

California Cooperative
Snow Surveys
Bulletin 420-51400

State of California
The Resources Agency

Department of
Water Resources

Water Conditions in California



Report 1 February 1, 2000

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

Mary D. Nichols, Secretary for Resources

Department of Water Resources

Thomas M. Hannigan
Director

Raymond D. Hart
Deputy Director

Steve Macaulay
Chief Deputy Director

Vacant
Deputy Director

L. Lucinda Chipponeri
Assistant Director for Legislation

Susan N. Weber
Chief Counsel

Division of Flood Management

George T. Qualley Chief, Division of Flood Management
Maury Roos State Hydrologist
Stein Buer Chief, Hydrology and Flood Operations
Gary B. Bardini Chief Forecaster

Prepared by

Frank Gehrke Chief, Snow Surveys
J. Pierre Stephens Senior Engineer, W.R.
Robert R. Newton Associate Engineer, W.R.
David M. Hart Water Resources Engineering Associate
Shawn T. Perkins Water Resources Technician II

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 February 1, 2000

Precipitation during January was much above average except in the southern end of California. But it was not enough to overcome all of the deficit from a dry initial three months of this season. As a result, both water year and April through July forecasted runoff is 20 percent or so below average. However, with normal future weather and in view of favorable reservoir storage, there should be enough rain and snowmelt runoff to take care of most needs, except in the southern and western San Joaquin Valley.

Forecasts of April through July runoff are less than average at 80 percent overall. As was true last year, southern Sierra forecasts are much less than in the north. Water year forecast percentages are comparable with snowmelt figures, again with highest percentages in the north. Statewide runoff last year was about 110 percent of average.

Snowpack Water Content is 70 percent of average for this date statewide compared to 100 percent last year. The pack is about 45 percent of the April 1 average, which is the normal date of maximum accumulation.

Precipitation during January was estimated to be 130 percent of average for the north. The seasonal statewide accumulation since October 1 is about 75 percent of average compared to 85 percent last year.

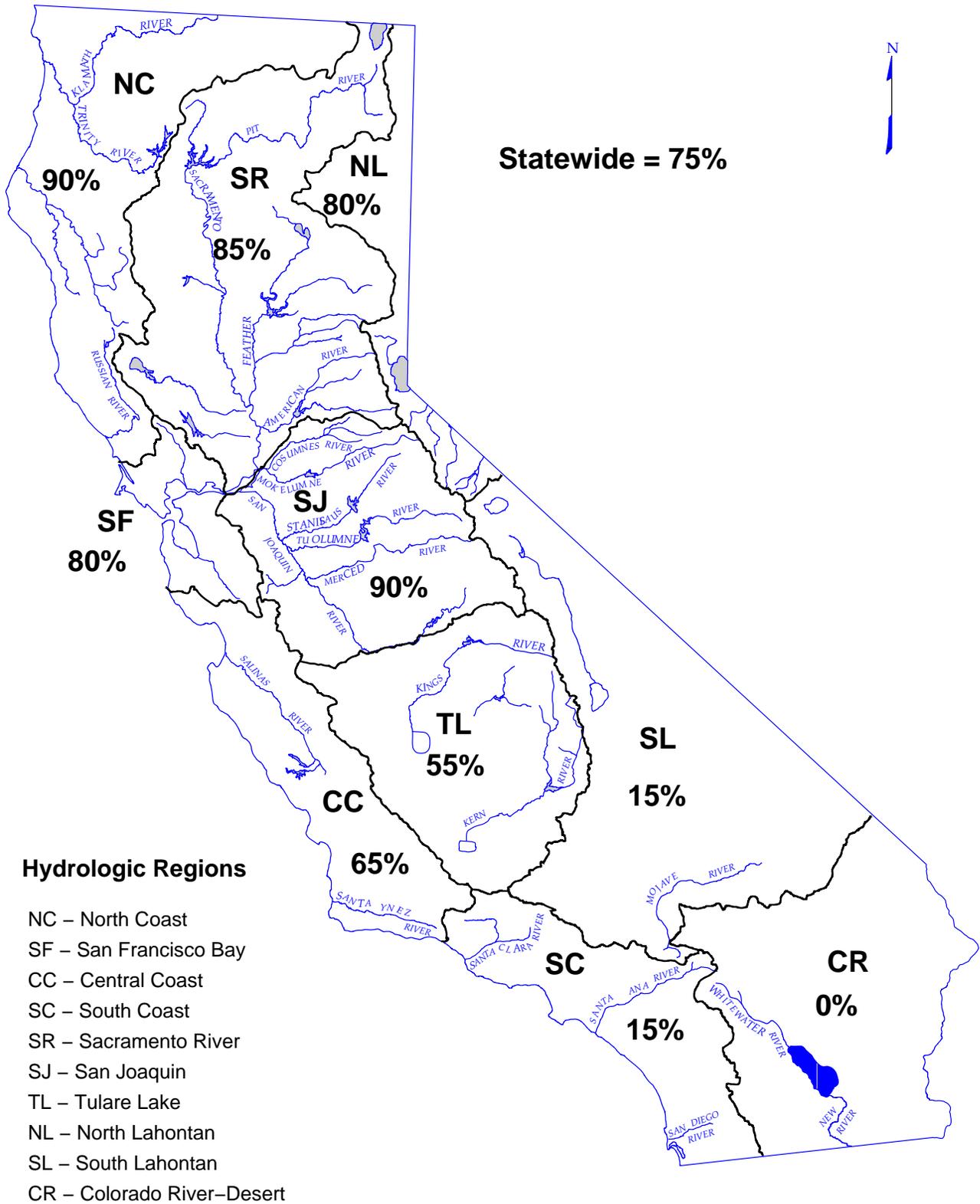
Runoff so far this season is approximately 65 percent of average. January runoff was about 85 percent of average. Estimated runoff of the eight major rivers of the Sacramento and San Joaquin River regions during January was 2.5 million acre-feet.

Reservoir storage continues to be above average at about 115 percent of average overall for this date. That is about 10 percent less than reported last year at this time. A few of the major Central Valley reservoirs are near their flood control limits for this time of year.

