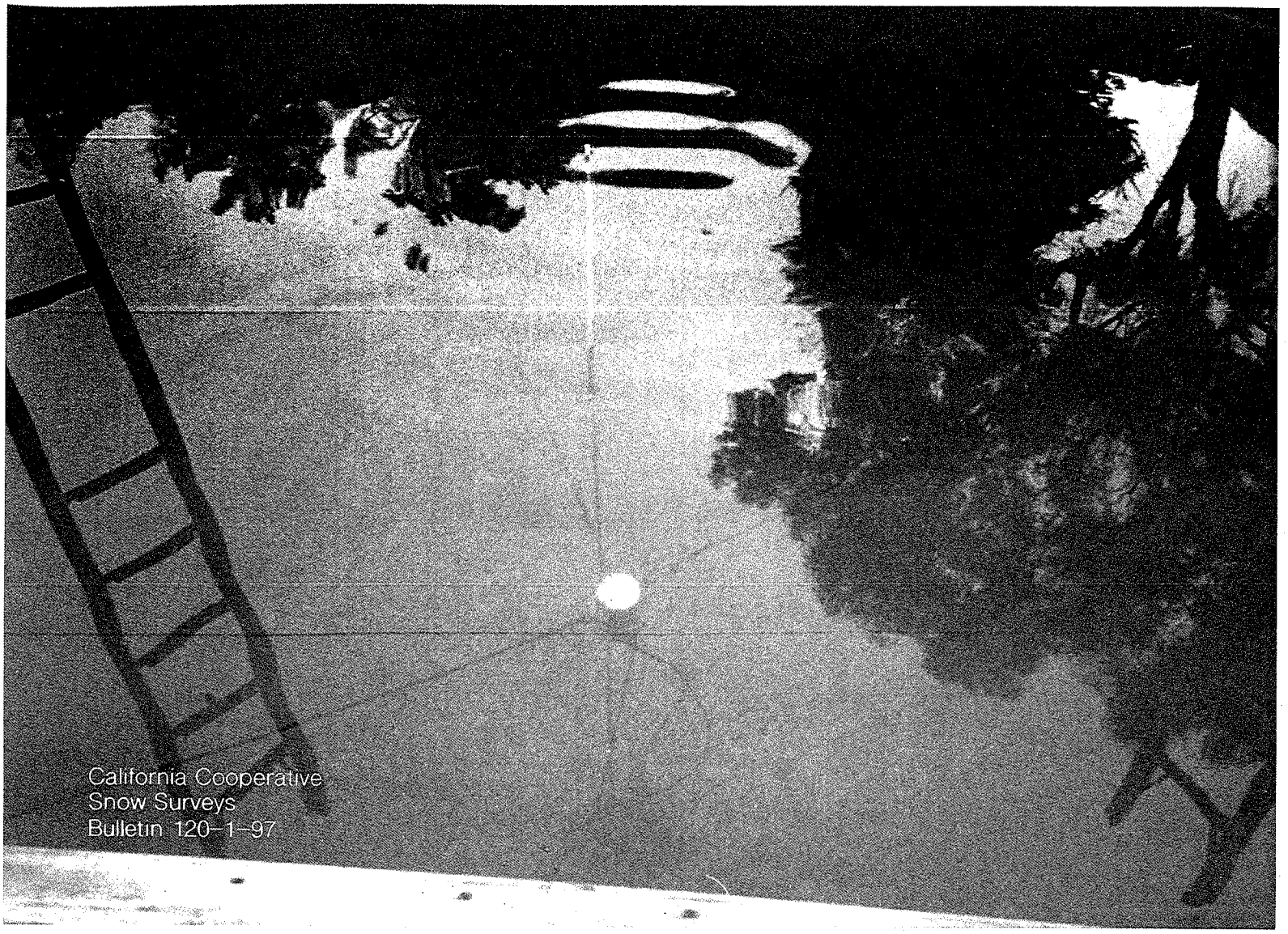

California Cooperative
Snow Surveys
Bulletin 120-1-97

State of California
The Resources Agency

Department of
Water Resources

Report 1 February 1, 1997

Pete Wilson
Governor
State of California

Douglas P. Wheeler
Secretary for Resources
The Resources Agency

David N. Kennedy
Director
Department of Water Resources

STATE OF CALIFORNIA
Pete Wilson, Governor

THE RESOURCES AGENCY
Douglas P. Wheeler, Secretary for Resources

Department of Water Resources
David N. Kennedy, Director

Stephen L. Kashiwada
Deputy Director

Robert G. Potter
Chief Deputy Director

Raymond D. Hart
Deputy Director

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COOPERATING AGENCIES

Public Agencies
Buena Vista Water Storage District
Central California Irrigation District
East Bay Municipal Utility 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
South San Joaquin Irrigation District
Tri-Dam Project
Tulare Lake Basin Water Storage District
Turlock Irrigation District
Yuba County Water Agency

Private Organizations
J.G. Boswell Company
Kaweah River Association
Kings River Water Association
St. Johns River 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
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)
Pacific Southwest Forest and Range Experiment Station
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, 1997

This has been a year of large storms. By mid-December seasonal precipitation totals were exceeding 150 percent. These already impressive amounts were boosted by the big New Year's subtropical storm which produced record flood flows on many Sierra rivers. Water supplies this year are more than ample; the problem is excess amounts -- such a contrast to the drought years at the start of the decade which seem now to be a distant memory.

Forecasts of runoff for the April through July period are far above normal at 145 percent of average. Snowmelt runoff percentages are much higher in the south, less in the north where much of the storm precipitation was in the form of rain to moderately high elevations. Water year runoff forecasts are about 50 percent higher because of the heavy winter runoff.

Snowpack water content is about 160 percent of average statewide for this date and about 100 percent of the average for April 1, the date of maximum accumulation. Last year the pack was 90 percent of average at this time. Snowpack percentages are much higher in the higher elevation southern Sierra.

Precipitation during January was about 190 percent of average. Statewide precipitation since October 1 was 185 percent of average. Last year it was 95 percent of average. The entire State except for the southeastern corner is well above average.

Runoff so far this season has been enormous, almost three times average compared to 85 percent last year. January runoff seems to have been 390 percent of average for the month, reflecting the floods. Estimated January runoff of the 8 major rivers of the Sacramento and San Joaquin River regions was 12.1 million acre-feet, a record for the month.

Reservoir storage remains excellent at 135 percent of average, and 83 percent of capacity. Some of the storage is due to temporary encroachment into flood control space at many San Joaquin Valley foothill reservoirs. Total storage last year was 120 percent of average.

