California Cooperative
Snow Surveys

Bulletin No. 120-77

State of California
The Resources Agency

Department of
Water Resources

save water
DWR

Water Conditions in California

Report No. 3 April 1, 1977

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Secretary for Resources
The Resources Agency

Edmund G. Brown Jr.
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WATER CONDITIONS INDEXES

Snowpack - April 1 snow data are major indexes of spring and summer runoff from Sierra watersheds and historically reflect the magnitude of the snowpack at near maximum seasonal accumulation. Averages are based on the period, 1931-1970 (40 years).

Precipitation - Averages are based on the period, 1931-1970 (40 years).

Reservoir Storage - Averages are based on the period 1967-1976 (10 years).

Runoff - Unless otherwise noted, streamflow data used as indexes of basin or area runoff have been corrected for major upstream impairments. Forecasts of runoff assume normal precipitation to follow. Runoff probability ranges are statistically derived from historical data; 80 percent probability means that actual runoff will fall within the stated limits eight times out of ten. Averages are based on the period, 1921-1970 (50 years).

S.I. Metric conversion factors pertinent to data appearing in this report are: 1 acre-foot = 1233.5 cubic metres, 1 inch = 25.4 millimetres or 2.54 centimetres, 1 foot = .305 metres, 1 mile = 1.6093 kilometres.

AGENCIES COOPERATING IN THE CALIFORNIA SNOW SURVEYS PROGRAM

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
- Kaweah River Association
- Kern County Water Agency
- Kings River Water Association
- Kings River Water Conservation District
- Los Angeles County Flood Control District
- Lower Tule River Irrigation District
- Merced Irrigation District
- Modesto Irrigation District
- Nevada Irrigation District
- Oakdale Irrigation District
- Omochumne-Hartnell Water District
- Oroville-Wyandotte Irrigation District
- Placer County Water Agency
- Sacramento Municipal Utility District
- South San Joaquin Irrigation District
- St. Johns River Association
- Tulare Lake Basin Water Storage District

Public Agencies (Continued)
- Tule River Association
- Turlock Irrigation District
- Yuba County Water Agency

Private Organizations
- J. G. Boswell Company
- Kern County Land Company
- Mt. Reba Inc.
- Union Carbide Corporation

Public Utilities
- Pacific Gas and Electric Company
- Sierra Pacific Power Company
- Southern California Edison Company

Municipalities
- City of Los Angeles Department of Water and Power
- City and County of San Francisco Public Utilities Commission

State and Federal Agencies
- California Department of Water Resources
- California Department of Parks and Recreation
- U. S. Department of Agriculture
  - Forest Service (14 National Forests)
  - Pacific Southwest Forest and Range Experiment Station
  - Soil Conservation Service
- U. S. Department of Commerce
  - National Weather Service
- U. S. Department of the Interior
  - Bureau of Reclamation
  - Geological Survey, Water Resources Division
  - National Park Service (3 National Parks)
- U. S. Department of the Army
  - Corps of Engineers

Other Cooperative Programs
- Nevada Cooperative Snow Surveys
- Oregon Cooperative Snow Surveys