SUMMARY OF WATER CONDITIONS IN PERCENT OF AVERAGE

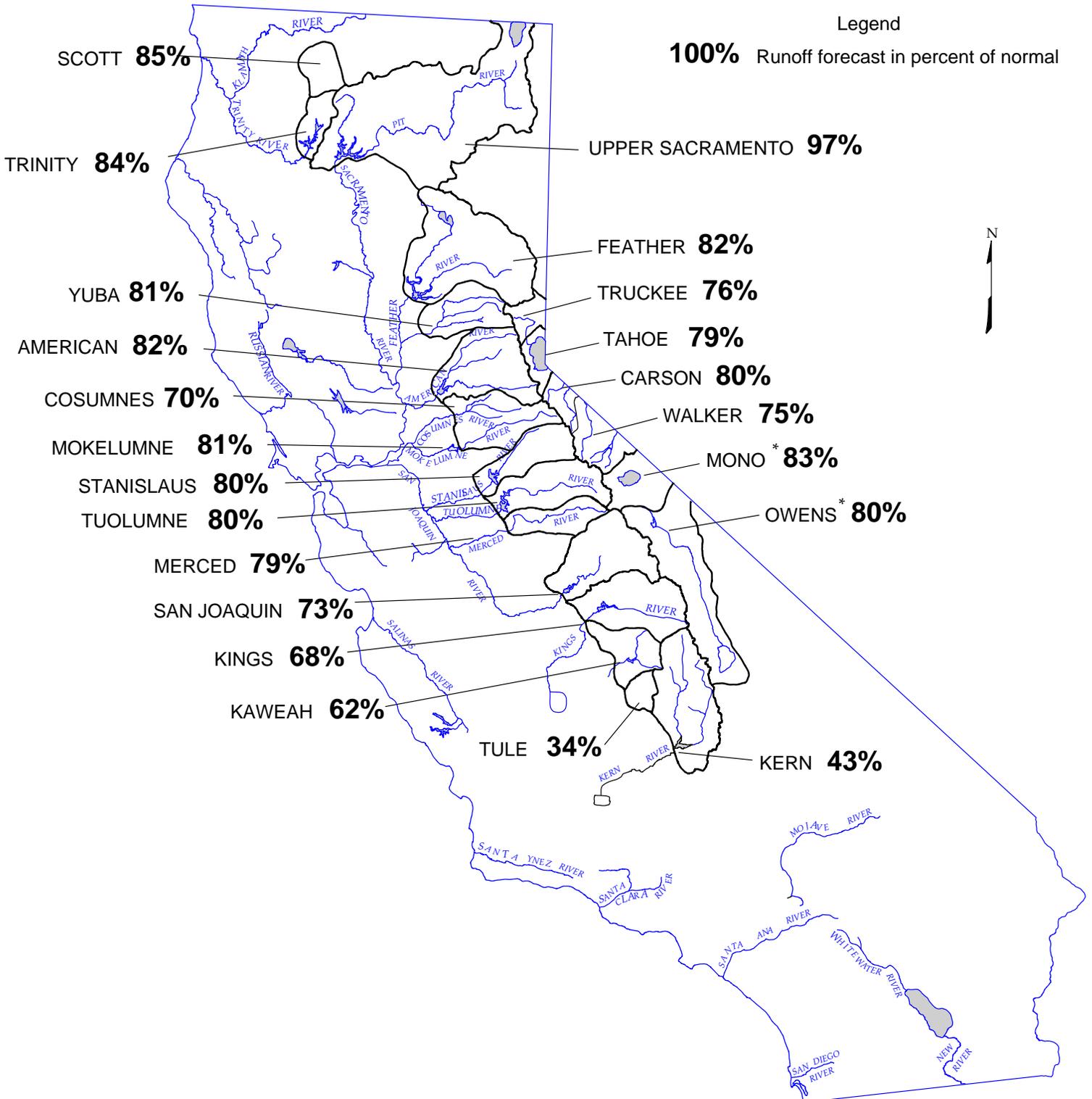
HYDROLOGIC REGION	PRECIPITATION OCTOBER 1 TO DATE	FEBRUARY 1 SNOW WATER CONTENT	FEBRUARY 1 RESERVOIR STORAGE	RUNOFF OCTOBER 1 TO DATE	APR-JULY RUNOFF FORECAST	WATER YEAR RUNOFF FORECAST
NORTH COAST	90	90	110	60	85	80
SAN FRANCISCO BAY	80	--	110	35	--	--
CENTRAL COAST	65	--	125	35	--	--
SOUTH COAST	15	--	115	5	--	--
SACRAMENTO RIVER	85	80	110	70	85	85
SAN JOAQUIN RIVER	90	65	120	55	80	75
TULARE LAKE	55	60	100	45	60	60
NORTH LAHONTAN	80	65	145	60	80	75
SOUTH LAHONTAN	15	60	95	70	80	75
COLORADO RIVER- DESERT	0	--	--	--	--	--
STATEWIDE	75	70	115	65	80	80

SEASONAL PRECIPITATION
 IN PERCENT OF AVERAGE TO DATE
 October 1, 1999 through January 31, 2000



WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

**FORECAST OF APRIL – JULY
UNIMPAIRED SNOWMELT RUNOFF**
February 1, 2000



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

**FEBRUARY 1, 2000 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF**

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)					
	HISTORICAL			FORECAST		
	50 Yr Avg (2)	Max of Record	Min of Record	Apr-Jul Forecasts	Pct of Avg	80 % Probability Range (1)
SACRAMENTO RIVER						
Upper Sacramento River						
Sacramento River at Shasta Lake (3)	297	702	39	240	81%	
McCloud River at Shasta Lake	392	850	185	370	94%	
Pit River at Shasta Lake	1,056	2,203	480	1,060	100%	
Total Inflow to Shasta Lake	1,801	3,525	726	1,750	97%	1,220 - 2,600
Sacramento River above Bend Bridge, near Red Bluff	2,451	5,075	943	2,300	94%	1,620 - 3,540
Feather River						
Feather River at Lake Almanor near Prattville (3)	333	675	120	280	84%	
North Fork at Pulga (3)	1,028	2,416	243	840	82%	
Middle Fork near Clio (4)	86	518	4	65	76%	
South Fork at Ponderosa Dam (3)	110	267	13	85	77%	
Total Inflow to Oroville Reservoir	1,831	4,676	392	1,500	82%	920 - 2,620
Yuba River						
North Yuba below Goodyears Bar (3)	286	647	51	230	80%	
Inflow to Jackson Mdws and Bowman Reservoirs (3)	112	236	25	90	80%	
South Yuba at Langs Crossing (3)	233	481	57	180	77%	
Yuba River at Smartville	1,029	2,424	200	830	81%	520 - 1,480
American River						
North Fork at North Fork Dam (3)	262	716	43	210	80%	
Middle Fork near Auburn (3)	522	1,406	100	420	80%	
Silver Creek Below Camino Diversion Dam (3)	173	386	37	140	81%	
Total Inflow to Folsom Reservoir	1,261	3,074	229	1,040	82%	600 - 1,860
SAN JOAQUIN RIVER						
Cosumnes River at Michigan Bar	128	363	8	90	70%	40 - 200
Mokelumne River						
North Fork near West Point (5)	437	829	104	340	78%	
Total Inflow to Pardee Reservoir	459	1,065	102	370	81%	230 - 640
Stanislaus River						
Middle Fork below Beardsley Dam (3)	334	702	64	260	78%	
North Fork Inflow to McKays Point Dam (3)	224	503	34	170	76%	
Total Inflow to New Melones Reservoir	699	1,710	116	560	80%	350 - 970
Tuolumne River						
Cherry Creek & Eleanor Creek near Hetch Hetchy (3)	322	727	97	250	78%	
Tuolumne River near Hetch Hetchy (3)	606	1,392	153	480	79%	
Total Inflow to Don Pedro Reservoir	1,184	2,682	301	950	80%	620 - 1,570
Merced River						
Merced River at Pohono Bridge (3)	362	888	80	290	80%	
Total Inflow to Lake McClure	611	1,587	123	480	79%	300 - 850
San Joaquin River						
San Joaquin River at Mammoth Pool (6)	1,014	2,279	235	730	72%	
Big Creek below Huntington Lake (6)	95	264	11	65	68%	
South Fork near Florence Lake (6)	202	511	58	140	69%	
Total Inflow to Millerton Lake	1,212	3,355	262	880	73%	520 - 1,590
TULARE LAKE						
Kings River						
North Fork Kings River near Cliff Camp (3)	239	565	50	160	67%	
Total Inflow to Pine Flat Reservoir	1,183	3,114	273	800	68%	420 - 1,460
Kaweah River at Terminus Reservoir	276	814	61	170	62%	80 - 340
Tule River at Success Reservoir	59	259	2	20	34%	10 - 80
Kern River						
Kern River near Kernville (3)	373	1,203	83	150	40%	
Total Inflow to Isabella Reservoir	442	1,657	84	190	43%	100 - 540