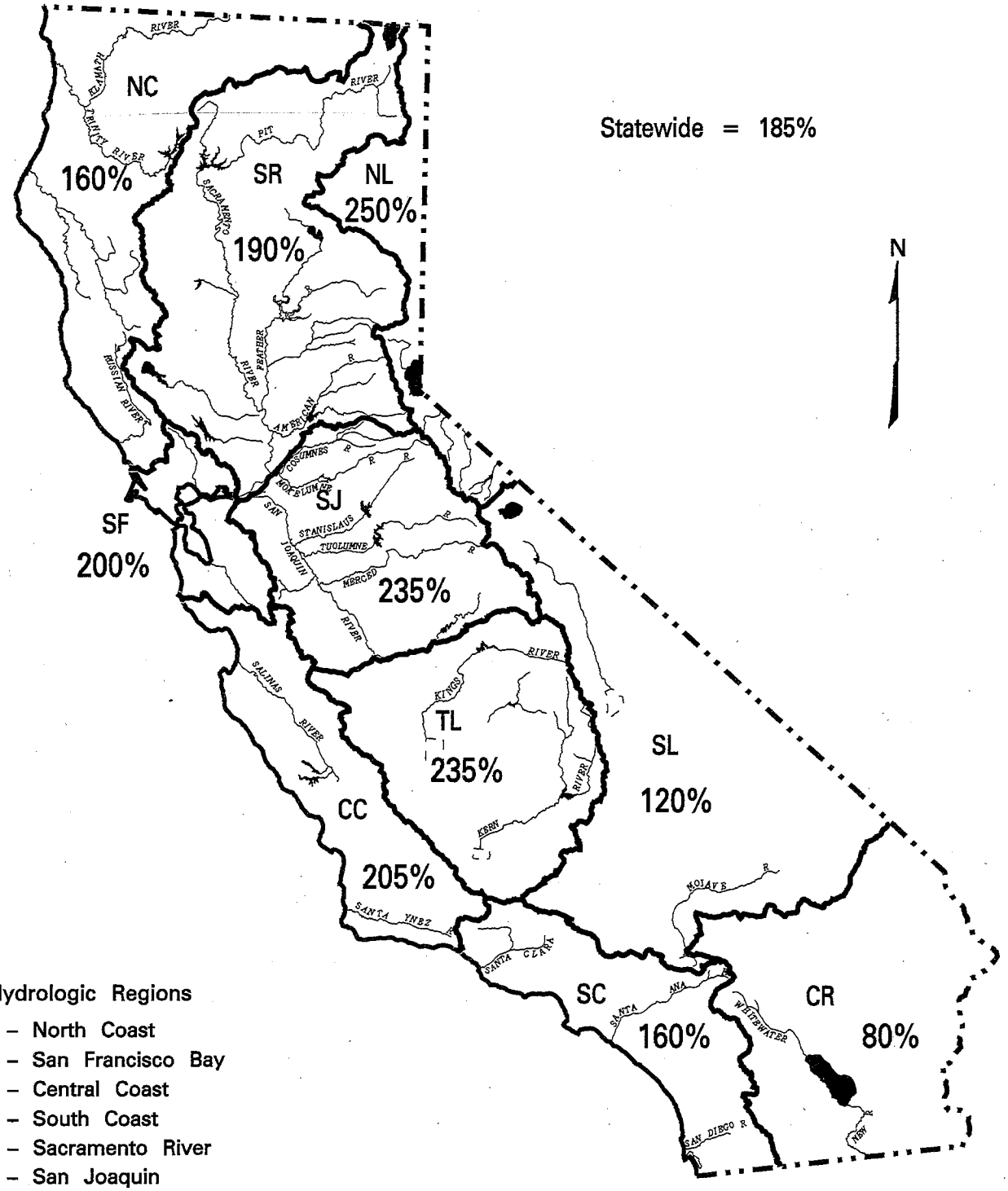
SUMMARY OF WATER CONDITIONS
IN PERCENT OF AVERAGE

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	160	80	120	240	85	150
SAN FRANCISCO BAY	200	--	140	280	--	--
CENTRAL COAST	205	--	140	370	--	--
SOUTH COAST	160	--	130	150	--	--
SACRAMENTO RIVER	190	115	120	280	125	180
SAN JOAQUIN RIVER	235	200	155	510	165	230
TULARE LAKE	235	200	220	430	185	220
NORTH LAHONTAN	250	180	185	400	180	200
SOUTH LAHONTAN	120	220	85	130	165	160
COLORADO RIVER-DESERT	80	---	---	---	---	---
STATEWIDE	**185**	**155**	**135**	**290**	**145**	**195**

SEASONAL PRECIPITATION

IN PERCENT OF AVERAGE TO DATE

October 1, 1996 through January 31, 1997



Hydrologic Regions

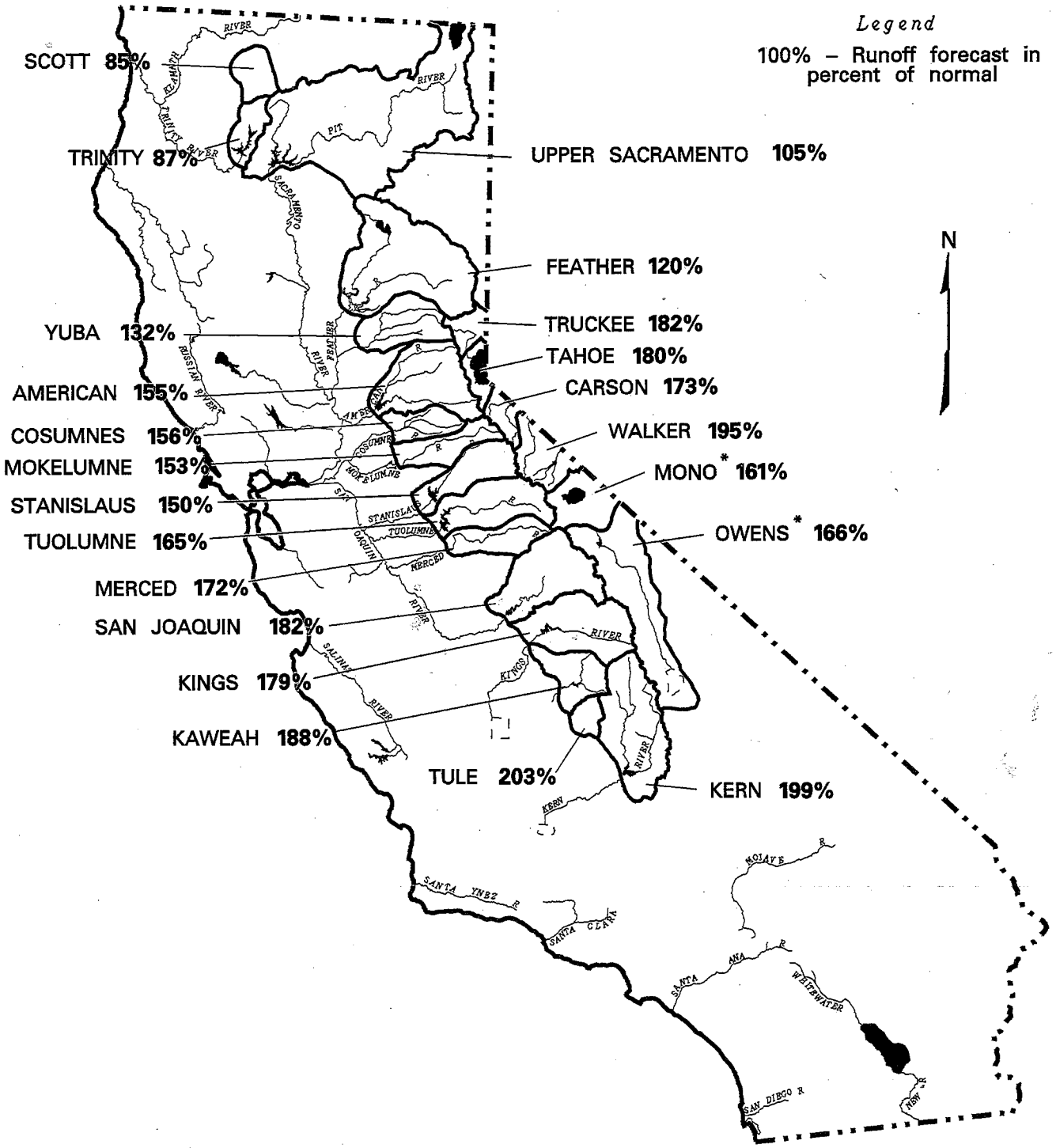
NC – North Coast
SF – San Francisco Bay
CC – Central Coast
SC – South Coast
SR – Sacramento River
SJ – San Joaquin
TL – Tulare Lake
NL – North Lahontan
SL – South Lahontan
CR – Colorado River–Desert

WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

FORECAST OF APRIL – JULY

UNIMPAIRED SNOWMELT RUNOFF

February 1, 1997



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

FEBRUARY 1, 1997 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)					
	HISTORICAL			FORECASTS		
	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	400	102%	
Pit River at Shasta Lake	1,056	1,796	480	1,150	109%	
Total Inflow to Shasta Lake	1,801	3,189	726	1,900	105%	1,250 - 2,800
Sacramento River above Bend Bridge, near Red Bluff	2,451	4,674	943	2,580	105%	1,700 - 3,820
Feather River						
Feather River at Lake Almanor near Prattville (3)	333	675	120	370	111%	
North Fork at Pulga (3)	1,028	2,416	243	1,190	116%	
Middle Fork near Clio (4)	86	518	4	100	116%	
South Fork at Ponderosa Dam (3)	110	267	13	130	118%	
Total Inflow to Oroville Reservoir	1,831	4,676	392	2,200	120%	1,550 - 3,260
Yuba River						
North Yuba below Goodyears Bar (3)	286	647	51	360	126%	
Inflow to Jackson Mdws and Bowman Reservoirs (3)	112	236	25	140	125%	
South Yuba at Langs Crossing (3)	233	481	57	280	120%	
Yuba River at Smartville	1,029	2,424	200	1,360	132%	1,000 - 2,000
American River						
North Fork at North Fork Dam (3)	262	716	43	390	149%	
Middle Fork near Auburn (3)	522	1,406	100	810	155%	
Silver Creek Below Camino Diversion Dam (3)	173	386	37	260	150%	
Total Inflow to Folsom Reservoir	1,261	3,074	229	1,960	155%	1,460 - 2,850
SAN JOAQUIN RIVER						
Cosumnes River at Michigan Bar	128	363	8	200	156%	140 - 310
Mokelumne River						
North Fork near West Point (5)	437	829	104	610	140%	
Total Inflow to Pardee Reservoir	459	1,065	102	700	153%	560 - 940
Stanislaus River						
Middle Fork below Beardsley Dam (3)	334	702	64	490	147%	
North Fork Inflow to McKays Point Dam (3)	224	503	34	350	156%	
Total Inflow to New Melones Reservoir	699	1,710	116	1,050	150%	800 - 1,430
Tuolumne River						
Cherry Creek & Eleanor Creek near Hetch Hetchy (3)	322	727	97	480	149%	
Tuolumme River near Hetch Hetchy (3)	606	1,392	153	940	155%	
Total Inflow to New Don Pedro Reservoir	1,184	2,682	301	1,950	165%	1,580 - 2,470
Merced River						
Merced River at Pohono Bridge (3)	362	888	80	600	166%	
Total Inflow to Lake McClure	611	1,587	123	1,050	172%	850 - 1,330
San Joaquin River						
San Joaquin River at Mammoth Pool (6)	1,014	2,279	235	1,710	169%	
Big Creek below Huntington Lake (6)	95	264	11	170	179%	
South Fork near Florence Lake (6)	202	511	58	330	163%	
Total Inflow to Millerton Lake	1,212	3,355	262	2,200	182%	1,800 - 2,780
TULARE LAKE						
Kings River						
North Fork Kings River near Cliff Camp (3)	239	565	50	420	176%	
Total Inflow to Pine Flat Reservoir	1,183	3,114	273	2,120	179%	1,680 - 2,640
Kaweah River at Terminus Reservoir	276	814	61	520	188%	410 - 670
Tule River at Success Reservoir	59	256	2	120	203%	90 - 170
Kern River						
Kern River near Kernville (3)	373	1,203	83	700	188%	
Total Inflow to Isabella Reservoir	442	1,657	84	880	199%	700 - 1,200

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1946-1995 unless otherwise noted
(3) 50 year average based on years 1941-90
(4) 44 year average based on years 1936-79
(5) 36 year average based on years 1936-72
(6) 45 year average based on years 1936-81

FEBRUARY 1, 1997 FORECASTS
WATER YEAR UNIMPAIRED RUNOFF

Unimpaired Runoff in 1,000 Acre-Feet (1)														
HISTORICAL			DISTRIBUTION								FORECASTS			
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	5,150	1,484												
5,896	10,796	2,479	4,400	1,300	1,000	770	560	330	240	450	9,050	153%	7,430	- 11,200
8,518	17,180	3,294	6,210	2,200	1,600	960	840	460	320	560	13,150	154%	10,800	- 16,500
780	1,269	366												
2,417	4,400	666												
219	637	24												
291	562	32												
4,526	9,492	994	4,380	910	700	850	800	360	190	200	8,390	185%	7,150	- 10,400
564	1,056	102												
181	292	30												
379	565	98												
2,337	4,926	369	2,500	500	430	490	500	300	70	50	4,840	207%	4,200	- 5,800
616	1,234	66												
1,070	2,575	144												
318	705	59												
2,674	6,381	349	3,180	600	450	590	780	460	130	50	6,240	233%	5,450	- 7,630
378	1,253	20	610	140	110	100	70	24	6	5	1,065	282%	930	- 1,320
626	1,009	197												
736	1,800	129	620	170	130	170	260	220	50	10	1,630	221%	1,420	- 1,980
471	929	88												
1,131	2,952	155	980	200	200	270	380	300	100	30	2,460	218%	2,050	- 3,000
461	1,147	123												
770	1,661	258												
1,857	4,430	383	1,540	300	330	360	630	640	320	80	4,200	226%	3,600	- 4,900
461	1,020	92												
952	2,859	150	925	200	170	200	380	340	130	45	2,390	251%	2,050	- 2,800
1,337	2,964	308												
112	298	14												
248	653	71												
1,753	4,642	362	1,065	260	300	350	710	790	350	175	4,000	228%	3,460	- 4,780
284	607	58												
1,647	4,294	383	810	170	160	310	690	760	360	140	3,400	206%	2,860	- 4,100
431	1,402	92	335	60	60	110	180	160	70	25	1,000	232%	860	- 1,200
135	615	16	225	50	40	45	45	20	10	5	440	326%	380	- 530
558	1,577	163												
694	2,309	175	365	100	120	190	300	270	120	75	1,540	222%	1,300	- 2,200

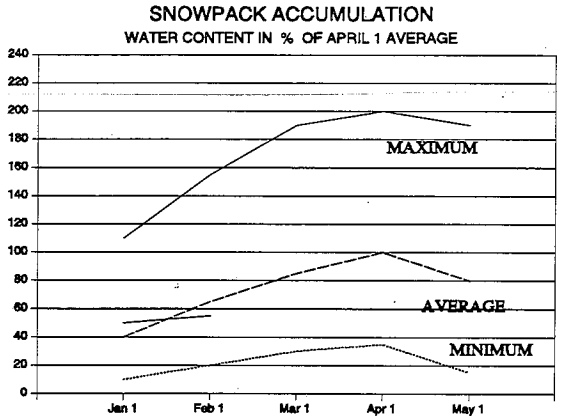
* Indicates observed runoff

FEBRUARY 1, 1997 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

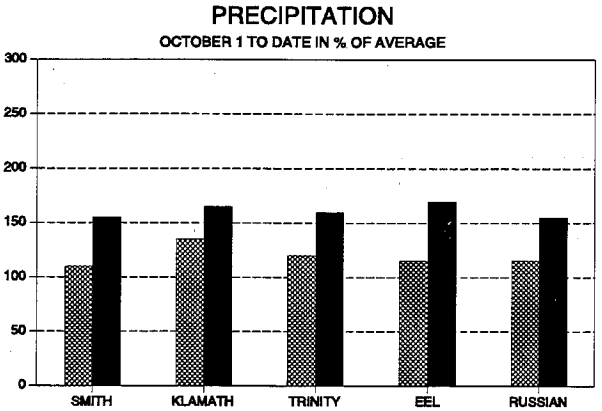
HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)				
	HISTORICAL			FORECASTS	
	50 Yr Avg (2)	Max of Record	Min of Record	Apr-Jul Forecasts	Pct of Avg
NORTH COAST					
Trinity River					
Total Inflow to Lewiston Lake	642	1,593	80	560	87%
Scott River					
Near Fort Jones	200	N/A	N/A	170	85%
Klamath River					
Total inflow to Upper Klamath Lake (3,4)	510	655	320	N/A	N/A
NORTH LAHONTAN					
Truckee River					
Lake Tahoe to Farad accretions	264	713	58	480	182%
Lake Tahoe Rise (assuming gates closed, in feet) (3)	1.5	3.8	0.2	2.7	180%
Carson River					
West Fork at Woodfords	54	135	12	90	167%
East Fork near Gardnerville	183	407	43	320	175%
Walker River					
West Fork near Coleville	143	330	35	250	175%
East Fork near Bridgeport	61	209	7	140	230%
SOUTH LAHONTAN					
Owens River					
Total tributary flow to Owens River (3,5)	233	579	96	386	166%

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1946-1995 unless otherwise noted
(3) 50 year average based on years 1941-1990
(4) Forecast by U.S. Natural Resources Conservation Service, Portland Oregon, for May through September.
(5) Forecast by Department of Water and Power, City of Los Angeles

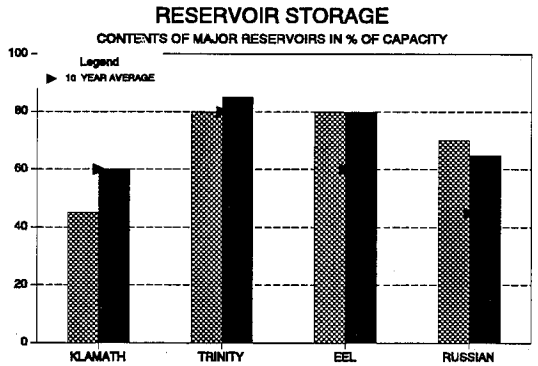
NORTH COAST REGION



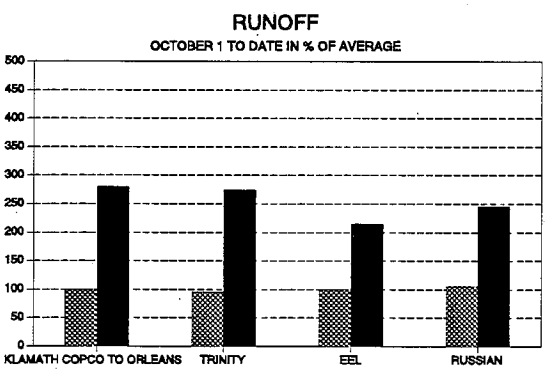
SNOWPACK - First of the month measurements made at 12 snow courses indicate an area wide snow water equivalent of 16.6 inches. This is 80 percent of the February 1 average and 55 percent of the seasonal (April 1) average. Last year at this time the pack was holding 20.2 inches of water.



PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 160 percent of normal. Precipitation last month was about 140 percent of the monthly average. Seasonal precipitation at this time last year stood at 120 percent of normal.

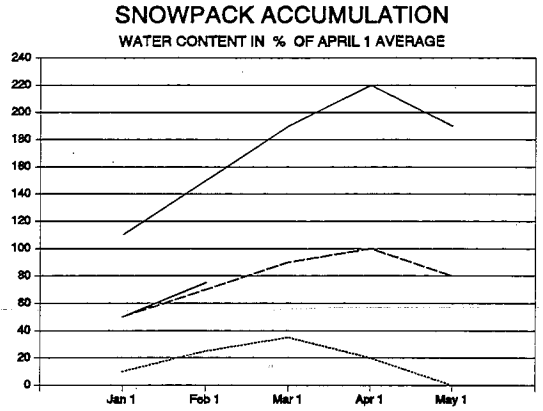


RESERVOIR STORAGE - First of the month storage in 7 reservoirs was 2.6 million acre-feet which is 120 percent of average. About 85 percent of available capacity was being used. Storage in these reservoirs at this time last year was 115 percent of average.



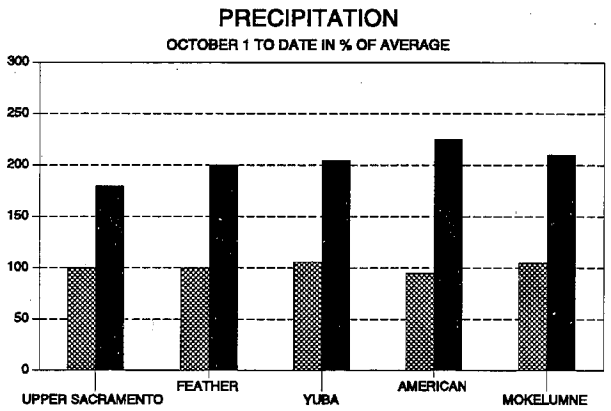
RUNOFF - Seasonal runoff of streams draining the area totaled 13.3 million acre-feet which is 240 percent of average for this period. Last year, runoff for the same period was 100 percent of average.

LAST YEAR THIS YEAR

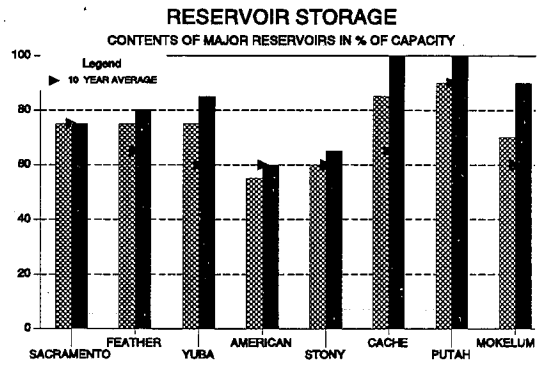


SACRAMENTO RIVER REGION

SNOWPACK - First of the month measurements made at 74 snow courses indicate an area wide snow water equivalent of 23.1 inches. This is 115 percent of the February 1 average and 75 percent of the seasonal (April 1) average. Last year at this time the pack was holding 17.6 inches of water.

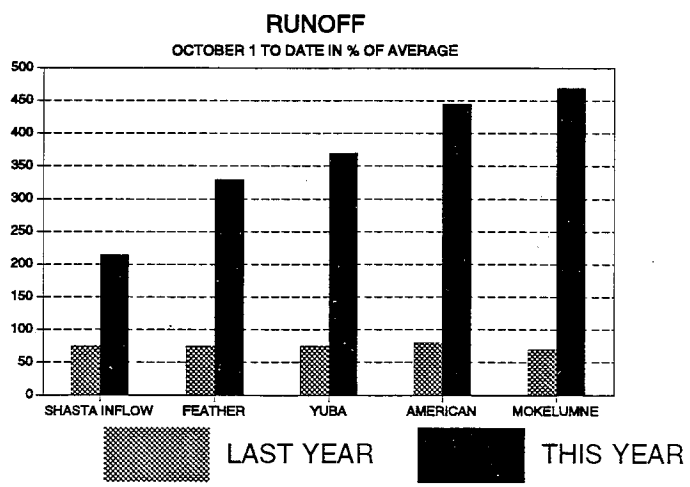


PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 195 percent of normal. Precipitation last month was about 190 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal.



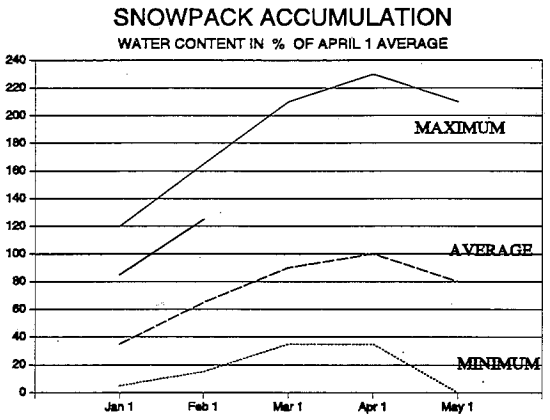
RESERVOIR STORAGE - First of the month storage in 7 reservoirs was 12.9 million acre-feet which is 120 percent of average. About 80 percent of available capacity was being used. Storage in these reservoirs at this time last year was 115 percent of average.

RUNOFF - Seasonal runoff of streams draining the area totaled 16.3 million acre-feet which is 280 percent of average for this period. Last year, runoff for the same period was 75 percent of average.

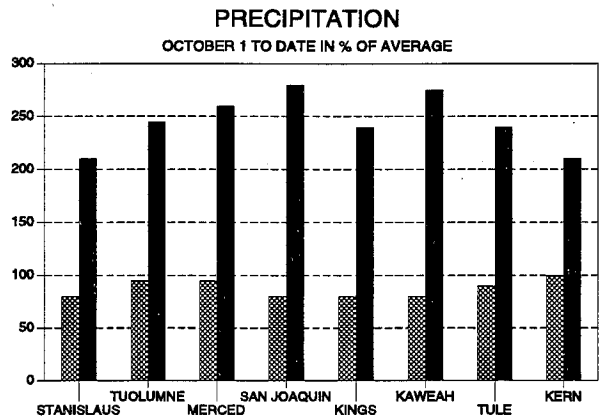


The Sacramento River Region 40-30-30 Water Supply Index is forecasted to be 13.3 million acre-feet assuming median meteorological conditions for the remainder of the year. This classifies the year as "wet" in the Sacramento-San Joaquin Delta according to the State Water Resources Control Board.