FIGURE 1

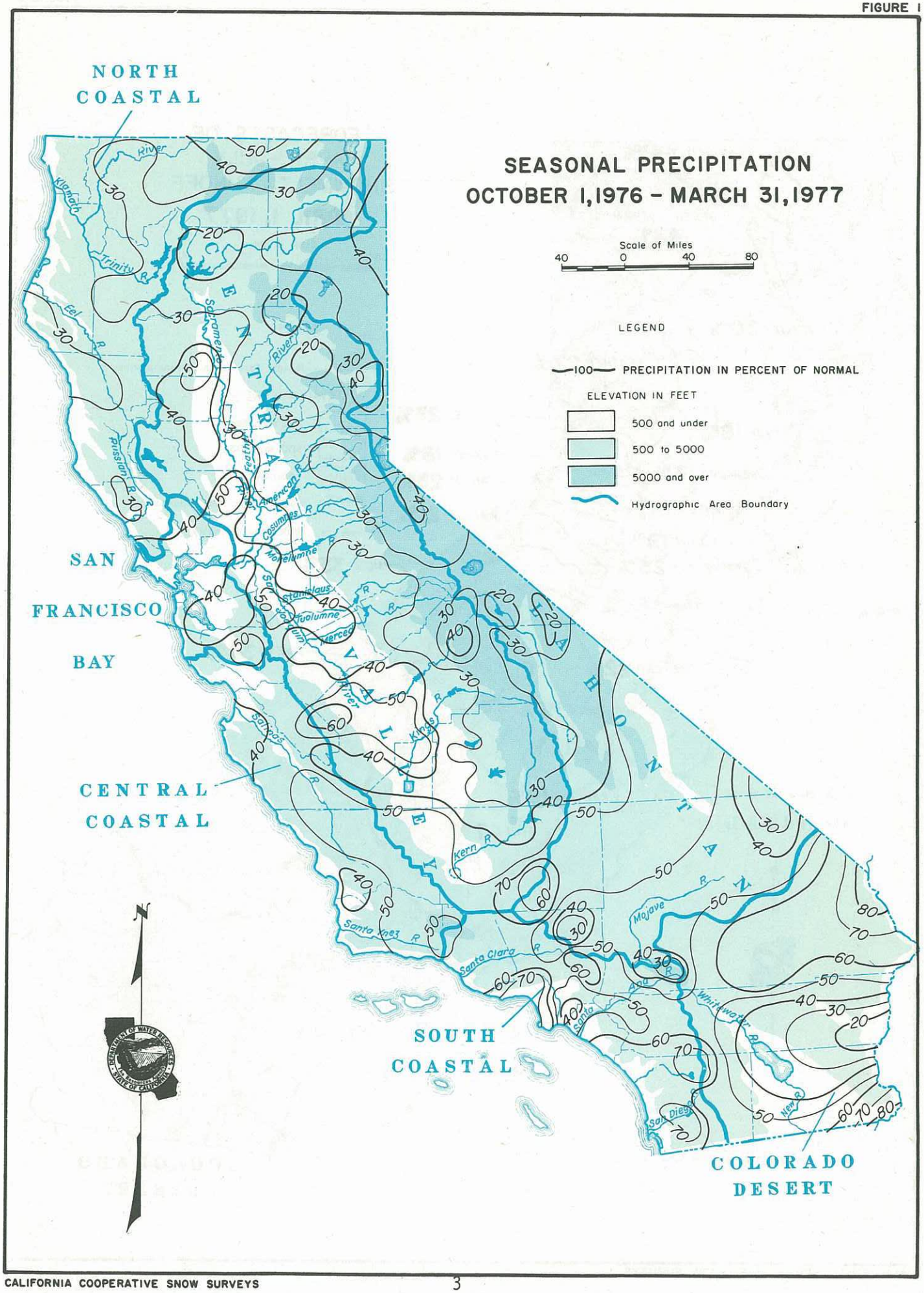
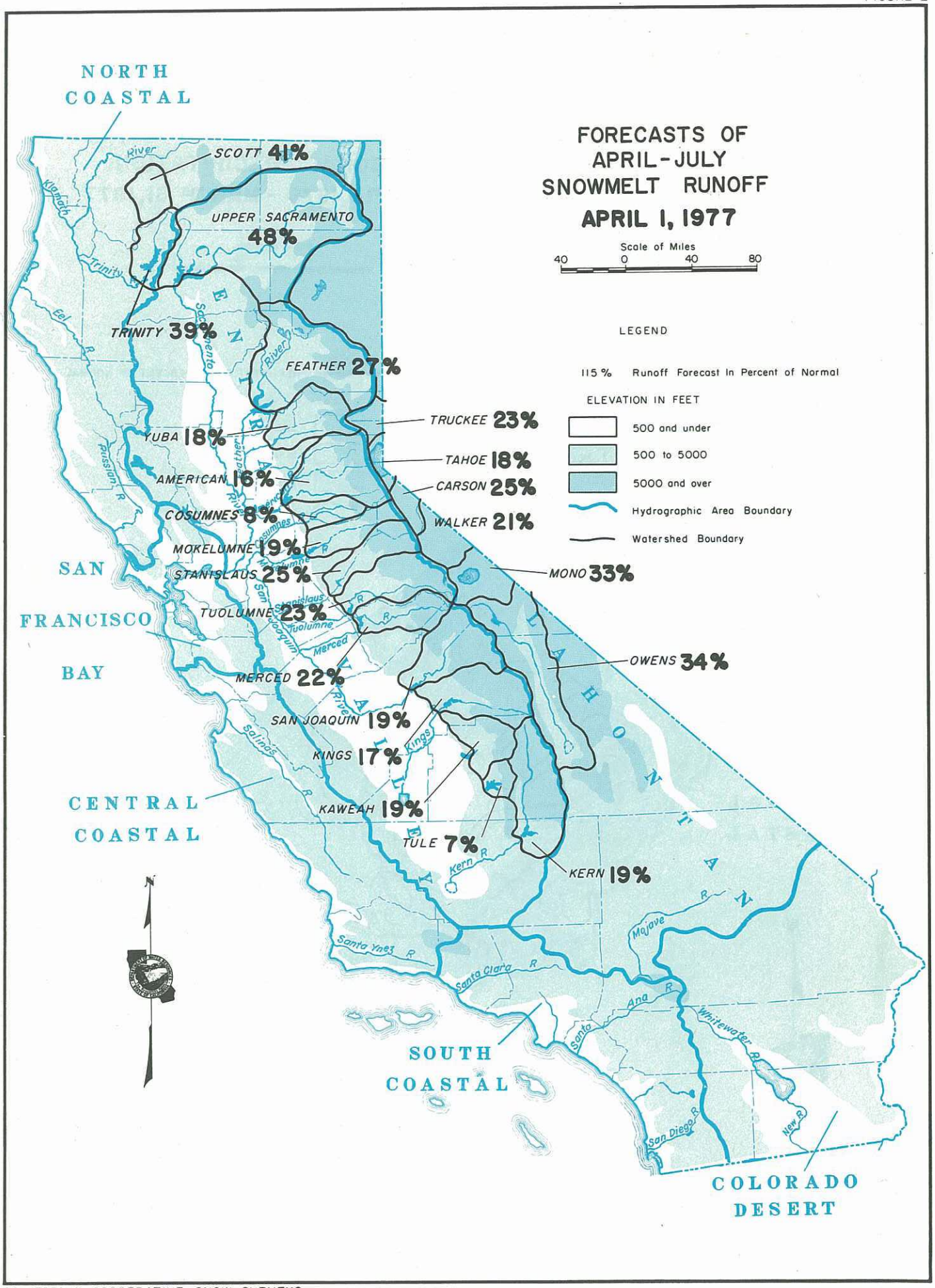

SEASONAL PRECIPITATION
OCTOBER 1,1976 - MARCH 31,1977
Scale of Miles
40 0 40 80
LEGEND
100 PRECIPITATION IN PERCENT OF NORMAL
ELEVATION IN FEET
500 and under
500 to 5000
5000 and over
Hydrographic Area Boundary
NORTH COASTAL
SAN FRANCISCO BAY
CENTRAL COASTAL
SOUTH COASTAL
COLORADO DESERT
CENTRAL VALLEY
LAHONTAN
Klamath River
Trinity R
Eel R
Russian R
Sacramento River
Feather River
American R
Cosumnes R
Mokelumne R
Stanislaus R
Tuolumne R
Merced R
San Joaquin River
Kings R
Salinas R
Kern R
Santa Ynez R
Santa Clara R
Mojave R
Santa Ana R
Whitewater R
San Diego R
New R
N

FIGURE 2


FORECASTS OF
APRIL-JULY
SNOWMELT RUNOFF
APRIL 1, 1977
Scale of Miles
40 0 40 80
LEGEND
115 % Runoff Forecast In Percent of Normal
ELEVATION IN FEET
500 and under
500 to 5000
5000 and over
Hydrographic Area Boundary
Watershed Boundary
NORTH COASTAL
SCOTT 41%
UPPER SACRAMENTO 48%
TRINITY 39%
FEATHER 27%
TRUCKEE 23%
YUBA 18%
TAHOE 18%
AMERICAN 16%
CARSON 25%
COSUMNES 8%
WALKER 21%
MOKELUMNE 19%
STANISLAUS 25%
MONO 33%
TUOLUMNE 23%
OWENS 34%
MERCED 22%
SAN JOAQUIN 19%
KINGS 17%
KAWEAH 19%
TULE 7%
KERN 19%
SAN FRANCISCO BAY
CENTRAL COASTAL
SOUTH COASTAL
COLORADO DESERT
CENTRAL VALLEY
LAHONTAN
Klamath River
Trinity
Eel R
Russian R
Sacramento River
Feather River
Cosumnes
Mokelumne
Stanislaus
Tuolumne
San Joaquin
Merced
Kings
Salinas R
Kern R
Santa Ynez R
Santa Clara R
Santa Ana R
Mojave R
Whitewater R
San Diego R
New R

SUMMARY OF WATER CONDITIONS

APRIL 1, 1977

THIS IS THE DRIEST YEAR IN CALIFORNIA WEATHER RECORDS. CENTRAL CALIFORNIA HAS RECORD-SETTING DROUGHT, THE FAR NORTHERN PART OF THE STATE HAS SEVERE DROUGHT, AND ONLY COASTAL SOUTHERN CALIFORNIA HAS HAD NEAR NORMAL PRECIPITATION IN THIS WATER YEAR. SNOW WATER CONTENT AND RUNOFF WILL SET RECORD LOWS IN MANY WATERSHEDS THIS YEAR. THERE IS ALMOST NO POSSIBILITY OF ANY RELIEF FROM THE DROUGHT BEFORE NOVEMBER.