(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

**FEBRUARY 1, 2000 FORECASTS
WATER YEAR UNIMPAIRED RUNOFF**

HISTORICAL			Unimpaired Runoff in 1,000 Acre-Feet (1)								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	1,785	900	880	700	500	310	240	435	5,750	98%	4,570 -	7,670
8,518	17,180	3,294	2,365	1,300	1,200	900	670	420	310	535	7,700	90%	6,160 -	10,560
780	1,269	366												
2,417	4,400	666												
219	637	24												
291	562	32												
4,526	9,492	994	820	540	560	620	520	230	130	170	3,590	79%	2,550 -	5,650
564	1,056	102												
181	292	30												
379	565	98												
2,337	4,926	369	330	295	310	330	340	130	30	35	1,800	77%	1,310 -	2,960
616	1,234	66												
1,070	2,575	144												
318	705	59												
2,674	6,381	349	400	350	380	420	420	170	30	20	2,190	82%	1,460 -	3,610
378	1,253	20	59	50	55	50	30	8	2	1	255	67%	140 -	500
626	1,009	197												
736	1,800	129	75	60	70	120	160	80	10	5	580	79%	390 -	960
471	929	88												
1,131	2,952	155	130	110	130	190	230	110	30	10	940	83%	630 -	1,520
461	1,147	123												
770	1,661	258												
1,857	4,430	383	170	160	190	260	380	260	50	20	1,490	80%	1,030 -	2,390
461	1,020	92												
952	2,859	150	70	70	90	130	200	120	30	10	720	76%	470 -	1,280
1,337	2,964	308												
112	298	14												
248	653	71												
1,753	4,642	362	120	100	130	210	350	240	80	40	1,270	72%	790 -	2,260
284	607	58												
1,647	4,294	383	80	60	90	180	330	230	60	30	1,060	64%	620 -	1,920
431	1,402	92	20	15	30	50	70	40	10	5	240	56%	120 -	470
135	615	16	11	8	10	10	7	2	1	1	50	37%	30 -	175
558	1,577	163												
694	2,309	175	55	25	35	50	70	50	20	20	325	47%	200 -	820

* Indicates observed runoff

**FEBRUARY 1, 2000 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF**

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)				
	HISTORICAL			FORECAST	
	50 Yr Avg (2)	Max of Record	Min of Record	Apr-Jul Forecasts	Pct of Avg
NORTH COAST					
Trinity River Total Inflow to Lewiston Lake	642	1,593	80	540	84%
Scott River Near Fort Jones	200	n/a	n/a	170	85%
Klamath River Total inflow to Upper Klamath Lake (3)	509	758	280	509	100%
<hr/>					
NORTH LAHONTAN					
Truckee River Lake Tahoe to Farad accretions	264	713	58	200	76%
Lake Tahoe Rise (assuming gates closed, in feet)	1.4	3.6	0.2	1.1	79%
Carson River West Fork at Woodfords	54	135	12	45	83%
East Fork near Gardnerville	183	407	43	145	79%
Walker River West Fork near Coleville	143	330	35	115	80%
East Fork near Bridgeport	61	209	7	40	66%
<hr/>					
SOUTH LAHONTAN					
Owens River Total tributary flow to Owens River (4)	226	579	96	180	80%

(1) See inside back cover for definition

(2) All 50 year averages are based on years 1946-1995 unless otherwise not

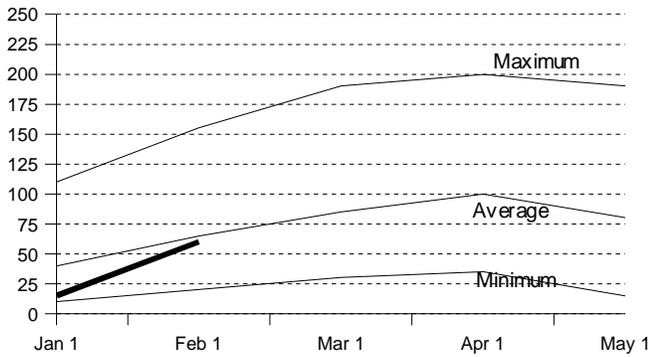
(3) Forecast by U.S. Natural Resources Conservation Service and National Weather Service California-Nevada River Forecast Center
April through September forecast, 30 year average based on years 1961-199

(4) Forecast by Department of Water and Power, City of Los Angeles

NORTH COAST REGION

Snowpack Accumulation

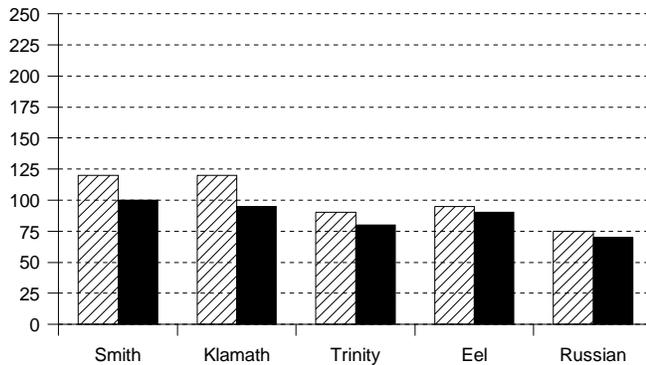
Water Content in % of April 1 Average



SNOWPACK– First of the month measurements made at 12 snow courses indicate an area wide snow water equivalent of 17.4 inches. This is 90 percent of the February 1 average and 60 percent of the seasonal (April 1) average. Last year at this time the pack was holding 20.6 inches of water.

Precipitation

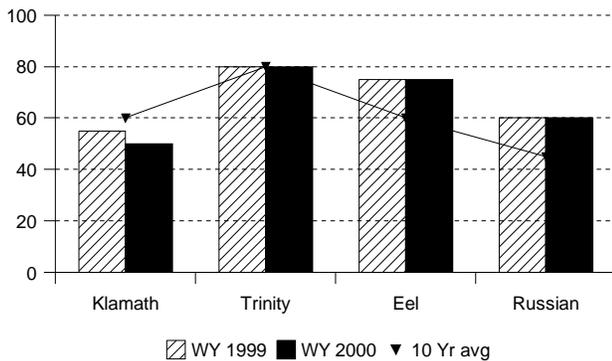
October 1 to date in % of Average



PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on this area was 90 percent of normal. Precipitation last month was about 135 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal.

Reservoir Storage

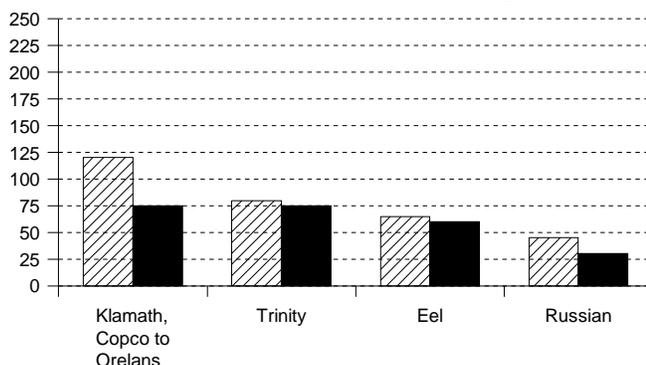
Contents of major reservoirs in % of capacity



RESERVOIR STORAGE– First of the month storage in 7 reservoirs was 2.4 million acre–feet which is 110 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 110 percent of average.

