94%	54%
New Melones Reservoir	2,420	1,372	2,008	1,896	138%	78%
Millerton Lake	520	325	423	306	94%	59%
San Luis Reservoir (CVP)	971	781	768	1,050	134%	108%
COLORADO RIVER PROJECT						
Lake Mead	26,159	20,121	24,974	22,430	111%	86%
Lake Powell	25,002	17,587	20,948	19,023	108%	76%
Lake Mohave	1,810	1,645	1,664	1,657	101%	92%
Lake Havasu	619	546	538	593	109%	96%
EAST BAY MUNICIPAL UTILITY DISTRICT						
Pardee Reservoir	198	178	193	168	94%	85%
Camanche Reservoir	417	242	302	281	116%	67%
East Bay (4 res.)	151	129	131	133	103%	88%
CITY AND COUNTY OF SAN FRANCISCO						
Hetch-Hetchy Reservoir	360	130	216	178	137%	50%
Cherry Lake	268	106	228	99	94%	37%
Lake Eleanor	26	10	24	1	15%	5%
South Bay/Peninsula (4 res.)	225	168	222	180	107%	80%
CITY OF LOS ANGELES (D.W.P.)						
Lake Crowley	183	126	125	133	106%	72%
Grant Lake	48	26	38	40	155%	83%
Other Aqueduct Storage (6 res.)	83	75	67	63	84%	76%

TELEMETERED SNOW WATER EQUIVALENTS

March 1, 2001

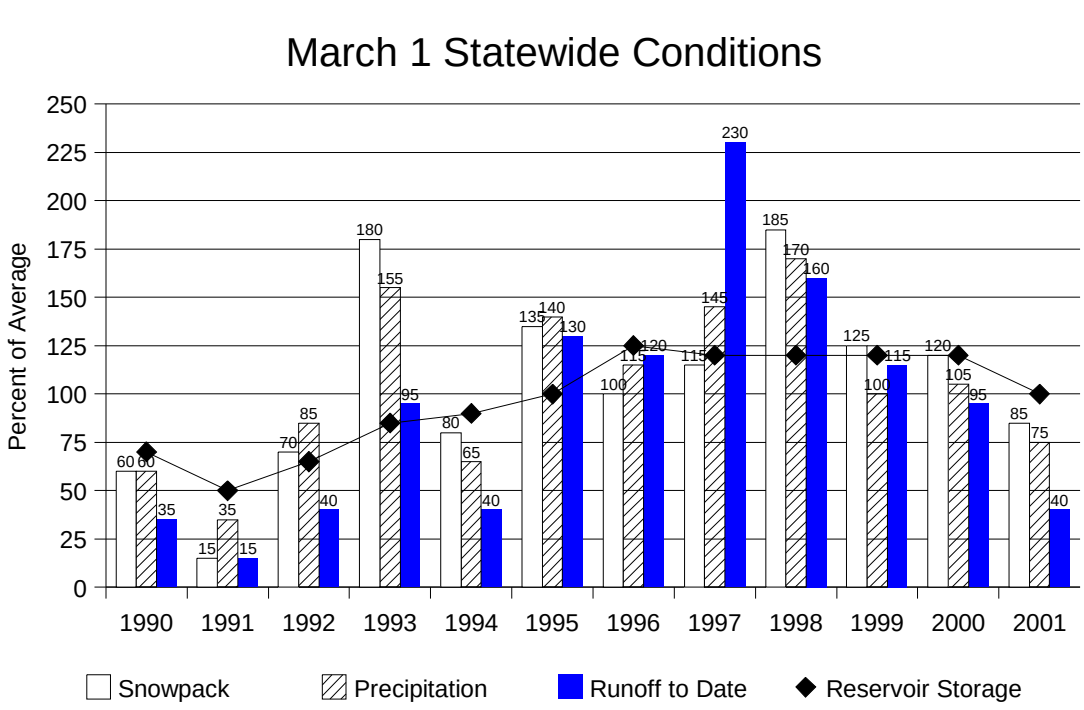
(AVERAGES BASED ON PERIOD RECORD)