FORECASTS OF RUNOFF INDICATE 16 MAJOR CENTRAL VALLEY AND EASTSIDE SIERRA STREAMS WILL PRODUCE THEIR LOWEST FLOWS OF RECORD FOR THE APRIL THROUGH JULY PERIOD. PROJECTIONS OF TOTAL WATER YEAR RUNOFF SHOW THAT ALL CENTRAL VALLEY STREAMS FROM THE YUBA RIVER SOUTH, AND MOST LAHONTAN AREA STREAMS, WILL ESTABLISH LOWEST FLOWS OF RECORD BY SEPTEMBER 30, 1977.

SNOWPACK WATER STORAGE ON APRIL 1 IS THE LOWEST IN 47 YEARS IN ALL BASINS EXCEPT THE TRINITY AND FEATHER RIVERS. IN THE CENTRAL VALLEY LOW SNOW RECORDS, SET ONLY LAST YEAR, WERE BROKEN AGAIN ON THE STANISLAUS THROUGH THE KERN RIVER BASINS. DATA FROM SNOW SENSORS INDICATE THAT WATER CONTENT ACCUMULATION HAS PEAKED, AND MELT HAS STARTED AT ALL ELEVATIONS.

PRECIPITATION HAS AVERAGED 35 PERCENT OF NORMAL OVER THE STATE FOR THE WATER YEAR TO DATE. MARCH PRECIPITATION WAS 50 PERCENT OF AVERAGE. IN THE CENTRAL VALLEY, PRECIPITATION WAS ONLY 35 PERCENT OF AVERAGE DURING MARCH, VARYING FROM 45 PERCENT IN THE PIT RIVER BASIN TO 25 PERCENT IN THE KAWEAH RIVER BASIN.

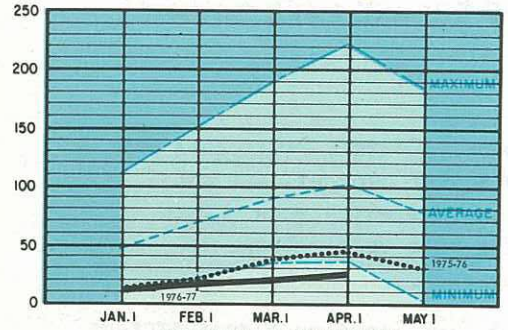
RUNOFF WAS 20 PERCENT OF AVERAGE DURING MARCH, RANGING FROM NEAR ZERO IN THE SAN FRANCISCO BAY AREA TO 35 PERCENT OF AVERAGE ON THE WEST WALKER RIVER. RUNOFF FOR THE PERIOD OCTOBER THROUGH MARCH CONTINUED TO SET NEW LOW RECORDS FOR ALL NORTH COAST STREAMS MONITORED, EXCEPT THE KLAMATH RIVER, AND FOR ALL CENTRAL VALLEY STREAMS, EXCEPT THE KINGS AND KERN RIVERS. EVEN THOUGH SNOWMELT HAS STARTED, THERE HAS BEEN NO CORRESPONDING INCREASE IN RUNOFF BECAUSE THE WATER IS BEING RETAINED IN THE DRY SOILS. STATEWIDE, RUNOFF FOR THE OCTOBER 1 THROUGH MARCH 31 PERIOD HAS BEEN 4,000,000 ACRE-FEET (4.9×10^9 CUBIC METRES), OR 18 PERCENT OF AVERAGE.

RESERVOIR STORAGE ON APRIL 1 WAS 55 PERCENT OF AVERAGE IN THE 143 MAJOR RESERVOIRS MONITORED, OR 11.3 MILLION ACRE-FEET (13.9×10^9 CUBIC METRES) BELOW AVERAGE FOR THIS DATE. HOWEVER, WATER IN STORAGE FOR SOME AREAS IS AS LOW AS 28 PERCENT OF AVERAGE. CENTRAL VALLEY RESERVOIRS ARE STORING 9.7 MILLION ACRE-FEET (12×10^9 CUBIC METRES), OR 51 PERCENT OF AVERAGE. COLORADO RIVER STORAGE IN LAKES POWELL, MEAD, MOHAVE, AND HAVASU IS 130 PERCENT OF AVERAGE.

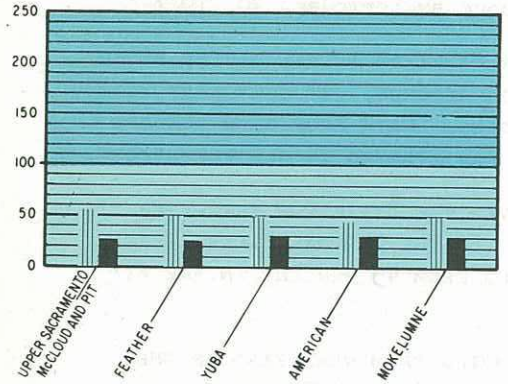
SUMMARY OF WATER CONDITIONS
IN PERCENT OF AVERAGE

HYDROGRAPHIC AREA	PRECIPITATION OCTOBER 1 TO DATE	SNOW WATER CONTENT	RESERVOIR STORAGE	RUNOFF		
				OCTOBER 1 TO DATE	APR-JULY FORECAST	WATER YEAR FORECAST
NORTH COASTAL	35	40	50	10	25	25
SAN FRANCISCO BAY	45	--	60	5	--	25
CENTRAL COASTAL	45	--	60	5	--	25
SOUTH COASTAL	55	--	75	20	--	30
SACRAMENTO VALLEY	30	25	50	25	30	30
SAN JOAQUIN VALLEY	30	20	55	20	20	20
LAHONTAN	35	30	60	40	25	25
COLORADO DESERT	55	--	--	--	--	--
STATEWIDE	35	25	55	20	25	25