Runoff

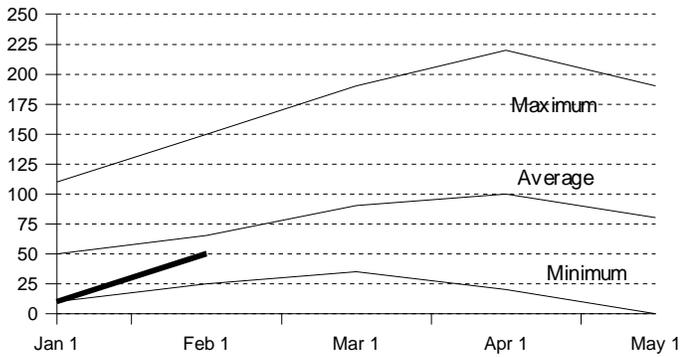
October 1 to date in % of average



RUNOFF –Seasonal runoff of streams draining the area totaled 3.2 million acre–feet which is 60 percent of the average for this period. Last year, runoff for the same period was 80 percent of average.

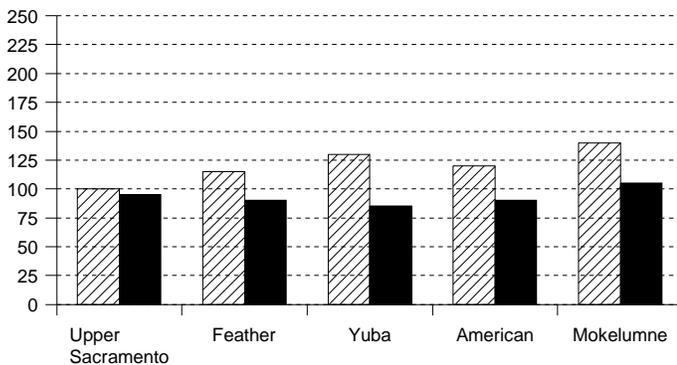
Snowpack Accumulation

Water Content in % of April 1 Average



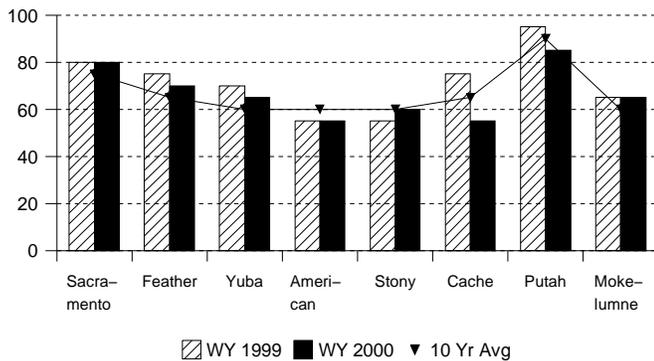
Precipitation

October 1 to date in % of Average



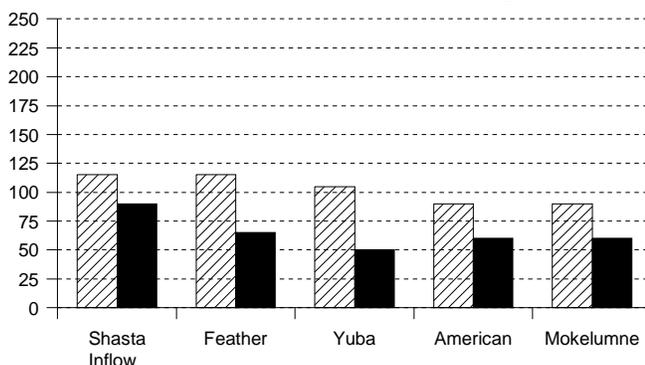
Reservoir Storage

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 71 snow courses indicate an area wide snow water equivalent of 14.7 inches. This is 75 percent of the February 1 average and 50 percent of the seasonal (April 1) average. Last year at this time the pack was holding 21.3 inches of water.

PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on this area was 85 percent of normal. Precipitation last month was about 150 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.

RESERVOIR STORAGE– First of the month storage in 43 reservoirs was 11.5 million acre–feet which is 110 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.

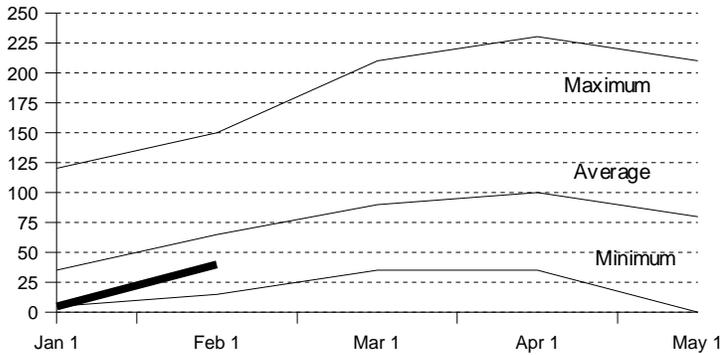
RUNOFF – Seasonal runoff of streams draining the area totaled 3.9 million acre–feet which is 70 percent of average for this period. Last year, runoff for the same period was 105 percent of average.

The **Sacramento Region 40–30–30 Water Supply Index** is forecast to be 7.9 assuming median meteorological conditions for the remainder of the year. This classifies the year as "above normal" in the Sacramento Valley according to the State Water Resources Control Board

SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

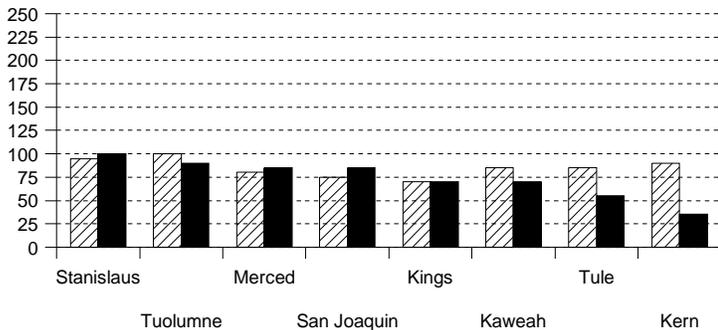
Snowpack Accumulation

Water Content in % of April 1 Average



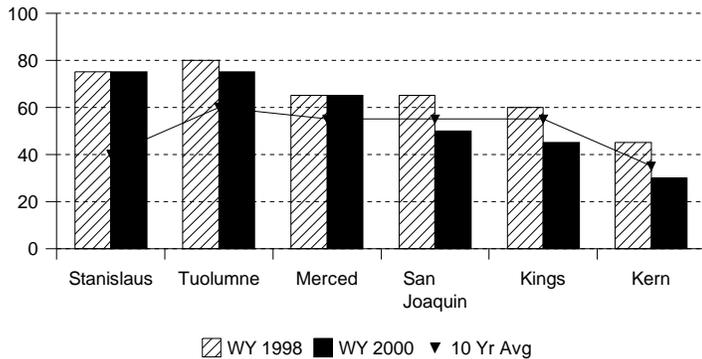
Precipitation

October 1 to date in % of Average



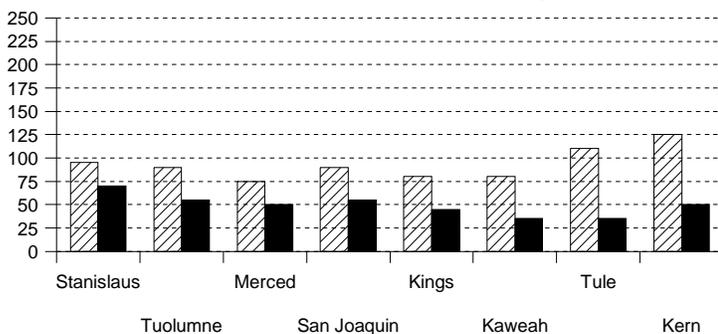
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SNOWPACK– First of the month measurements made at 56 **San Joaquin Region** snow courses indicate an area wide snow water equivalent of 12.9 inches. This is 65 percent of the February 1 average and 40 percent of seasonal (April 1) average. Last year at this time the pack was holding 19.2 inches of water.