BASIN NAME / STATION NAME	ELEV	APRIL 1 AVERAGE	INCHES OF WATER EQUIVALENT Mar 1	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS
TRINITY RIVER						
Peterson Flat	7150’	29.2	16.6	56.8	16.4	14.7
Red Rock Mountain	6700’	39.6	22.8	57.6	22.8	24.1
Bonanza King	6450’	40.5	27.0	66.7	26.8	24.1
Shimmy Lake	6400’	40.3	—	—	—	—
Middle Boulder 3	6200’	28.3	20.4	72.2	20.4	19.1
Highland Lakes	6030’	29.9	28.8	96.3	28.3	25.9
Scott Mountain	5900’	16.0	19.3	120.7	19.3	18.0
Mumbo Basin	5650’	22.4	18.6	83.0	18.6	17.2
Big Flat	5100’	15.8	13.2	83.3	13.2	12.3
SACRAMENTO RIVER						
Cedar Pass	7100’	18.1	11.5	63.5	11.5	10.6
Blacks Mountain	7050’	12.7	7.3	57.6	7.3	6.5
Sand Flat	6750’	42.4	23.6	55.8	23.2	20.4
Medicine Lake	6700’	32.6	17.3	53.0	17.3	15.8
Adin Mountain	6200’	13.6	9.4	69.1	9.4	8.5
Snow Mountain	5950’	27.0	22.2	82.2	22.2	18.8
Slate Creek	5700’	29.0	37.8	130.3	37.8	34.2
Stouts Meadow	5400’	36.0	32.0	88.9	32.0	30.1
FEATHER RIVER						
Kettle Rock	7300’	25.5	14.3	56.0	14.3	13.0
Grizzly Ridge	6900’	29.7	17.2	57.8	17.2	15.5
Pilot Peak	6800’	52.6	26.5	50.4	26.5	23.6
Gold Lake	6750’	36.5	23.8	65.1	23.8	21.5
Humbug	6500’	28.0	31.1	111.0	31.1	27.5
Rattlesnake	6100’	14.0	21.7	155.1	21.7	19.2
Bucks Lake	5750’	44.7	42.4	94.8	41.6	37.1
Four Trees	5150’	20.0	36.8	184.2	36.8	32.4
EEL RIVER						
Noel Spring	5100’	—	16.0	—	16.0	13.1
YUBA & AMERICAN RIVERS						
Lake Lois	8600’	39.5	18.9	47.9	18.9	18.3
Schneiders	8750’	34.5	21.2	61.5	21.2	20.1
Caples Lake	8000’	30.9	16.3	52.8	16.3	15.1
Alpha	7600’	35.9	22.5	62.7	22.4	20.1
Forni Ridge	7600’	37.0	21.8	59.0	21.8	19.4
Meadow Lake	7200’	55.5	30.0	54.0	29.9	27.2
Silver Lake	7100’	22.7	13.2	58.1	13.2	12.0
Central Sierra Snow Lab	6900’	33.6	21.4	63.7	21.4	19.6
Huysink	6600’	42.6	21.8	51.3	21.5	19.0
Van Vleck	6700’	35.9	23.8	66.3	23.8	21.9
Robbs Saddle	5900’	21.4	17.8	83.0	17.8	15.9
Greek Store	5600’	21.0	26.0	124.0	25.9	23.4
Blue Canyon	5280’	9.0	—	—	—	—
Robbs Powerhouse	5150’	5.2	15.3	294.8	15.3	13.7
MOKELUMNE & STANISLAUS RIVERS						
Deadman Creek	9250’	37.2	15.2	41.0	15.2	14.2
Highland Meadow	8700’	47.9	24.3	50.6	24.3	22.5
Gianelli Meadow	8400’	55.5	26.2	47.1	26.2	23.6
Lower Relief Valley	8100’	41.2	22.7	55.1	22.7	21.4
Blue Lakes	8000’	33.1	16.5	49.8	16.5	15.1
Mud Lake	7900’	44.9	30.9	68.8	30.9	28.3
Stanislaus Meadow	7750’	47.5	24.6	51.8	24.6	22.2
Bloods Creek	7200’	35.5	18.7	52.7	18.7	16.9
Black Springs	6500’	32.0	20.8	64.9	20.6	18.2
TUOLUMNE & MERCED RIVERS						
Dana Meadows	9800’	27.7	15.7	56.6	15.7	14.4
Slide Canyon	9200’	41.1	19.7	47.8	19.7	17.0
Lake Tenaya	8150’	33.1	18.7	56.5	18.7	17.4
Tuolumne Meadows	8600’	22.6	13.1	57.9	13.1	12.0
Horse Meadow	8400’	48.6	22.9	47.2	22.9	21.0
Ostrander Lake	8200’	34.8	22.9	65.7	22.9	20.9
Paradise Meadow	7650’	41.3	—	—	—	—
Gin Flat	7050’	34.2	19.7	57.5	19.3	17.2
Lower Kibbie Ridge	6700’	27.4	15.6	56.8	15.6	12.9