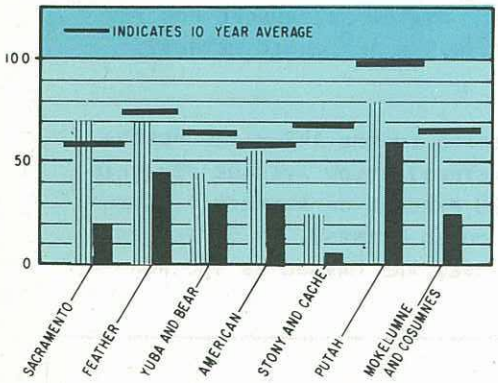
SACRAMENTO RIVER BASIN



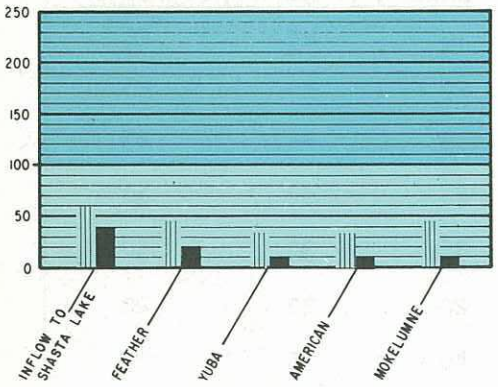
SNOWPACK ACCUMULATION
WATER CONTENT IN PERCENT OF APRIL I AVERAGE



PRECIPITATION
OCTOBER I TO DATE IN PERCENT OF AVERAGE



RESERVOIR STORAGE
CONTENTS OF MAJOR RESERVOIRS IN PERCENT OF CAPACITY



RUNOFF
OCTOBER I TO DATE IN PERCENT OF AVERAGE

APRIL 1, 1976 APRIL 1, 1977

SNOWPACK - MEASUREMENTS OF SNOWPACK WERE OBTAINED AT 99 SNOW COURSES, 6 AERIAL MARKERS, AND 14 SNOW SENSORS ON OR ABOUT APRIL 1. THESE MEASUREMENTS INDICATED THAT SNOW WATER CONTENT WAS 25 PERCENT OF AVERAGE FOR THIS DATE, COMPARED TO 45 PERCENT ONE YEAR AGO.

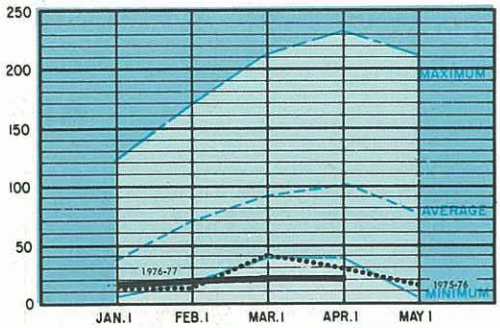
SNOWFALL DURING THE MONTH OF MARCH CONTRIBUTED AN INSIGNIFICANT AMOUNT TO THE BASIN'S SNOWPACK. ON THE AVERAGE THE SNOWPACK WILL INCREASE BY 15 PERCENT DURING MARCH, BUT IT INCREASED ONLY 5 PERCENT THIS MARCH. SNOWPACK IS NEARLY DEPLETED AT LOWER ELEVATIONS BELOW 7,000 FEET, AND SUSTAINED SNOWMELT IS OCCURRING AT HIGHER ELEVATIONS.

PRECIPITATION - FROM OCTOBER 1, 1976, THROUGH MARCH 31, 1977, PRECIPITATION OVER THE SACRAMENTO VALLEY AVERAGED 30 PERCENT OF NORMAL. SIX CONSECUTIVE SUBNORMAL MONTHS THROUGH THE FALL AND WINTER HAVE TOTALED UP TO AN EVEN DRYER SEASONAL ACCUMULATION THAN LAST YEAR'S RECORD LOW AMOUNTS. SEASONAL VALUES OVER MOUNTAIN SUBDRAINAGES ARE ONLY ONE-HALF THE AMOUNTS FOR THE CORRESPONDING PERIOD ONE YEAR AGO. THE RECORD DRY PORTION OF THE BASIN EMBRACES THE FEATHER, UPPER SACRAMENTO-MCCLOUD, AND PIT RIVER DRAINAGES. CHESTER, IN THE FEATHER, RECEIVED A RECORD LOW 4.67 INCHES (119 MILLIMETRES) OR 17 PERCENT OF NORMAL OVER THE SIX-MONTH PERIOD. THE MOST WATER REPORTED WAS AT CHALLENGE, IN THE YUBA RIVER DRAINAGE, WITH 17.31 INCHES (440 MILLIMETRES) OR 30 PERCENT OF AVERAGE. MARCH PRECIPITATION CONTINUED LIGHT, AVERAGING 45 PERCENT OVER THE AREA.

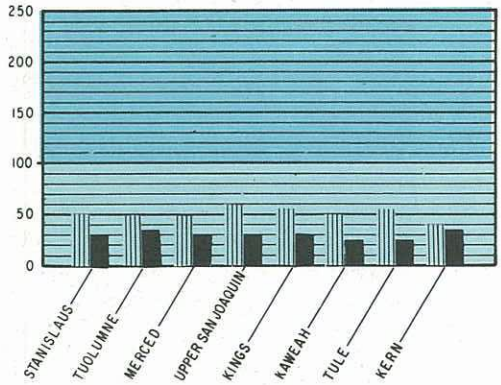
RESERVOIR STORAGE - APRIL 1 STORAGE IN 47 MAJOR RESERVOIRS ON THE SACRAMENTO RIVER SYSTEM WAS SLIGHTLY OVER 6.5 MILLION ACRE-FEET (8.0×10^9 CUBIC METRES), AN INCREASE OF 87 THOUSAND ACRE-FEET (107×10^6 CUBIC METRES) DURING MARCH, AND DOWN 4.4 MILLION ACRE-FEET (5.4×10^9 CUBIC METRES) FROM ONE YEAR AGO. THIS IS 50 PERCENT OF THE AVERAGE STORAGE FOR APRIL 1 AND ABOUT 39 PERCENT OF AVAILABLE CAPACITY. CURRENT WATER SUPPLY CONDITIONS DEFINITELY INDICATE THAT WATER STORAGE IN MANY RESERVOIRS THIS YEAR WILL BE AT AN ALL-TIME LOW.

RUNOFF - DURING MARCH THE RUNOFF OF TRIBUTARIES TO THE SACRAMENTO VALLEY AMOUNTED TO 481 THOUSAND ACRE-FEET (593×10^6 CUBIC METRES), OR 20 PERCENT OF NORMAL. THIS IS 679,000 ACRE-FEET (838×10^6 CUBIC METRES) LESS THAN THE MARCH RUNOFF LAST YEAR. RUNOFF FOR THE WATER YEAR, OCTOBER THROUGH MARCH WAS SLIGHTLY ABOVE 2.5 MILLION ACRE-FEET (3.1×10^9 CUBIC METRES) OR 25 PERCENT OF NORMAL. THIS IS MORE THAN 7.5 MILLION ACRE-FEET (9.3×10^9 CUBIC METRES) BELOW THE AVERAGE RUNOFF FOR THIS PERIOD. NEW RECORD LOW FLOWS FOR THE OCTOBER THROUGH MARCH PERIOD WERE ESTABLISHED ON ALL SACRAMENTO VALLEY TRIBUTARIES.