At the same time 34 **Tulare Lake Region** snow courses indicated a basin-wide snow water equivalent of 10.0 inches which is 60 percent of the average for February 1 and 40 percent of the seasonal average. Last year at this time the basin was holding 10.2 inches of water.

PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on the **San Joaquin Region** was 90 percent of normal. Precipitation last month was about 185 percent of the monthly average. Seasonal precipitation at this time last year stood at 90 percent of normal. Seasonal precipitation on the **Tulare Lake Region** was 55 percent of normal. Precipitation last month was about 150 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.

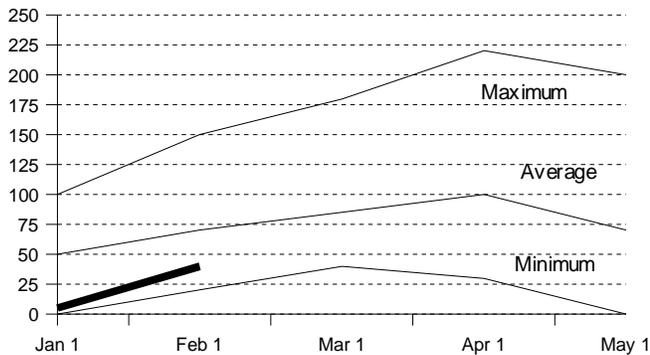
RESERVOIR STORAGE– First of the month storage in 33 **San Joaquin Region** reservoirs was 7.8 million acre-feet which is 120 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 135 percent of average. First of the month storage in 6 **Tulare Lake Region** reservoirs was 742 thousand acre-feet which is 100 percent of average and about 35 percent of available capacity. Storage in these reservoirs at this time last year was 140 percent of average.

RUNOFF– Seasonal runoff of streams draining the **San Joaquin Region** totaled 630 thousand acre-feet which is 55 percent of average for this period. Last year, runoff for the same period was 90 percent of average. Seasonal runoff of streams draining the **Tulare Lake Basin** totaled 170 thousand acre-feet which is 45 percent of average for this period. Last year runoff for this same period was 95 percent of average.

The **San Joaquin Region 60–20–20 Water Supply Index** is forecast to be 2.7 assuming median meteorological conditions. This classifies the year as "below normal" in the San Joaquin Region according to the State Water Resources Control Board.

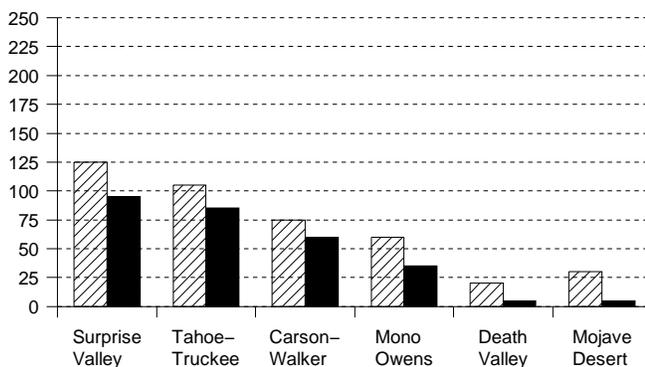
Snowpack Accumulation

Water Content in % of April 1 Average



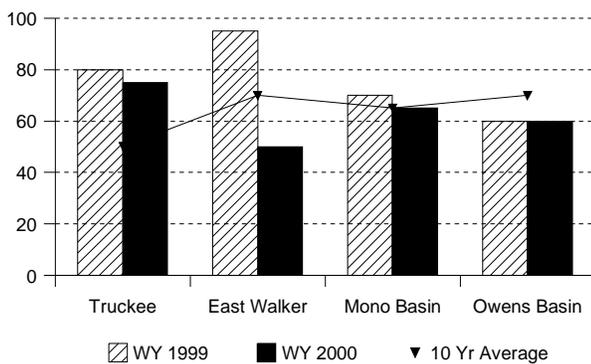
Precipitation

October 1 to date in % of Average



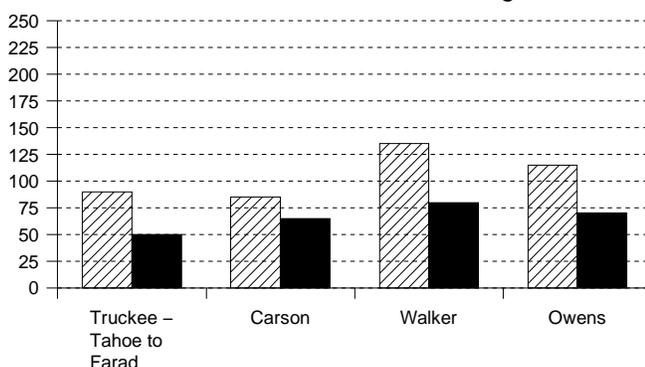
Reservoir Storage

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 13 **North Lahontan** snow courses indicate an area wide snow water equivalent of 11.4 inches. This is 65 percent of the February 1 average and 45 percent of seasonal (April 1) average. Last year at this time the pack was holding 15.9 inches of water. At the same time 21 **South Lahontan Region** snow courses indicated a basin-wide snow water equivalent of 8.0 inches which is 60 percent of the average for February 1 and 40 percent of the seasonal average. Last year at this time the basin was holding 10.7 inches of water.

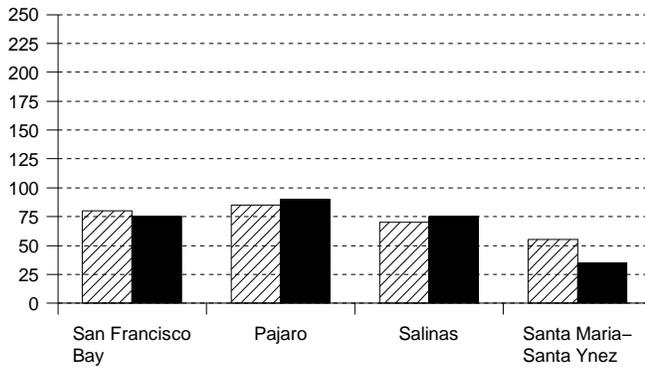
PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on the **North Lahontan** was 80 percent of normal. Precipitation last month was about 160 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal. Seasonal precipitation on the **South Lahontan** was 15 percent of normal. Precipitation last month was about 35 percent of the monthly average. Seasonal precipitation at this time last year stood at 35 percent of normal.

RESERVOIR STORAGE– First of the month storage in 5 **North Lahontan** reservoirs was 806 thousand acre-feet which is 145 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 155 percent of average. Lake Tahoe was 4.6 feet above its natural rim on February 1. First of the month storage in 8 **South Lahontan** reservoirs was 273 thousand acre-feet which is 95 percent of average and about 70 percent of available capacity. Storage in these reservoirs at this time last year was 95 percent of average.