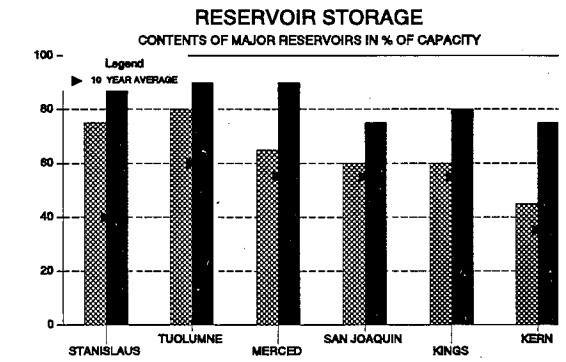
SAN JOAQUIN RIVER AND TULARE LAKE REGIONS



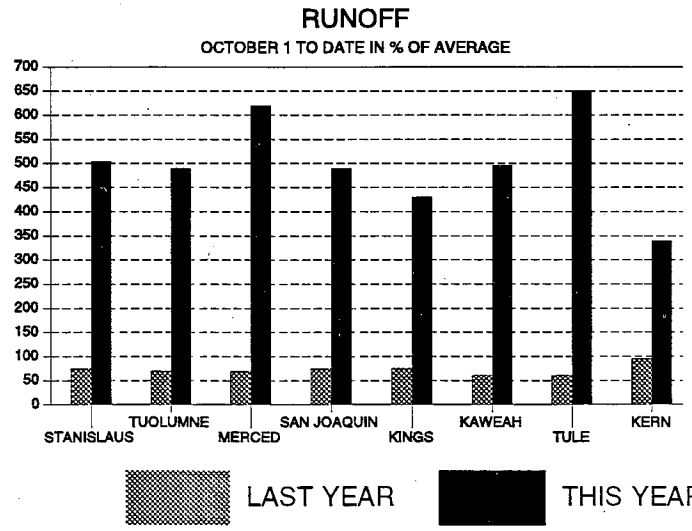
SNOWPACK - First of the month measurements made at 62 San Joaquin Region snow courses indicate an area wide snow water equivalent of 40.0 inches. This is 200 percent of the February 1 average and 125 percent of the seasonal (April 1) average. Last year at this time the pack was holding 17.9 inches of water 95 percent of average.
At the same time, 42 Tulare Lake Region snow courses indicated a basin-wide snow water equivalent of 26.8 inches which is 205 percent of the average for February 1 and 130 percent of the seasonal average. Last year at this time, the Basin was holding 11.3 inches of water, 80 percent of average.



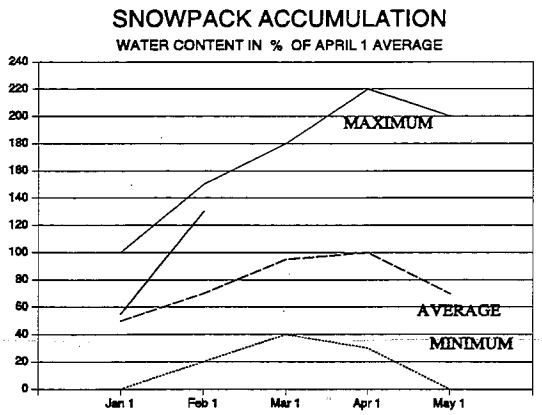
PRECIPITATION - Seasonal precipitation (October 1 through January 31) on the San Joaquin River Region was 235 percent of normal. Precipitation last month was about 245 percent of the monthly average. Seasonal precipitation at this time last year stood at 90 percent of normal.
Seasonal precipitation on the Tulare Lake Region was 240 percent of normal. Precipitation last month was 295 percent of the monthly average. Seasonal precipitation at this time last year stood at 85 percent of normal.

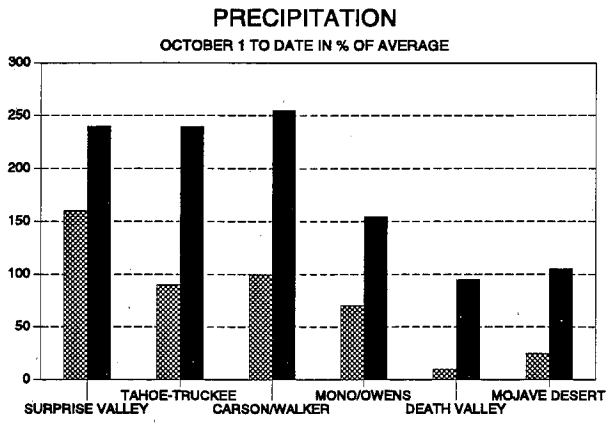


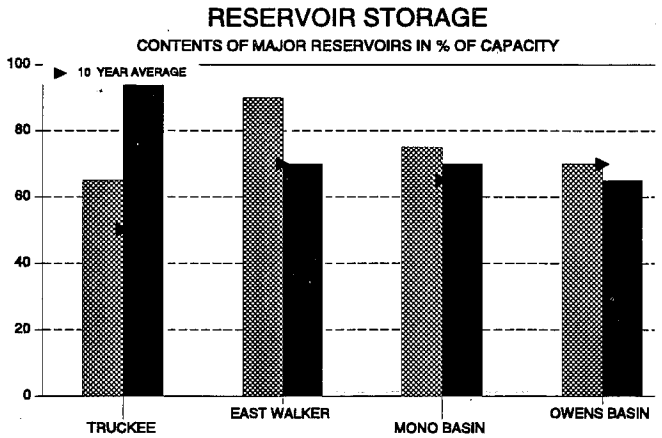
RESERVOIR STORAGE - First of the month storage in 33 San Joaquin River Region reservoirs was 10 million acre-feet which is 155 percent of average and about 90 percent of available capacity. Storage in these reservoirs at this time last year was 135 percent of average.
First of the month storage in 6 Tulare Lake Region reservoirs was 1.6 million acre-feet which is 220 percent of average. About 80 percent of available capacity was being used. Storage in these reservoirs at this time last year was 140 percent of average.

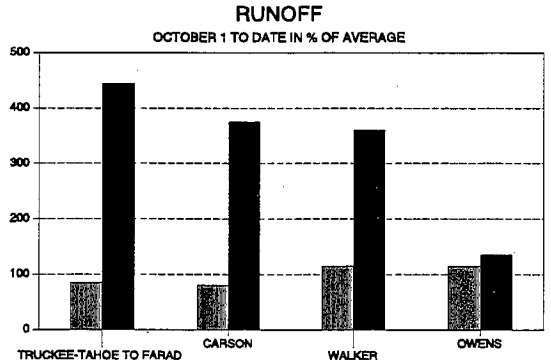


RUNOFF - Seasonal runoff of streams draining the area totaled 5.7 million acre-feet which is 510 percent of average for this period. Last year, runoff for the same period was 70 percent of average.
Stream runoff draining into the Tulare Lake Basin totaled 1.9 million acre-feet which is 430 percent of average for this period. Last year, runoff for this same period was 80 percent of average.
The San Joaquin River Region 60-20-20 Water Supply Index is forecasted to be 5.9 million acre-feet which classifies the year as "wet".









NORTH AND SOUTH LAHONTAN REGIONS

SNOWPACK - First of the month measurements made at 14 North Lahontan snow courses indicate an area wide snow water equivalent of 33.4 inches. This is 190 percent of the February 1 average and 125 percent of the seasonal (April 1) average. Last year at this time the pack was holding 16.4 inches of water, 95 percent of average.

At the same time, 21 South Lahontan snow courses indicated a basin-wide snow water equivalent of 32.7 inches which is 220 percent of the average for February 1 and 135 percent of the seasonal average. Last year at this time, the pack was holding 13.9 inches of water, 85 percent of average.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the North Lahontan Region was 250 percent of normal. Precipitation last month was about 225 percent of the monthly average. Seasonal precipitation at this time last year stood at 115 percent of normal.

Seasonal precipitation on the South Lahontan Region was 120 percent of normal. Precipitation last month was 105 percent of the monthly average. Seasonal precipitation at this time last year stood at 55 percent of normal.

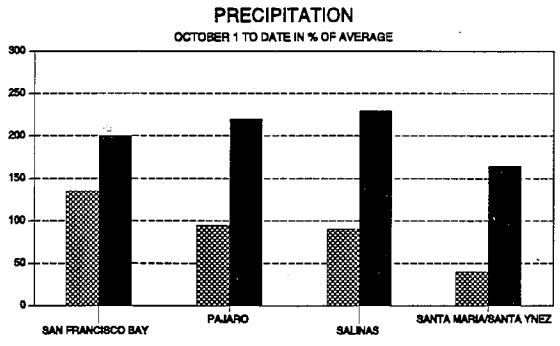
RESERVOIR STORAGE - First of the month storage in 5 North Lahontan Region reservoirs was 1.0 million acre-feet which is 185 percent of average. About 95 percent of available capacity was being used. Storage in these reservoirs at this time last year was 130 percent of average. Lake Tahoe was 6.1 feet above its natural rim on February 1.