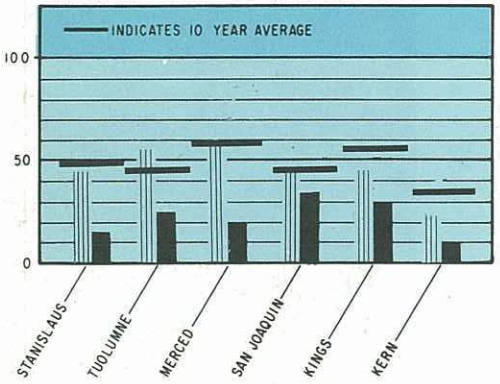
SAN JOAQUIN RIVER AND TULARE LAKE BASINS



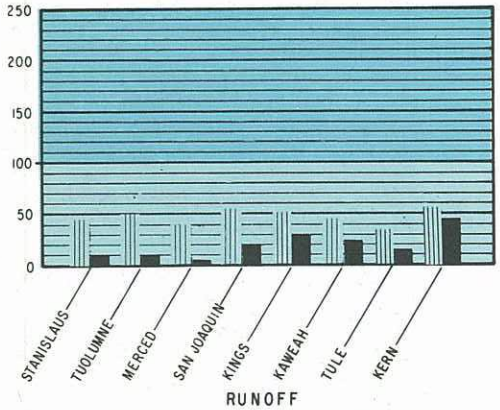
SNOWPACK ACCUMULATION
WATER CONTENT IN PERCENT OF APRIL I AVERAGE



PRECIPITATION
OCTOBER I TO DATE IN PERCENT OF AVERAGE



RESERVOIR STORAGE
CONTENTS OF MAJOR RESERVOIRS IN PERCENT OF CAPACITY



RUNOFF
OCTOBER I TO DATE IN PERCENT OF AVERAGE

APRIL 1, 1976 ▥ APRIL 1, 1977 ■

SNOWPACK - MEASUREMENTS OF SNOWPACK WERE OBTAINED AT 103 SNOW COURSES, 32 AERIAL SNOW DEPTH MARKERS, AND 13 SNOW SENSORS ON OR ABOUT APRL 1. THESE MEASUREMENTS INDICATED THE SNOW WATER CONTENT WAS 21 PERCENT OF AVERAGE, COMPARED TO 30 PERCENT ONE YEAR AGO.

THERE WAS NO INCREASE IN THE SNOWPACK DURING MARCH. THE AVERAGE MARCH INCREASE IS 10 PERCENT. SNOW WATER CONTENT ON APRIL 1 WAS THE LOWEST IN THE 47-YEAR PERIOD OF RECORD.

PRECIPITATION - FROM OCTOBER 1, 1976, THROUGH MARCH 31, 1977, PRECIPITATION AVERAGED 30 PERCENT OF NORMAL OVER THE SAN JOAQUIN VALLEY. SIERRA SUBDRAINAGE VALUES ARE ABOUT ONE-HALF LESS THAN THEY WERE FOR THE CORRESPONDING PERIOD ONE YEAR AGO. EXTREMES RANGE FROM 11.60 INCHES (295 MILLIMETRES) OR 42 PERCENT AT HUNTINGTON LAKE TO 4.17 INCHES (106 MILLIMETRES) OR 27 PERCENT AT KERN RIVER INTAKE #3. VALLEY FLOOR STATIONS RECEIVED FROM 5.90 INCHES (150 MILLIMETRES) OR 42 PERCENT AT RIO VISTA TO 2.38 INCHES (60 MILLIMETRES) OR 25 PERCENT AT PORTERVILLE. PRECIPITATION DURING MARCH AVERAGED 30 PERCENT OF NORMAL. IT VARIED FROM 3.43 INCHES (87 MILLIMETRES) OR 43 PERCENT AT CHERRY VALLEY DAM TO 0.08 INCH (2 MILLIMETRES) OR 4 PERCENT AT VISALIA.

RESERVOIR STORAGE - STORAGE IN 31 MAJOR RESERVOIRS SERVING THE SAN JOAQUIN VALLEY REMAINED NEAR 3.2 MILLION ACRE-FEET (4×10^9 CUBIC METRES) DURING MARCH. COMPARED TO A YEAR AGO, TOTAL STORAGE IS DOWN MORE THAN 2.5 MILLION ACRE-FEET (3.1×10^9 CUBIC METRES). APRIL 1 STORAGE IS 55 PERCENT OF THE AVERAGE AND ABOUT 32 PERCENT OF AVAILABLE CAPACITY. CURRENT SNOW CONDITIONS IN HEADWATER AREAS CONFIRM THAT RESERVOIR STORAGES WILL REMAIN FAR BELOW NORMAL, AND SOME MAY ESTABLISH RECORD LOWS OR EVEN GO DRY.

STORAGE IN THE THREE RESERVOIRS ON THE TUOLUMNE RIVER SERVING THE CITY AND COUNTY OF SAN FRANCISCO, WHERE WATER RATIONING IS IN EFFECT BEGINNING APRIL 1, TOTALED ONLY 96 THOUSAND ACRE-FEET (118×10^6 CUBIC METRES) OR 15 PERCENT OF CAPACITY. LAKE ELEANOR IS EMPTY AND HETCH HETCHY RESERVOIR HAS LESS THAN 25 THOUSAND ACRE-FEET (31×10^6 CUBIC METRES) OF WATER IN STORAGE OR 23 PERCENT OF CAPACITY.

RUNOFF - DURING MARCH THE RUNOFF OF TRIBUTARIES TO THE SAN JOAQUIN VALLEY AMOUNTED TO 104,000 ACRE-FEET (128×10^6 CUBIC METRES), ONLY 14 PERCENT OF NORMAL AND DOWN 26 PERCENT FROM A YEAR AGO. FOR THE WATER YEAR, OCTOBER THROUGH MARCH, RUNOFF WAS 432,000 ACRE-FEET (533×10^6 CUBIC METRES) OR 18 PERCENT OF NORMAL. THIS IS 1.9 MILLION ACRE-FEET (2.3×10^9 CUBIC METRES) BELOW THE AVERAGE RUNOFF FOR THIS PERIOD. EXCEPT FOR THE KINGS AND KERN RIVERS, NEW RECORD LOW FLOWS FOR THE OCTOBER THROUGH MARCH PERIOD WERE ESTABLISHED ON ALL TRIBUTARIES OF THE SAN JOAQUIN RIVER AND TULARE LAKE BASINS.