RUNOFF– Seasonal runoff of streams draining the **North Lahontan Region** totaled 92 thousand acre-feet which is 60 percent of average for this period. Last year, runoff for the same period was 100 percent of average. Seasonal runoff of the Owens River in the **South Lahontan** totaled 31 thousand acre-feet which is 70 percent of average for this period. Last year runoff for this same period was 115 percent of average.

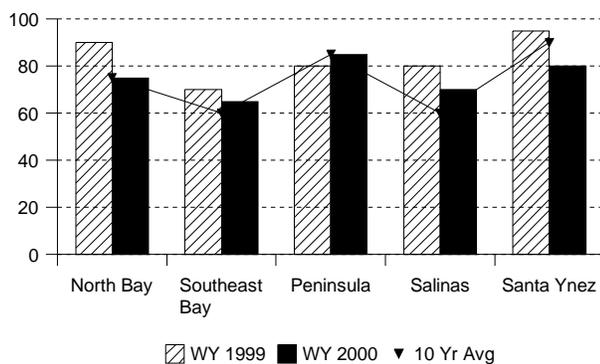
Precipitation

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 80 percent of normal. Precipitation last month was about 135 percent of the monthly average. Seasonal precipitation at this time last year stood at 80 percent of normal. Seasonal precipitation on the **Central Coast Region** was 65 percent of normal. Precipitation last month was about 125 percent of the monthly average. Seasonal precipitation at this time last year stood at 70 percent of normal.

RESERVOIR STORAGE– First of the month storage in 18 **San Francisco Bay Region** reservoirs was 490 thousand acre–feet which is 110 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. First of the month storage in 6 **Central Coast Region** reservoirs was 695 thousand acre–feet which is 125 percent of average and about 70 percent of available capacity. Storage in these reservoirs at this time last year was 140 percent of average.

RUNOFF– Seasonal runoff of the Napa River in the **San Francisco Bay Region** totaled 11 thousand acre–feet which is 35 percent of average for this period. Last year, runoff for the same period was 65 percent of average. Seasonal runoff of streams draining the **Central Coast Region** totaled 48 thousand acre–feet which is 35 percent of average for this period. Last year runoff for this same period was 35 percent of average.

SOUTH COAST AND COLORADO RIVER REGIONS

PRECIPITATION – October through January (seasonal) precipitation on the **South Coast Region** was 15 percent of normal. January precipitation was 30 percent of the monthly average. Seasonal precipitation at this time last year was 55 percent of normal. Seasonal precipitation on the **Colorado River–Desert Region** was 0 percent of normal. Last year seasonal precipitation on the **Colorado River–Desert Region** was 15 percent of normal. Precipitation in January was less than 1 percent of average.

RESERVOIR STORAGE – February 1 storage in 29 major **South Coast Region** reservoirs was 1.4 million acre–feet or 115 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 130 percent of average. On February 1 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 48 million acre–feet or about 125 percent of average. About 90 percent of available capacity was in use. Last year at this time, these reservoirs were storing 125 percent of average.

RUNOFF – Seasonal runoff from selected **South Coast Region** streams totaled less than a thousand acre–feet which is 3 percent of average. Runoff from these streams during January totaled less than a hundred acre–feet or 0 percent of average. Seasonal runoff from these streams last year was 60 percent of average.

COLORADO RIVER – The April –July inflow to Lake Powell is forecast to be 4.8 million acre–feet, which is 62 percent of average. The February 1 snowpack in the Colorado River basin above Lake Powell was 66 percent of average, highest in the Upper Colorado at 85 percent and lowest in the San Juan at 25 percent.

CENTRAL VALLEY PROJECT

Based on February 1 conditions, Bureau of Reclamation water year forecasts for unimpaired runoff to CVP reservoirs are: Trinity–90% of average, Shasta–101% of average, Aexit merican–88% of average, Stanislaus–80% of average, San Joaquin above Friant – 71% of average. As of January 31, 2000 CVP storage was 8.8 million acre–feet which is a decrease of 0.1 million acre feet compared to one year ago, and is approximately 127% of normal for that date.

The Bureau of Reclamation announced preliminary water allocations for the CVP contractors on January 21, 2000. Based on conservative water supply forecasts prepared from information available January 1, 2000 CVP water allocations were: Agricultural contractors North of Delta – 100%, South of Delta– 75%, Sacramento River water rights and San Joaquin Exchange Contractors–100%, Wildlife Refuges–100%, Stanislaus Contractors – 15,000 acre–feet, Friant Contractors– Class I–50%, Class II– 0%. Updated allocations will be announced in Mid–February.

STATE WATER PROJECT

On January 31, total storage in major State Water Project reservoirs was about 4.049 million acre–feet, compared with 4.64 MAF at this time in 1999. The January 31 storage at Lake Oroville was about 2.35 MAF as compared to 2.77 MAF last year. The State's share of San Luis Reservoir storage was about 914,700 acre–feet, as compared with 1.1 MAF at this time last year. On January 31, the combined storage in our southern reservoirs was about 643,600 acre–feet, compared with 599,000 acre–feet at this time last year.

Through January, SWP water deliveries for 2000 were about 238,000 acre–feet. This is a combination of project, transfer, and exchange waters. This is 120,000 acre–feet more than delivered during the same period in 1999. SWP deliveries have been approved at 2.06 million acre feet which meets at least 50 percent of most contractors' entitlement. This approval considered several factors, including the existing storage in SWP reservoirs, a conservative projection of hydrology and water supply expected to develop during the remainder of the 2000–01 water year, SWP operational constraints, and 2000 contractor demands. Approvals will be reevaluated with each new round of water supply forecasts.

MAJOR WATER DISTRIBUTION PROJECTS

RESERVOIR STORAGE

(AVERAGES BASED ON PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	1999 1,000 AF	STORAGE AT END OF January		
				2000 1,000 AF	PERCENT AVERAGE	PERCENT CAPACITY
<i>STATE WATER PROJECT</i>						
Lake Oroville	3,538	2,398	2,768	2,345	98%	66%
San Luis Reservoir (SWP)	1,062	810	1,104	915	113%	86%
Lake Del Valle	77	30	26	30	99%	39%
Lake Silverwood	73	66	63	70	107%	96%
Pyramid Lake	171	162	165	166	102%	97%
Castaic Lake	324	245	248	288	117%	89%
Perris Lake	131	112	124	120	107%	91%
<i>CENTRAL VALLEY PROJECT</i>						
Clair Engle Lake	2,448	1,717	1,939	1,976	115%	81%
Lake Shasta	4,552	3,094	3,588	3,697	119%	81%
Whiskeytown Lake	241	205	205	207	101%	86%
Folsom Lake	977	515	533	568	110%	58%
New Melones Reservoir	2,420	1,325	1,976	1,923	145%	79%
Millerton Lake	520	321	458	311	97%	60%
San Luis Reservoir (CVP)	971	715	825	591	83%	61%
<i>COLORADO RIVER PROJECT</i>						
Lake Mead	26,159	19,937	24,836	25,046	126%	96%
Lake Powell	25,002	17,790	21,344	21,137	119%	85%
Lake Mohave	1,810	1,603	1,647	1,683	105%	93%
Lake Havasu	619	549	534	553	101%	89%
<i>EAST BAY MUNICIPAL UTILITY DISTRICT</i>						
PARDEE RESERVOIR	198	177	173	188	106%	95%
Camanche Reservoir	417	232	318	310	134%	74%
East Bay (4 reservoirs)	151	122	124	118	96%	78%
<i>CITY AND COUNTY OF SAN FRANCISCO</i>						
Hetch-Hetchy Reservoir	360	144	294	222	154%	62%
Cherry Lake	268	107	243	237	223%	88%
Lake Eleanor	26	9	23	24	286%	93%
Souty Bay/Peninsula (4reservoirs)	225	156	182	186	119%	83%
<i>CITY OF LOS ANGELES (D.W.P.)</i>						
Lake Crowley	183	124	123	116	94%	63%
Grant Lake	48	26	42	40	152%	84%
Other Aqueduct Storage (6 res.)	83	71	57	35	100%	100%