First of the month storage in 8 South Lahontan Region reservoirs was 236 thousand acre-feet which is 85 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 95 percent of average.

RUNOFF - Seasonal runoff of streams draining the North Lahontan area totaled 613 thousand acre-feet which is 400 percent of average for this period. Last year, runoff for the same period was 95 percent of average.

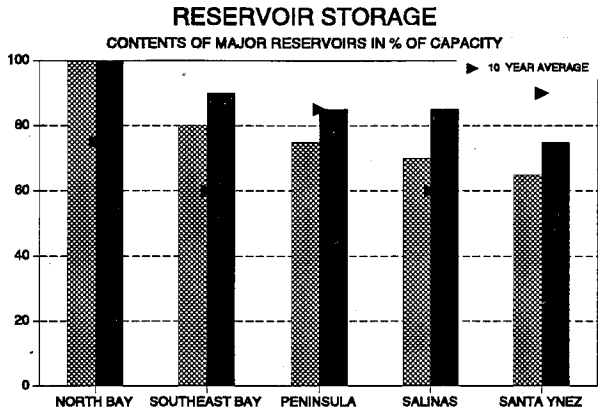
Seasonal runoff of the Owens River in the South Lahontan Region totaled 61 thousand acre-feet which is 135 percent of average for this period. Last year, runoff for this same period was 115 percent of average.

SAN FRANCISCO BAY AND CENTRAL COAST REGIONS



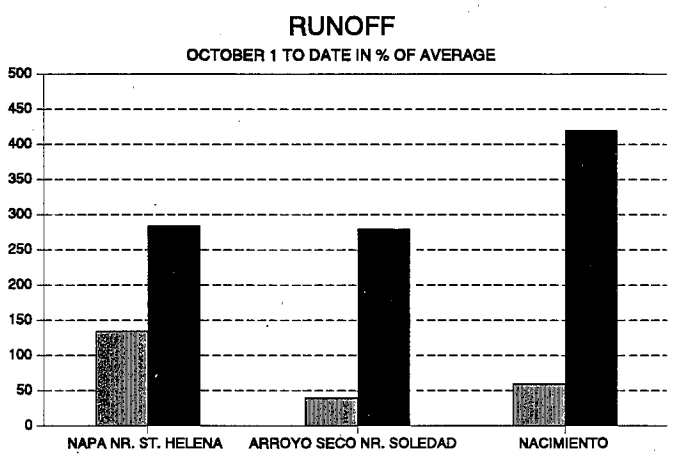
PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the San Francisco Bay area was 200 percent of normal. Precipitation last month was about 190 percent of the monthly average. Seasonal precipitation at this time last year stood at 135 percent of normal.

Seasonal precipitation on the Central Coast area was 205 percent of normal. Precipitation last month was 185 percent of the monthly average. Seasonal precipitation at this time last year stood at 75 percent of normal.



RESERVOIR STORAGE - First of the month storage in 18 major Bay area reservoirs was 629 thousand acre-feet which is 140 percent of average. About 90 percent of available capacity was being used. Storage in these reservoirs at this time last year was 130 percent of average.

First of the month storage in 6 major Central Coast reservoirs was 801 thousand acre-feet which is 140 percent of average. About 85 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 the Napa River in the San Francisco Bay area totaled 95 thousand acre-feet which is 280 percent of average for this period. Last year, runoff for the same period was 130 percent of average.

Seasonal runoff of selected Central Coast streams totaled 484 thousand acre-feet, which is 370 percent of average for this period. Last year, runoff for this same period was 55 percent of average.

LAST YEAR THIS YEAR

SOUTH COAST AND COLORADO RIVER AREAS

PRECIPITATION - October through January (seasonal) precipitation on the South Coast area was 160 percent of normal. January precipitation was 180 percent of the monthly average. Seasonal precipitation at this time last year was 40 percent of normal.
Seasonal precipitation on the Colorado Desert area was 80 percent of normal. Precipitation in January was 190 percent of average. Seasonal precipitation at this time last year stood at 5 percent of average.
RESERVOIR STORAGE - February 1 storage in 29 major South Coast area reservoirs was 1.5 million acre-feet or 130 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.
On February 1 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 45 million acre-feet or about 115 percent of average. About 85 percent of available capacity was in use. Last year at this time, these reservoirs were storing 115 percent of average.
RUNOFF - Seasonal runoff from selected South Coast streams totaled 28 thousand acre-feet which is 150 percent of average. Runoff from these streams during January totaled 16 thousand acre-feet or 205 percent of average. Seasonal runoff from these streams last year was 90 percent of average.
COLORADO RIVER - The February 1 snowpack in the Upper Colorado River basin according to U.S. Natural Resources Conservation Service reports was 175 percent of average and uniform through out the basin.
The April through July inflow to Lake Powell is forecast to be 13.2 million acre-feet, which is 171 percent of average.

CENTRAL VALLEY PROJECT

Based on February 1 conditions, Bureau of Reclamation water year forecasts for unimpaired runoff to CVP reservoirs are: Trinity--173% of average, Shasta--216% of average, American--238% of average, Stanislaus--205% of average, San Joaquin above Friant--176% of average. As of February 1, 1997 CVP storage was 9.13 million acre feet which is an increase of 0.4 million acre feet compared to one year ago, and is approximately 133% of normal for that date.

The Bureau of Reclamation will announce water allocations, based on a 90% exceedence runoff estimate, for the CVP on February 14, 1997. Agricultural contractors north of the Delta will receive 100% of their contract supply, while those south will receive 90% of their contractual supply; urban contractors will receive 100% of their contractual supply; and wildlife refuges will receive 90% of level II supplies. Sacramento water rights settlement contractors and San Joaquin Exchange contractors will receive 100% of their supplies.

Friant Division allocations will receive 100% Class I, and approximately 75% Class II supplies. Stanislaus River contractors will receive 100% of their requested supplies.

STATE WATER PROJECT

State Water Project deliveries have been approved at 2.4 million acre-feet which meets at least 70 percent of most contractors' entitlement. Approvals will be reevaluated with each new round of monthly water supply forecasts.

The extreme wetness during the past 2 months caused Lake Oroville to spill approximately 0.5 million acre-feet in December, 1996 and 1.9 million acre-feet in January, 1997 while maintaining flood control space in the reservoir.

MAJOR WATER DISTRIBUTION PROJECTS

RESERVOIR STORAGE

(AVERAGES BASED ON PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	STORAGE AT END OF JANUARY 1996 1,000 AF	1997 1,000 AF	PERCENT AVERAGE	PERCENT CAPACITY
STATE WATER PROJECT						
Lake Oroville	3,538	2,427	2,750	2,860	118%	81%
San Luis Reservoir (SWP)	1,062	833	1,061	1,102	132%	104%
Lake Del Valle	77	30	37	37	125%	48%
Lake Silverwood	73	64	39	12	19%	17%
Pyramid Lake	171	162	159	165	102%	96%
Castaic Lake	324	248	256	307	124%	95%
Perris Lake	132	110	111	124	113%	95%
CENTRAL VALLEY PROJECT						
Clair Engle Lake	2,448	1,815	1,956	2,100	116%	86%
Lake Shasta	4,552	3,181	3,519	3,476	109%	76%
Whiskeytown Lake	241	208	197	206	99%	86%
Folsom Lake	977	534	504	376	70%	39%
New Melones Reservoir	2,420	1,401	1,909	2,243	160%	93%
Millerton Lake	520	305	367	455	150%	88%
San Luis Reservoir (CVP)	971	734	873	897	122%	92%
COLORADO RIVER PROJECT						
Lake Mead	26,159	19,864	21,643	22,288	112%	85%
Lake Powell	25,002	16,600	20,946	19,991	120%	80%
Lake Mohave	1,810	1,595	1,632	1,672	105%	92%
Lake Havasu	619	539	568	564	105%	91%
EAST BAY MUNICIPAL UTILITY DISTRICT						
Pardee Reservoir	198	176	202	191	108%	96%
Camanche Reservoir	417	241	290	360	149%	86%
East Bay (4 reservoirs)	151	122	131	136	112%	90%
CITY AND COUNTY OF SAN FRANCISCO						
Hetch-Hetchy Reservoir	360	144	282	291	202%	81%
Cherry Lake	268	103	239	243	235%	91%
Lake Eleanor	26	9	18	25	293%	97%
South Bay/Peninsula (4 reservoirs)	225	157	203	210	134%	94%
CITY OF LOS ANGELES (D.W.P.)						
Lake Crowley	183	128	132	127	99%	69%
Grant Lake	48	30	43	47	157%	98%
Other Aqueduct Storage (6 res.)	83	71	61	67	94%	81%