BASIN NAME		APRIL 1	INCHES OF WATER EQUIVALENT	PERCENT	24 HRS	1 WEEK
STATION NAME	ELEV	AVERAGE	Mar 1	OF AVERAGE	PREVIOUS	PREVIOUS
SAN JOAQUIN RIVER						
Volcanic Knob	10050’	30.1	11.8	39.1	11.8	10.5
Agnew Pass	9450’	32.3	18.0	55.9	18.0	16.5
Kaiser Point	9200’	37.8	18.5	48.9	18.3	16.3
Green Mountain	7900’	30.8	14.0	45.6	13.9	11.5
Tamarack Summit	7550’	30.5	22.4	73.6	21.6	18.0
Chilkoot Meadow	7150’	38.0	—	—	—	—
Huntington Lake	7000’	20.1	16.7	83.0	16.6	14.6
Graveyard Meadow	6900’	18.8	15.8	84.3	15.8	13.9
Poison Ridge	6900’	28.9	27.0	93.4	26.5	24.1
KINGS RIVER						
Bishop Pass	11200’	34.0	16.7	49.2	16.7	13.5
Charlotte Lake	10400’	27.5	13.7	49.7	13.7	11.1
State Lakes	10300’	29.0	13.5	46.6	13.5	11.4
Mitchell Meadow	9900’	32.9	21.3	64.7	21.2	19.0
Blackcap Basin	10300’	34.3	19.6	57.2	19.6	17.6
Upper Burnt Corral	9700’	34.6	20.8	60.1	20.8	19.5
West Woodchuck Meadow	9100’	32.8	15.7	47.9	15.6	13.9
Big Meadows	7600’	25.9	21.8	84.3	21.7	19.4
KAWEAH & TULE RIVERS						
Farewell Gap	9500’	34.5	23.4	67.9	23.3	20.0
Quaking Aspen	7200’	21.0	15.6	74.3	15.4	12.8
Giant Forest	6650’	10.0	15.7	157.0	15.7	13.5
KERN RIVER						
Upper Tyndall Creek	11400’	27.7	9.7	35.0	9.7	7.9
Crabtree Meadow	10700’	19.8	7.4	37.3	7.4	5.9
Chagoopa Plateau	10300’	21.8	11.5	52.9	11.5	10.2
Pascoes	9150’	24.9	18.5	74.3	18.5	15.0
Tunnel Guard Station	8900’	15.6	8.2	52.2	8.2	6.8
Wet Meadows	8950’	30.3	15.3	50.5	15.0	11.6
Casa Vieja Meadows	8300’	20.9	13.8	65.9	13.8	11.8
Beach Meadows	7650’	11.0	16.1	146.7	16.1	12.9
SURPRISE VALLEY AREA						
Dismal Swamp	7050’	29.2	16.2	55.5	16.2	15.0
TRUCKEE RIVER						
Mount Rose Ski Area	8900’	38.5	16.7	43.4	16.7	15.7
Independence Lake	8450’	41.4	19.7	47.6	19.7	18.0
Big Meadows	8700’	25.7	9.1	35.4	9.1	8.4
Squaw Valley	8200’	46.5	28.8	61.9	28.8	25.4
Independence Camp	7000’	21.8	9.0	41.3	9.0	8.0
Independence Creek	6500’	12.7	8.1	63.8	8.1	7.5
Truckee 2	6400’	14.3	10.3	72.0	10.3	9.5
LAKE TAHOE BASIN						
Heavenly Valley	8800’	28.1	12.0	42.7	12.0	10.4
Hagans Meadow	8000’	16.5	7.8	47.3	7.9	7.0
Marlette Lake	8000’	21.1	11.6	55.0	11.6	10.8
Echo Peak 5	7800’	39.5	20.9	52.9	20.9	18.4
Rubicon Peak 2	7500’	29.1	14.1	48.5	14.1	12.0
Tahoe City Cross	6750’	16.0	8.7	54.4	8.7	7.5
Ward Creek 3	6750’	39.4	24.4	61.9	24.4	22.4
Fallen Leaf Lake	6250’	7.0	5.2	74.3	5.2	4.4
CARSON RIVER						
Ebbetts Pass	8700’	38.8	19.8	51.0	19.8	17.9
Poison Flat	7900’	16.2	13.5	83.3	13.5	12.4
Monitor Pass	8350’	—	10.5	—	10.5	9.8
Spratt Creek	6150’	4.5	6.1	135.6	6.1	5.4
WALKER RIVER						
Leavitt Lake	9600’	—	31.1	—	31.1	28.9
Virginia Lakes	9300’	20.3	8.6	42.4	8.6	7.7
Lobdell Lake	9200’	17.3	8.3	48.0	8.3	7.8
Sonora Pass Bridge	8750’	26.0	13.0	50.0	13.0	11.9
Leavitt Meadows	7200’	8.0	8.0	100.0	8.0	7.2
OWENS RIVER/MONO LAKE						
Gem Pass	10750’	31.7	18.1	57.2	18.1	16.2
Sawmill	10200’	19.4	11.4	58.8	11.4	9.4
Cottonwood Lakes	10150’	11.6	12.4	106.9	12.4	10.7
Big Pine Creek	9800’	17.9	11.0	61.4	11.0	9.0
South Lake	9600’	16.0	11.6	72.4	11.6	9.7
Mammoth Pass	9300’	42.4	22.9	54.1	22.7	20.3
Rock Creek Lakes	10000’	14.0	4.8	34.6	4.7	3.5