TELEMETERED SNOW WATER EQUIVALENTS

February 1, 2000

(AVERAGES BASED ON PERIOD RECORD)

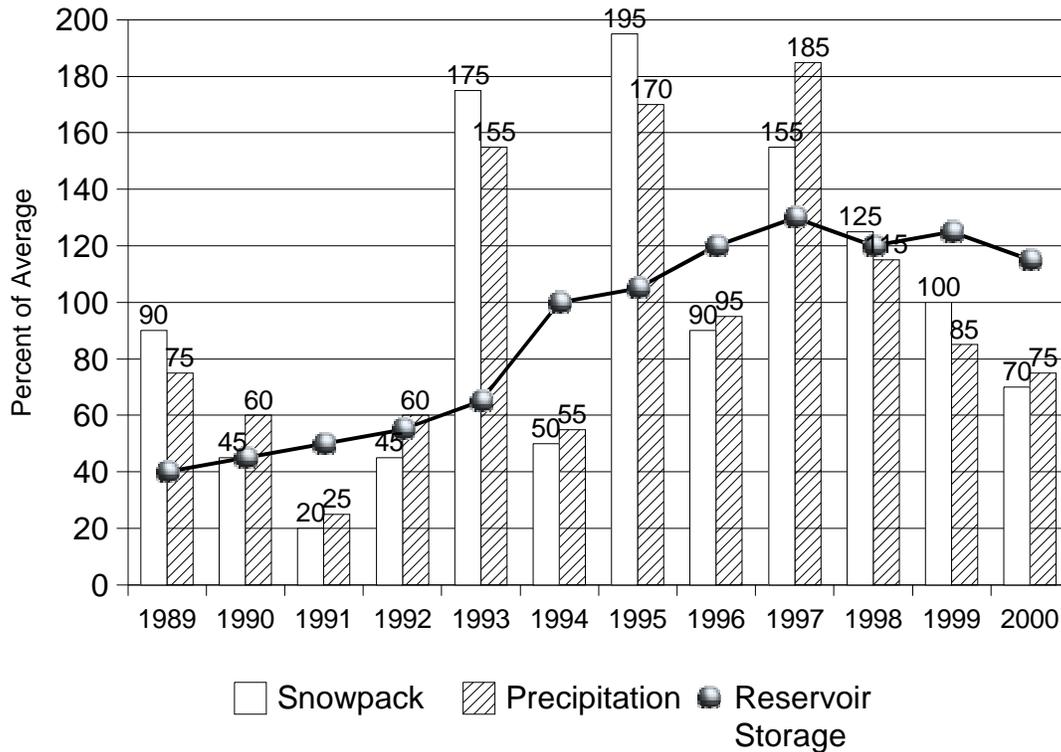
BASIN NAME	ELEV	APRIL 1 AVERAGE	INCHES OF WATER EQUIVALENT			
			PERCENT Feb 1 OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS	
TRINITY RIVER						
Peterson Flat	7150'	29.2	16.4	56.3	16.0	15.5
Red Rock Mountain	6700'	39.6	—	—	—	—
Bonanza King	6450'	40.5	18.0	44.4	17.0	15.5
Shimmy Lake	6200'	40.3	26.1	64.8	26.1	24.6
Middle Boulder 3	6200'	28.3	18.5	65.3	17.8	17.2
Highland Lakes	6030'	29.9	17.9	59.8	17.4	16.4
Scott Mountain	5900'	16.0	15.8	99.0	15.5	14.4
Mumbo Basin	5700'	22.4	7.8	34.8	7.6	7.1
Big Flat	5100'	15.8	8.6	54.4	8.2	7.4
SACRAMENTO RIVER						
Cedar Pass	7100'	18.1	10.1	55.8	9.9	8.5
Blacks Mountain	7100'	12.7	7.7	60.5	7.4	6.5
Sand Flat	6750'	42.4	24.2	57.2	24.0	22.6
Medicine Lake	6700'	32.6	18.5	56.7	18.1	16.9
Adin Mountain	6350'	13.6	8.9	65.4	8.5	6.6
Snow Mountain	5950'	27.0	17.2	63.6	16.6	13.9
Slate Creek	5600'	29.0	11.6	40.1	10.9	9.5
Stouts Meadow	5400'	36.0	18.7	52.0	18.1	16.0
FEATHER RIVER						
Kettle Rock	7300'	25.5	18.6	72.8	18.3	16.9
Grizzly Ridge	6900'	29.7	17.2	57.8	16.8	14.9
Pilot Peak	6800'	52.6	15.4	29.2	14.6	13.3
Gold Lake	6750'	36.5	24.2	66.4	24.0	22.1
Humbug	6500'	28.0	22.3	79.7	22.1	19.7
Rattlesnake	6100'	14.0	15.7	112.3	15.0	13.2
Bucks Lake	5750'	44.7	17.0	38.1	16.3	14.3
Four Trees	5150'	20.0	2.8	13.8	2.2	0.0
EEL RIVER						
Noel Spring	5100'	—	1.7	—	1.2	0.0
YUBA & AMERICAN RIVERS						
Lake Lois	8800'	39.5	26.8	67.8	26.1	24.8
Schneiders	8750'	34.5	24.7	71.7	24.7	21.1
Caples Lake	7800'	30.9	15.1	48.9	14.8	13.0
Alpha	7600'	35.9	17.5	48.9	17.2	15.0
Beta	7600'	35.9	—	—	—	—
Meadow Lake	7200'	55.5	—	—	—	—
Silver Lake	7100'	22.7	11.5	50.7	11.5	—
Central Sierra Snow Lab	6950'	33.6	20.5	61.0	20.1	17.2
Huysink	6600'	42.6	14.3	33.5	13.9	12.2
Van Vleck	6700'	35.9	17.0	47.4	16.8	14.0
Robbs Saddle	5900'	21.4	9.1	42.5	8.9	7.0
Greek Store	5600'	21.0	7.0	33.1	6.7	5.9
Blue Canyon	5280'	9.0	0.9	10.3	0.9	0.0
Robbs Powerhouse	5150'	5.2	2.1	40.4	2.5	3.0
MOKELUMNE & STANISLAUS RIVERS						
Deadman Creek	9250'	37.2	12.4	33.2	11.9	10.3
Highland Meadow	8800'	47.9	21.5	44.8	21.1	19.5
Gianelli Meadow	8350'	55.5	21.1	38.1	20.8	18.1
Lower Relief Valley	8100'	41.2	19.4	47.1	19.4	16.8
Blue Lakes	8000'	33.1	13.3	40.2	13.3	12.1
Mud Lake	7900'	44.9	27.9	62.2	27.7	25.2
Stanislaus Meadow	7750'	47.5	19.8	41.7	19.4	16.9
Bloods Creek	7200'	35.5	13.4	37.9	13.2	12.2
Black Springs	6500'	32.0	7.0	21.7	6.6	5.0
TUOLUMNE & MERCED RIVERS						
Dana Meadows	9800'	27.7	15.7	56.6	15.7	13.7
Slide Canyon	9200'	41.1	20.3	49.4	20.3	17.7
Lake Tenaya	8150'	33.1	19.4	58.6	19.4	16.8
Tuolumne Meadows	8600'	22.6	8.5	37.7	8.3	6.6
Horse Meadow	8400'	48.6	25.6	52.6	25.6	23.6
Ostrander Lake	8200'	34.8	14.0	40.3	13.4	11.4
Paradise Meadow	7650'	41.3	23.3	56.4	23.3	20.7
Gin Flat	7050'	34.2	7.0	20.4	6.7	4.3
Lower Kibbie Ridge	6600'	27.4	3.8	13.9	3.8	2.5