FORECASTS OF APRIL - JUL
FOR CENTRAL V
AS
APRIL

DRAINAGE BASIN AND WATERSHED	April through July in 1,000 Acre-feet					
	HISTORICAL			FORECASTS		
	50-Year Average	Maximum of Record	Minimum of Record	April-July Forecast	Percent of Average	80% Prob. Range Acre-feet
SACRAMENTO RIVER BASIN						
Upper Sacramento River						
Sacramento River inflow to Shasta Lake	285	636	39	145	51	--
McCloud River inflow to Shasta Lake	420	850	194	225	54	--
Pit River inflow to Shasta Lake	1,013	1,796	480	465	46	--
Total inflow to Shasta Lake	1,777	3,064	726	845	48	650 to 1,500
Sacramento River above Bend Bridge, near Red Bluff	2,422	4,611	943	1,025	42	800 to 1,800
Feather River						
Inflow to Lake Almanor (near Prattville)	326	675	120	145	44	--
North Fork at Pulga	1,025	2,416	254	320	31	--
Middle Fork near Clio	86	518	8	25	29	--
South Fork at Ponderosa Dam	106	267	19	30	28	--
Total inflow to Oroville Reservoir	1,862	4,676	396	510	27	400 to 1,200
Yuba River						
North Yuba below Goodyears Bar	287	647	68	55	19	--
Combined inflow to Jackson Mdw. and Bowman Reservoirs	111	236	37	25	23	--
South Yuba at Langs Crossings	232	481	74	60	26	--
Yuba River at Smartville	1,081	2,424	239	190	18	170 to 570
American River						
North Fork at North Fork Dam	261	716	48	35	13	--
Middle Fork near Auburn	543	1,407	117	90	17	--
Silver Creek below Camino Diversion Dam	179	383	43	35	20	--
Total inflow to Folsom Reservoir	1,321	3,074	257	210	16	180 to 700
Sacramento River at Sacramento						
Cosumnes River						
Cosumnes River at Michigan Bar	132	361	12	10	8	9 to 75
Mokelumne River						
North Fork near West Point	415	829	143	80	19	--
Total inflow to Pardee Reservoir	466	1,065	127	90	19	80 to 220
SAN JOAQUIN RIVER BASIN						
Stanislaus River						
Middle Fork below Beardsley Dam	338	702	84	90	27	--
Total inflow to Melones Reservoir	717	1,710	167	180	25	160 to 430
Tuolumne River						
Cherry Creek and Eleanor Creek near Hetch Hetchy	304	572	102	70	23	--
Tuolumne River near Hetch Hetchy	599	1,392	215	170	28	--
Total inflow to Don Pedro Reservoir	1,236	2,682	382	275	23	250 to 530
Merced River						
Merced River at Pohono Bridge	358	888	121	95	27	--
Total inflow to Exchequer Reservoir	608	1,491	175	135	22	120 to 280
San Joaquin River						
San Joaquin River at Mammoth Pool	966	2,279	254	205	21	--
Big Creek below Huntington Lake	90	264	19	17	19	--
South Fork near Florence Lake	187	511	58	50	27	--
Total inflow to Millerton Lake	1,193	3,355	310	230	19	210 to 470
San Joaquin River near Vernalis						
TULARE LAKE BASIN						
Kings River						
North Fork near Cliff Camp	230	565	50	40	17	--
Total inflow to Pine Flat Reservoir	1,157	3,114	280	200	17	180 to 420
Kaweah River						
Total inflow to Terminus Reservoir	270	814	69	50	19	45 to 130
Tule River						
Total inflow to Success Reservoir	59	224	2	4	7	2 to 30
Kern River						
Kern River near Kernville	353	1,258	83	70	20	--
Total inflow to Isabella Reservoir	420	1,657	84	80	19	70 to 210

S.I. Metric Conversion 1,000 acre-feet = 1.2335

AND WATER YEAR RUNOFF
ALLEY STREAMS
OF
, 1977

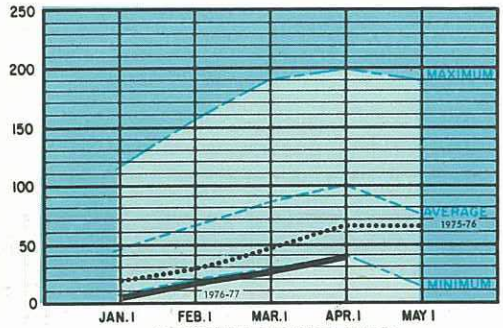
Water Year – – – October through September – – – in 1,000 Acre-feet												
HISTORICAL			*	*	*	DISTRIBUTION					FORECASTS	
50-Year Average	Maximum of Record	Minimum of Record	October through January	February	March	April	May	June	July	August and September	Water Year Forecast	Percent of Average
785	1,792	171	--	--	--	--	--	--	--	--	240	31
1,230	2,353	632	--	--	--	--	--	--	--	--	610	50
2,895	5,314	1,484	--	--	--	--	--	--	--	--	1,900	66
5,482	10,796	2,479	925	225	245	285	230	180	150	310	2,550	47
7,948	15,916	3,294	1,170	260	300	345	280	220	180	345	3,100	39
727	1,269	396	--	--	--	--	--	--	--	--	--	--
2,283	4,400	819	--	--	--	--	--	--	--	--	--	--
209	637	41	--	--	--	--	--	--	--	--	--	--
260	562	67	--	--	--	--	--	--	--	--	--	--
4,287	9,492	1,295	305	90	95	220	145	80	65	100	1,100	26
529	1,056	162	--	--	--	--	--	--	--	--	--	--
169	292	61	--	--	--	--	--	--	--	--	--	--
343	565	114	--	--	--	--	--	--	--	--	--	--
2,274	4,544	603	75	20	30	85	65	30	10	10	325	14
554	1,234	110	--	--	--	--	--	--	--	--	--	--
1,014	2,575	233	--	--	--	--	--	--	--	--	--	--
300	537	83	--	--	--	--	--	--	--	--	--	--
2,573	5,787	543	55	25	45	110	75	20	5	5	340	13
												28
351	876	40	4	2	3	6	3	1	--	--	19	5
586	1,009	197	--	--	--	--	--	--	--	--	--	--
705	1,692	190	8	7	10	40	38	11	1	--	115	16
457	929	128	--	--	--	--	--	--	--	--	--	--
1,085	2,834	261	17	8	15	75	65	35	5	5	225	21
428	765	158	--	--	--	--	--	--	--	--	--	--
740	1,661	265	--	--	--	--	--	--	--	--	--	--
1,854	3,852	543	20	17	23	120	120	30	5	5	340	19
439	1,020	145	--	--	--	--	--	--	--	--	--	--
920	2,188	252	11	4	7	55	55	20	5	3	160	17
225	653	71	--	--	--	--	--	--	--	--	--	--
105	298	22	--	--	--	--	--	--	--	--	--	--
1,255	2,964	361	--	--	--	--	--	--	--	--	--	--
1,659	4,368	444	50	15	20	80	105	30	15	15	330	20
												18
265	607	58	--	--	--	--	--	--	--	--	--	--
1,549	4,203	392	65	15	20	65	80	50	5	10	310	20
403	1,270	102	18	5	7	20	20	9	1	2	82	20
133	504	19	7	2	2	2	1	1	--	--	15	11
521	1,686	163	--	--	--	--	--	--	--	--	--	--
627	2,227	175	53	12	13	25	25	20	10	15	170	27

Monthly distributions of runoff forecasts are based on comparisons with previous water years of similar magnitude.