NORMAL SNOWPACK ACCUMULATION EXPRESSED AS A PERCENT OF APRIL 1ST AVERAGE

AREA	JANUARY	FEBRUARY	MARCH	APRIL	MAY
Central Valley North	45%	70%	90%	100%	75%
Central Valley South	45%	65%	85%	100%	80%
North Coast	40%	60%	85%	100%	80%



SNOWLINES

THE DEADLINE for the 2001 Western Snow Conference annual meeting is approaching. It will be held April 16−19 at Sun Valley, Idaho. Information is available on the web at http://snobear.colorado.edu/WSC/WSC.html.

DEPICTED on this month's cover is the Search and Rescue team based at the Lemoore Naval Air Station headed north up the Kern River canyon enroute to the Crabtree snow sensor. Snow Surveys personnel are on board to make an emergency mid−winter maintenance visit. Snow Survey Program goals and Navy training needs in mid−winter mountain operations are mutually met through such flights at no direct financial cost to program cooperators. (Photo by Dave Hart)

WATER CONTENTS determined from the new six cosmic sensors can now be found on the web. Check http://snow.water.ca.gov for further information.

SNOWPACK - Snow data is a major index of spring and summer runoff from Sierra Nevada watersheds. April 1 data historically reflects the magnitude of the snowpack at or near the maximum seasonal accumulation. Averages are based on April 1 data for the period 1946-1995 (50 years, except for data sites established after 1941).

PRECIPITATION - Averages are based on April 1 data for the period 1941-1990 (50 years, except for data sites established after 1941).

RUNOFF AND FORECASTS - Runoff data and runoff forecasts are shown as unimpaired values. Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. Forecast of runoff assumes median conditions subsequent to the date of forecast.

Runoff probability ranges are statistically derived from historical data. The 80 percent probability range is comprised of the 90 percent exceedence level value and the 10 percent exceedence level value. This means that actual runoff should fall within the stated limits eight times out of ten.

Runoff averages for most streams are based on the period 1946-1995. For more details contact California Cooperative Snow Surveys, P.O. Box 942836, Sacramento, CA 94236-0001, (916) 574-2635 or gridley@water.ca.gov.

INDICES OF WATER AVAILABILITY

The Sacramento River Hydrologic Region 40-30-30 Water Supply Index. The values *40-30-30* represent the percentage weight given to the three variables in the formula for the index. The first variable is the forecasted unimpaired runoff from April through July (*40 Percent*). The second variable is the forecasted unimpaired runoff from October through March (*30 Percent*). The third variable is the previous year's index with a cap to account for required flood control releases during wet years. The basins used in this computation are those used in the Sacramento River water year unimpaired runoff.

The Sacramento River water year unimpaired runoff is the sum of: Sacramento River above Bend Bridge, Feather River Inflow to Lake Oroville, Yuba River near Smartville and American River Inflow to Folsom Lake.

The San Joaquin River Hydrologic Region 60-20-20 Water Supply Index. In a similar manner, the values *60-20-20* represents the percentage weights on April through July runoff, October through March runoff and previous year's index. The San Joaquin River unimpaired runoff is the sum of: Stanislaus River Inflow to New Melones Lake, Tuolumne River Inflow to New Don Pedro Reservoir, Merced River Inflow to Lake McClure and San Joaquin River Inflow to Millerton Lake.

Runoff of the eight major rivers of the Sacramento and San Joaquin Regions is the sum of the runoff in the eight major rivers used in the two above indices.

State of California – The Resources Agency
DEPARTMENT OF WATER RESOURCES
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