BASIN NAME	STATION NAME	ELEV	INCHES OF WATER EQUIVALENT				
			APRIL 1 AVERAGE	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS	
SAN JOAQUIN RIVER							
	Volcanic Knob	10100'	30.1	11.8	39.1	11.1	9.8
	Agnew Pass	9450'	32.3	14.3	44.3	14.3	12.3
	Kaiser Point	9200'	37.8	15.7	41.6	15.4	13.4
	Green Mountain	7900'	30.8	18.1	58.8	17.8	15.5
	Tamarack Summit	7600'	30.5	8.2	26.8	7.9	6.4
	Chilkoot Meadow	7150'	38.0	9.4	24.6	9.1	6.5
	Huntington Lake	7000'	20.1	8.3	41.2	7.9	5.6
	Graveyard Meadow	6900'	18.8	8.0	42.8	7.8	6.4
	Poison Ridge	6900'	28.9	5.5	19.1	5.4	4.7
KINGS RIVER							
	Bishop Pass	11200'	34.0	10.2	30.0	10.2	8.9
	Charlotte Lake	10400'	27.5	9.7	35.1	9.4	7.0
	State Lakes	10400'	29.0	—	—	—	—
	Mitchell Meadow	10375'	32.9	15.2	46.2	15.0	12.6
	Blackcap Basin	10300'	34.3	18.7	54.5	18.7	16.7
	Upper Burnt Corral	9700'	34.6	20.8	60.1	20.8	19.5
	West Woodchuck Meadow	9100'	32.8	13.9	42.4	13.9	11.5
	Big Meadows	7600'	25.9	13.9	53.7	13.9	12.7
KAWEAH & TULE RIVERS							
	Quaking Aspen	7200'	21.0	4.6	21.7	4.4	2.9
	Giant Forest	6400'	10.0	3.0	30.0	3.1	1.9
KERN RIVER							
	Upper Tyndall Creek	11500'	27.7	5.7	20.6	5.7	4.4
	Crabtree Meadow	10700'	19.8	—	—	—	—
	Chagoopa Plateau	10300'	21.8	8.9	40.9	8.9	7.6
	Pascoes	9150'	24.9	5.1	20.5	5.0	2.2
	Tunnel Guard Station	8950'	15.6	4.2	27.1	4.2	3.6
	Wet Meadows	8900'	30.3	6.8	22.4	6.4	3.4
	Casa Vieja Meadows	8400'	20.9	6.6	31.5	6.6	5.3
	Beach Meadows	7650'	11.0	2.9	26.7	2.9	1.7
SURPRISE VALLEY AREA							
	Dismal Swamp	7050'	29.2	17.5	59.9	17.1	15.3
TRUCKEE RIVER							
	Mount Rose Ski Area	8850'	38.5	18.2	47.3	18.0	16.0
	Independence Lake	8450'	41.4	22.3	53.9	22.2	20.4
	Big Meadows	8700'	25.7	10.2	39.7	10.1	8.6
	Squaw Valley	7800'	46.5	28.3	60.9	27.6	23.8
	Independence Camp	7000'	21.8	10.2	46.8	10.2	8.0
	Independence Creek	6500'	12.7	8.7	68.5	8.7	7.6
	Truckee 2	6350'	14.3	11.7	81.8	11.7	10.4
LAKE TAHOE BASIN							
	Heavenly Valley	8800'	28.1	13.3	47.3	13.1	—
	Hagans Meadow	8000'	16.5	7.7	46.7	7.6	6.2
	Marlette Lake	8000'	21.1	11.4	54.0	11.4	9.9
	Echo Peak 5	7800'	39.5	21.8	55.2	21.6	18.3
	Rubicon Peak 2	7500'	29.1	12.2	41.9	12.0	10.2
	Tahoe City Cross	6750'	16.0	11.2	70.0	11.2	10.0
	Ward Creek 3	6750'	39.4	19.8	50.3	19.4	16.0
	Fallen Leaf Lake	6300'	7.0	3.5	50.0	3.5	2.6
CARSON RIVER							
	Ebbetts Pass	8700'	38.8	15.7	40.5	15.6	13.8
	Poison Flat	7900'	16.2	9.5	58.6	9.5	7.9
	Monitor Pass	8300'	—	5.9	—	5.8	4.7
	Spratt Creek	6150'	4.5	0.9	20.0	0.9	0.2
WALKER RIVER							
	Leavitt Lake	9400'	—	30.0	—	29.6	27.2
	Virginia Lakes	9200'	20.3	6.0	29.6	5.9	4.6
	Lobdell Lake	9200'	17.3	5.9	34.1	5.9	4.6
	Sonora Pass Bridge	8750'	26.0	9.8	37.7	9.7	8.3
	Leavitt Meadows	7200'	8.0	5.9	73.7	5.8	4.8
OWENS RIVER/MONO LAKE							
	Gem Pass	10750'	31.7	14.7	46.2	14.0	12.1
	Sawmill	10300'	19.4	7.2	37.1	6.5	5.2
	Cottonwood Lakes	10200'	11.6	4.8	41.7	4.7	3.5
	Big Pine Creek	9800'	17.9	3.3	18.2	3.3	2.6
	South Lake	9600'	16.0	8.2	51.4	8.2	6.7
	Mammoth Pass	9500'	42.4	19.1	45.0	18.8	16.1
	Rock Creek Lakes	10000'	14.0	3.9	27.7	3.9	2.4

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%

February 1 Statewide Conditions



SNOWLINES

The 2000 WESTERN SNOW CONFERENCE annual meeting will be hosted by the North Pacific Region. It will be held April 17–20 at Port Angeles, WA. Don't miss a great meeting in a stunning location. For further information regarding the Western Snow Conference contact Frank Gehrke at 916–574–2635 or gridley@water.ca.gov.

Information is available on the web at <http://snobear.colorado.edu/WSC/WSC.html>.

Depicted on this month's cover –Mt. Ritter and Banner Peak rise above the headwaters of the North Fork of the San Joaquin River. The snowpack was still heavy here at 9600' elevation in late July 1998. Photo by Pierre Stephens

The Sandia Snow Detectors were installed at four field sites in California last summer. The sites, Meadow Lake in the Yuba, Gin Flat in the Tuolumne, Big Meadows in the Kings and Crabtree in the Kern, were chosen for accessibility and spatial and elevation diversity. Power consumption of the new units remains a problem but the next generation of detector should at least cut that in half.

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 1941-1990 (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
P.O. Box 942836
Sacramento, CA 94236-0001

First Class