State of California - Department of Water Resources
CALIFORNIA COOPERATIVE SNOW SURVEYS
Snow Water Equivalents (inches) February 1, 1997

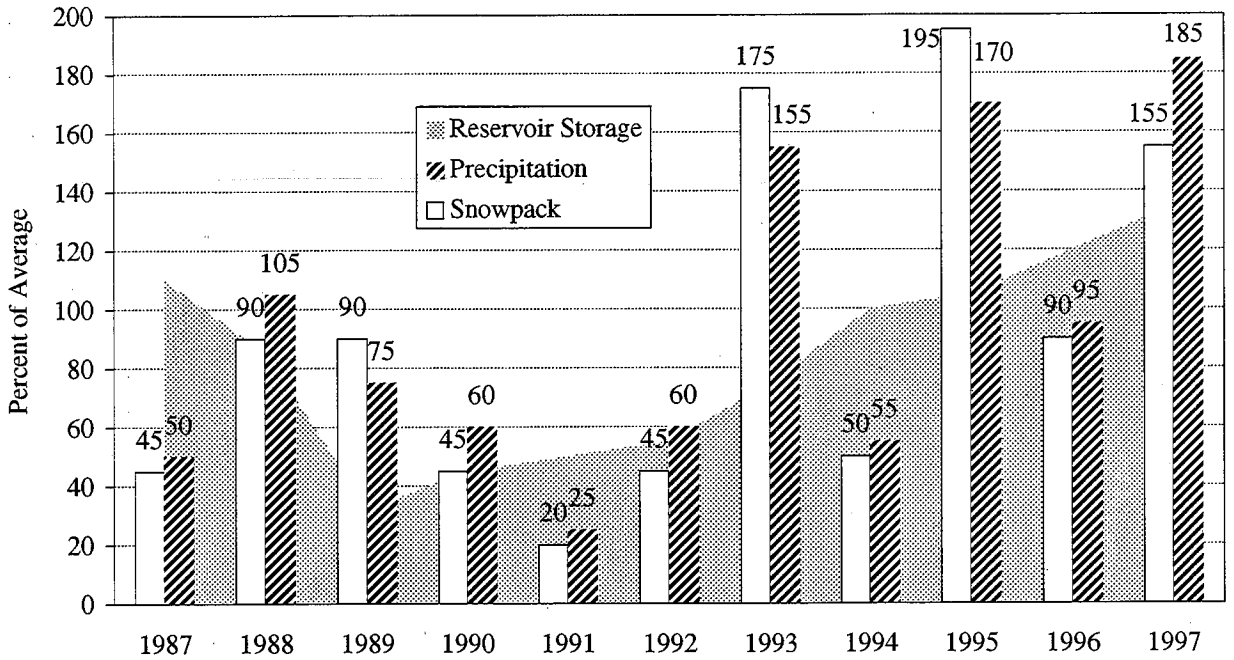
Basin Name / Station Name	ID	Coop. Agency	Elev	Apr 1 Avg	Today	Percent Apr 1	24 Hrs Ago	1 Week Ago
TRINITY RIVER								
Peterson Flat	PET	DWR	7150	29.2	21.1	72%	21.1	16.8
Red Rock Mountain	RRM	WEAV	6700	39.6	22.2r	56%	22.2r	19.6
Bonanza King	BNK	USBR	6450	40.5	----	----	----	----
Shimmy Lake	SHM	WEAV	6200	40.3	----	----	----	----
Middle Boulder 3	MB3	SCOT	6200	28.3	11.1	39%	11.1	9.1
Highland Lakes	HIG	WEAV	6030	29.9	15.4	51%	15.5	10.8
Scott Mountain	SCT	DWR	5900	16.0	11.2	70%	11.2	9.5
Mumbo Basin	MUM	WEAV	5700	22.4	15.5	69%	15.7	13.2
Big Flat	BFL	WEAV	5100	15.8	4.2	27%	4.1	2.0
SACRAMENTO RIVER								
Cedar Pass	CDP	USFS	7100	18.1	15.4	85%	15.2	13.6
Blacks Mountain	BLA	HAT	7100	12.7	6.8	53%	6.8	5.2
Sand Flat	SDF	MT S	6750	42.4	28.3	67%	28.1	24.2
Medicine Lake	MED	DOUB	6700	32.6	13.0	40%	13.1	12.8
Adin Mountain	ADM	BIG	6350	13.6	10.2	75%	10.2	10.1
Snow Mountain	SNM	HAT	5950	27.0	15.2	56%	15.2	----
Slate Creek	SLT	WEAV	5600	29.0	8.1	28%	8.1	5.5
Stouts Meadow	STM	MC C	5400	36.0	----	----	----	----
FEATHER RIVER								
Kettle Rock	KTL	DWR-	7300	25.5	----	----	----	----
Grizzly Ridge	GRZ	DWR-	6900	29.7	29.5	99%	29.5	23.8
Pilot Peak (dwr)	PLP	YCWA	6800	52.6	33.7	64%	34.0	24.5
Gold Lake	GOL	DWR	6750	36.5	32.5	89%	32.4	25.7
Humbug	HMB	DWR	6500	28.0	----	----	----	----
Rattlesnake	RTL	DWR	6100	14.0	13.9	99%	13.9	8.5
Bucks Lake	BKL	DWR	5750	44.7	15.8	35%	15.7	11.3
Four Trees	FOR	DWR	5150	20.0	10.6	53%	10.7	11.5r
EEL RIVER								
Noel Spring	NLS	COE	5100	----	3.6	----	3.7	5.2
Plaskett Meadows	PSM	USFS	6000	----	8.8	----	8.9	8.6
YUBA & AMERICAN RIVERS								
Lake Lois	LOS	DWR	8800	39.5	----	----	----	----
Schneiders	SCN	SMUD	8750	34.5	52.0	151%	52.1	47.2
Caples Lake (dwr)	CAP	PG&E	7800	30.9	34.0	110%	34.0	29.4
Alpha	ALP	SMUD	7600	35.9	37.7	105%	37.7	32.0
Beta	BTA	DWR	7600	35.9	33.6	94%	33.6	29.4
Forni Ridge	FRN	USBR	7600	37.0	23.8	64%	23.8	20.5
Silver Lake (dwr)	SIL	AMAD	7100	22.7	26.0	115%	26.0	21.2
Central Sierra Snow	LCSL	NRCS	6950	33.6	44.6	133%	44.4	40.6
Huysink	HYS	NEVA	6600	42.6	30.7	72%	30.5	26.8
Van Vleck	VVL	SMUD	6700	35.9	----	----	----	----
Robbs Saddle	RBB	SMUD	5900	21.4	----	----	----	----
Greek Store	GKS	USBR	5600	21.0	17.9	85%	17.7	13.0e
Blue Canyon	BLC	USBR	5280	9.0	5.1	57%	5.5	7.3
Robbs Powerhouse	RBP	SMUD	5150	5.2	6.1	117%	6.2	6.0r
MOKELUMNE & STANISLAUS	RIVERS							
Deadman Creek	DDM	PG&E	9250	37.2	41.6	112%	41.4	36.7
Highland Meadow	HHM	PG&E	8800	47.9	51.5	107%	51.4	44.5
Gianelli Meadow	GNL	USFS	8350	55.5	54.5	98%	54.5	48.6
Lower Relief Valley	REL	PG&E	8100	41.2	50.8	123%	50.8	44.2
Blue Lakes	BLK	PG&E	8000	33.1	36.7	111%	36.7	34.1
Mud Lake	MDL	SMUD	7900	44.9	65.5	146%	65.5	58.3
Stanislaus Meadow	SLM	PG&E	7750	47.5	52.6	111%	52.2	45.4
Bloods Creek	BLD	CALA	7200	35.5	37.0	104%	37.0e	32.0r
Black Springs	BLS	CALA	6500	32.0	23.7	74%	23.2e	21.0
TUOLUMNE & MERCED RIVERS								
Dana Meadows	DAN	YOSE	9800	27.7	34.0	123%	34.0	32.0
Slide Canyon	SLI	DWR	9200	41.1	59.5	145%	60.8	57.6
Snow Flat	SNF	YOSE	8700	44.1	----	----	----	----
Tuolumne Meadows	TUM	YOSE	8600	22.6	25.9	115%	26.4	23.4
Horse Meadow	HRS	USFS	8400	48.6	----	----	----	----
Ostrander Lake	STR	YOSE	8200	34.8	45.8	131%	45.1	39.9
Paradise Meadow	PDS	YOSE	7650	41.3	----	----	----	----
Gin Flat	GIN	YOSE	7050	34.2	18.5	54%	18.2	14.4
Lower Kibbie Ridge	KIB	USFS	6600	27.4	29.1e	106%	29.1e	25.8