10^6 cubic metres.

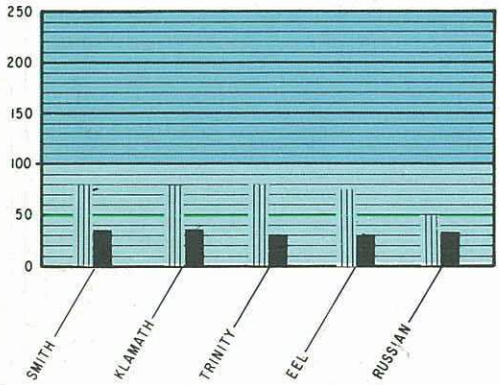
* Unimpaired flows to date.

NORTH COASTAL AREA



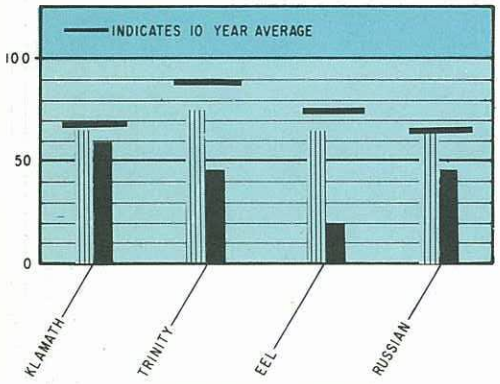
SNOWPACK ACCUMULATION

WATER CONTENT IN PERCENT OF APRIL I AVERAGE



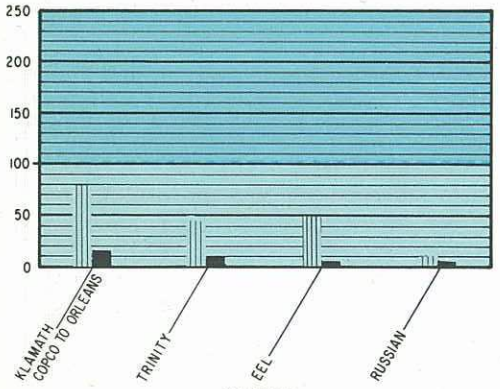
PRECIPITATION

OCTOBER I TO DATE IN PERCENT OF AVERAGE



RESERVOIR STORAGE

CONTENTS OF MAJOR RESERVOIRS IN PERCENT OF CAPACITY



RUNOFF

OCTOBER I TO DATE IN PERCENT OF AVERAGE

APRIL 1, 1976 APRIL 1, 1977

SNOWPACK - MEASUREMENTS OF SNOWPACK WERE OBTAINED AT 19 SNOW COURSES ON OR ABOUT APRIL 1. THESE MEASUREMENTS INDICATED THAT SNOW WATER CONTENT WAS 40 PERCENT OF AVERAGE AS COMPARED TO 65 PERCENT ONE YEAR AGO.

THE OREGON COOPERATIVE SNOW SURVEYS, THROUGH THE U. S. SOIL CONSERVATION SERVICE, PORTLAND, OREGON, REPORTS THAT SNOWPACK WATER CONTENT IN THE UPPER KLAMATH RIVER BASIN ON APRIL 1 WAS ONLY 31 PERCENT OF NORMAL, AS COMPARED TO 110 PERCENT LAST YEAR.

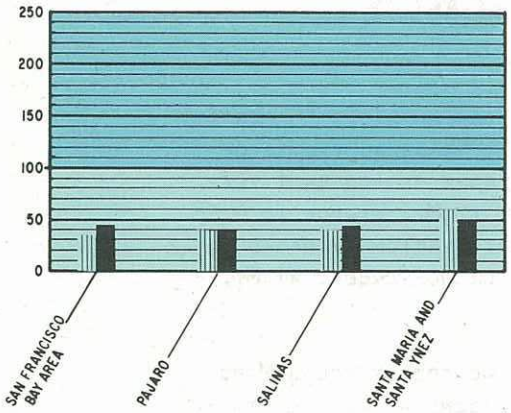
PRECIPITATION - PRECIPITATION IN THE NORTH COASTAL AREA WAS 35 PERCENT OF NORMAL FOR THE PERIOD OCTOBER 1 THROUGH MARCH 31. SUBDRAINAGE VALUES ARE DOWN ABOUT ONE-FOURTH TO ONE-HALF LESS THAN LAST YEAR'S AMOUNTS. A HALF YEAR OF PRECIPITATION OVER THE STATE'S WETTEST AREA HAS PRODUCED ONLY LOW CATCHES OF 29.19 INCHES (741 MILLIMETRES) OR 34 PERCENT AT CRESCENT CITY 11E AND 28.04 INCHES (712 MILLIMETRES) OR 35 PERCENT AT GASQUET R. S., BOTH IN THE SMITH RIVER DRAINAGE. FOR THE MONTH OF MARCH, PRECIPITATION AVERAGED 65 PERCENT OF NORMAL. EXTREMES VARIED WIDELY FROM 10.81 INCHES (275 MILLIMETRES) OR 88 PERCENT AT GASQUET TO 2.38 INCHES (60 MILLIMETRES) OR 48 PERCENT AT HEALDSBURG, IN THE RUSSIAN RIVER DRAINAGE.

RESERVOIR STORAGE - STORAGE IN THE SIX MAJOR RESERVOIRS OF THE NORTH COASTAL AREA WAS 1.2 MILLION ACRE-FEET (1.5×10^9 CUBIC METRES), A DECREASE OF 100,000 ACRE-FEET (123×10^6 CUBIC METRES) DURING MARCH, AND DOWN 896,000 ACRE-FEET ($1\ 100 \times 10^6$ CUBIC METRES) FROM ONE YEAR AGO. THIS IS 49 PERCENT OF THE AVERAGE STORAGE FOR APRIL 1 AND 42 PERCENT OF THE AVAILABLE CAPACITY. PRESENT STORAGE IN RESERVOIRS ON THE UPPER KLAMATH RIVER AND LEWISTON RESERVOIR ON THE TRINITY RIVER ARE SLIGHTLY ABOVE NORMAL. ALL OTHER NORTH COASTAL RESERVOIRS ARE BELOW NORMAL FOR THIS PERIOD OF THE YEAR. CURRENT WATER SUPPLY CONDITIONS INDICATE THAT STORAGE IN MOST OF THESE RESERVOIRS WILL REMAIN BELOW NORMAL FOR THE REMAINDER OF THE WATER YEAR.