Snow Water Equivalents (inches) February 1, 1997

Basin Name / Station Name	ID	Coop. Agency	Elev	Apr 1 Avg	Today	Percent Apr 1	24 Hrs Ago	1 Week Ago
SAN JOAQUIN RIVER								
Volcanic Knob	VLC	SCE	10100	30.1	30.1r	100%	30.1	27.5
Agnew Pass	AGP	SCE	9450	32.3	----	----	----	----
Kaiser Point	KSP	USBR	9200	37.8	----	----	42.0e	38.4
Green Mountain	GRM	USBR	7900	30.8	----	----	----	----
Tamarack Summit	TMR	USBR	7600	30.5	28.9	95%	28.9	25.0
Chilkoot Meadow	CHM	MINA	7150	38.0	29.3	77%	29.3	24.2
Huntington Lake (usbr	HNT	USBR	7000	20.1	----	----	----	----
Graveyard Meadow	GRV	USBR	6900	18.8	28.7	153%	28.7	25.2
Poison Ridge	PSR	USBR	6900	28.9	24.5	85%	24.5	----
KINGS RIVER								
Bishop Pass	BSH	SEQU	11200	34.0	37.4	110%	36.7	33.5
Charlotte Lake	CRL	DWR	10400	27.5	40.3	147%	40.3	36.2
State Lakes	STL	DWR	10400	29.0	63.9	220%	63.7	56.2
Mitchell Meadow	MTM	DWR	10375	32.9	51.7	157%	51.5	44.7
Blackcap Basin	BCB	PG&E	10300	34.3	42.2	123%	43.5	36.3
Upper Burnt Corral	UBC	PG&E	9700	34.6	49.0	142%	49.0	44.4
West Woodchuck Meadow	WWC	COE	9100	32.8	49.3	150%	49.0	42.9
Big Meadows (dwr)	BIM	KING	7600	25.9	21.8	84%	22.1	19.8
KAWEAH & TULE RIVERS								
Quaking Aspen	QUA	TULE	7200	21.0	21.5	102%	21.4	16.7
Giant Forest (coe)	GNF	COE	6400	10.0	17.2	172%	17.4	15.9
KERN RIVER								
Upper Tyndall Creek	UTY	COE	11500	27.7	39.6	143%	39.7	34.3
Crabtree Meadow	CBT	DWR	10700	19.8	20.5	104%	20.5	17.2
Chagoopa Plateau	CHP	DWR	10300	21.8	30.5	140%	30.5	25.3
Pascoes	PSC	DWR	9150	24.9	42.6	171%	42.3	36.2
Tunnel Guard Station	TUN	DWR	8950	15.6	19.9	128%	20.6	18.0
Wet Meadows	WTM	COE	8900	30.3	32.9	109%	32.9	28.4
Casa Vieja Meadows	CSV	CANN	8400	20.9	18.3	88%	18.3	13.7
Beach Meadows	BCH	CANN	7650	11.0	----	----	----	----
SURPRISE VALLEY AREA								
Dismal Swamp	DSS	NRCS	7050	29.2	28.9	99%	28.9	29.1
TRUCKEE RIVER								
Mount Rose Ski Area	MSK	DEPT	8850	38.5	60.1	156%	60.1	57.5
Independence Lake (sc	IDP	NRCS	8450	41.4	50.8	123%	50.7	47.8
Big Meadows (scs)	BMW	NRCS	8700	25.7	28.2	110%	28.1	25.7
Independence Camp	IDC	NRCS	7000	21.8	14.6	67%	14.8	14.4
Independence Creek	INN	NRCS	6500	12.7	14.1	111%	14.1	10.6
LAKE TAHOE BASIN								
Heavenly Valley	HVN	NRCS	8800	28.1	32.2	115%	32.1	29.9
Hagans Meadow	HGM	NRCS	8000	16.5	20.9	127%	20.8	20.3
Marlette Lake	MRL	NRCS	8000	21.1	27.5	130%	27.7	27.8
Echo Peak 5	EP5	NRCS	7800	39.5	52.7	133%	52.6	49.8
Rubicon Peak 2	RP2	NWS	7500	29.1	29.0	100%	28.9	26.5
Ward Creek 3	WC3	NRCS	6750	39.4	36.3	92%	36.3	32.7
Fallen Leaf Lake	FLL	NRCS	6300	7.0	6.7	96%	6.6	5.8
CARSON RIVER								
Ebbetts Pass	EBB	NRCS	8700	38.8	51.9	134%	51.9	47.9
Poison Flat	PSN	NRCS	7900	16.2	21.5	133%	21.6	20.6
WALKER RIVER								
Virginia Lakes	VRG	DWR	9200	20.3	26.9	133%	27.0	27.1
Lobdell Lake	LBD	NRCS	9200	17.3	27.3	158%	27.2	25.8
Sonora Pass Bridge	SPS	NRCS	8750	26.0	----	----	----	----
Leavitt Meadows	LVM	NRCS	7200	8.0	12.6	158%	12.6	11.5
OWENS RIVER/MONO LAKE								
Gem Pass	GEM	SCE	10750	31.7	47.7	150%	47.7	42.5
Sawmill	SWM	SEQU	10300	19.4	23.5	121%	23.5	19.6
Cottonwood Lakes	CWD	LADW	10200	11.6	19.6	169%	19.6	17.0
Big Pine Creek	BGP	DWR	9800	17.9	15.7	88%	15.7	13.7
South Lake	SLK	LADW	9600	16.0	24.6	154%	24.5	21.1
Mammoth Pass (usbr)	MHP	USBR	9500	42.4	49.4	117%	49.4	44.9

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

AREA	JAN	FEB	MARCH	APRIL	MAY
NORTH COAST	40	60	85	100	80
CENTRAL VALLEY NORTH	45	70	90	100	75
CENTRAL VALLEY SOUTH	45	65	85	100	80
LAHONTAN	50	70	90	100	70



SNOWLINES

SNOW SURVEYS is pleased to welcome Pierre Stephens to our staff. He takes over for Matt Colwell. In a unique arrangement he and Matt switched jobs, with Matt moving to the Division of Operations and Maintenance. Dudley McFadden and Pierre will be jointly producing the water supply forecasts. Pierre's phone number is 916-574-2633. For those of you connecting to the Internet our e-mail addresses are:

Frank Gehrke - gridley@water.ca.gov
Dave Hart - hart@water.ca.gov
Dudley McFadden - dudley@water.ca.gov
Pierre Stephens - pierre@water.ca.gov
Bob Newton - newton@water.ca.gov
Shawn Perkins - shawn@water.ca.gov

AVERAGES used in this report are for the base period 1946-1995 for most runoff and snow parameters. Those not updated are identified by foot note on the appropriate page. The new runoff averages are about 2 percent less than the previous 1941-90 average. The reservoir storage averages have not yet been updated. Several of the upstream forecast locations on tributaries of the major steams could not be updated because the gauges have been dropped. Future bulletins may not contain forecasts for these points as it is impossible to verify the forecast accuracy.

THIS YEAR'S meeting of the Western Snow Conference will be a joint meeting with the Eastern Snow Conference and the Canadian Geophysical Union. The location is Banff, Alberta Canada. The deadline for abstract submission has been extended to March 1, 1997. The meeting is May 4-8. For further information try http://www.geo.ucalgary.ca/~wu/cguconf.html or contact Frank Gehrke at 916-574-2635.

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 1946-1995 (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 *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 *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.

Prior month unimpaired runoff is the sum of the runoff in the eight major rivers used in the two above indices.

The next generation of snow sensor suspended in a tank at Scripps Institution of Oceanography for calibration. This sensor detects naturally occurring high energy particles and determines the snow water content based on the attenuation of particles by the water content.

Photo by Frank Gehrke, DWR

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