RUNOFF - DURING MARCH RUNOFF TOTALED 480,000 ACRE-FEET (592×10^6 CUBIC METRES) OR 20 PERCENT OF NORMAL, DOWN 800,000 ACRE-FEET (987×10^6 CUBIC METRES) FROM ONE YEAR AGO. FOR THE WATER YEAR TO DATE, THE SIX-MONTH TOTAL WAS 10 PERCENT OF NORMAL, AND NEARLY 8.2 MILLION ACRE-FEET (10×10^9 CUBIC METRES) BELOW THE AVERAGE RUNOFF FOR THIS PERIOD. A NEW RECORD LOW FLOW FOR THE OCTOBER TO MARCH PERIOD WAS ESTABLISHED ON THE SALMON, TRINITY, EEL, AND RUSSIAN RIVERS.

FORECASTS - CONDITIONS AT THIS TIME INDICATE THAT RUNOFF OF THE NORTH COASTAL AREA DURING THE 1976-77 WATER YEAR WILL BE ABOUT 25 PERCENT OF AVERAGE. THE APRIL-JULY RUNOFF OF THE TRINITY RIVER AT LEWISTON IS FORECASTED TO BE ABOUT 240,000 ACRE-FEET (296×10^6 CUBIC METRES), WHICH IS 39 PERCENT OF AVERAGE, WHILE THE SCOTT RIVER NEAR FORT JONES IS EXPECTED TO BE ABOUT 80,000 ACRE-FEET (99×10^6 CUBIC METRES), 41 PERCENT OF AVERAGE. THE U. S. SOIL CONSERVATION SERVICE, THE OREGON EXPERIMENTAL STATION, AND THEIR COOPERATORS, FORECAST THAT THE APRIL-SEPTEMBER RUNOFF INTO UPPER KLAMATH LAKE WILL BE ABOUT 225,000 ACRE-FEET (278×10^6 CUBIC METRES), 42 PERCENT OF AVERAGE.

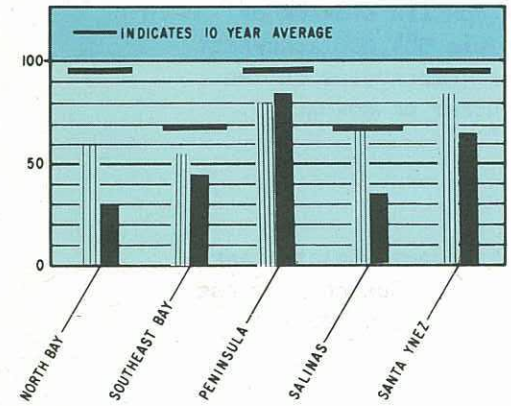
SAN FRANCISCO BAY AND CENTRAL COASTAL AREAS



PRECIPITATION

OCTOBER 1 TO DATE IN PERCENT OF AVERAGE

<u>PRECIPITATION</u> - IN THE SAN FRANCISCO BAY AND CENTRAL COASTAL AREAS, PRECIPITATION AVERAGED 45 PERCENT OF NORMAL FOR THE PERIOD OCTOBER 1 THROUGH MARCH 31. IT VARIED FROM 55 PERCENT OF NORMAL (9.26 INCHES OR 235 MILLIMETRES) AT CACHUMA DAM, IN THE SANTA YNEZ RIVER DRAINAGE TO 36 PERCENT (4.54 INCHES OR 115 MILLIMETRES) AT LIVERMORE. SUBDRAINAGE AMOUNTS ARE AT DROUGHT LEVELS AND AT ABOUT THE SAME VALUES FOR THE CORRESPONDING PERIOD LAST YEAR. DRIEST SEASON OF RECORD WAS REPORTED FROM BIG SUR STATE PARK, 11.25 INCHES (286 MILLIMETRES) OR 31 PERCENT. MARCH PRECIPITATION ENDED LIGHT AT ABOUT 65 PERCENT OF NORMAL.



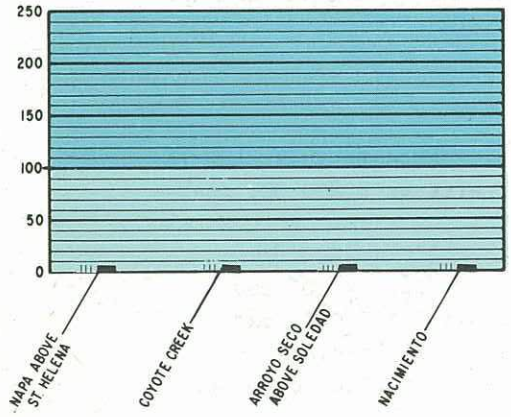
RESERVOIR STORAGE

CONTENTS OF MAJOR RESERVOIRS IN PERCENT OF CAPACITY

<u>RESERVOIR STORAGE</u> - STORAGE IN 17 MAJOR RESERVOIRS IN THE SAN FRANCISCO BAY AREA WAS SLIGHTLY UNDER 319,000 ACRE-FEET (393 x 10^6 CUBIC METRES) ON APRIL 1, AN INCREASE OF 19,000 ACRE-FEET (23 x 10^6 CUBIC METRES) DURING MARCH, AND DOWN 92,000 ACRE-FEET (113 x 10^6 CUBIC METRES) FROM ONE YEAR AGO. THIS IS 61 PERCENT OF THE AVERAGE STORAGE FOR APRIL 1 AND ABOUT 46 PERCENT OF AVAILABLE CAPACITY.

APRIL 1 STORAGE IN RESERVOIRS SERVING MARIN COUNTY WAS 8,100 ACRE-FEET (10 x 10^6 CUBIC METRES) OR 18 PERCENT OF AVERAGE. THIS IS AN INCREASE OF 500 ACRE-FEET (616 x 10^3 CUBIC METRES) DURING MARCH. ONE YEAR AGO THE THREE MARIN WATER DISTRICT RESERVOIRS WERE STORING NEARLY 69,000 ACRE-FEET (85 x 10^6 CUBIC METRES). AVERAGE APRIL 1 TOTAL STORAGE IS 44,200 ACRE-FEET (55 x 10^6 CUBIC METRES).

IN THE CENTRAL COASTAL AREA, STORAGE IN SIX MAJOR RESERVOIRS WAS 434,000 ACRE-FEET (535 x 10^6 CUBIC METRES) ON APRIL 1, A DECREASE OF 20,000 ACRE-FEET (25 x 10^6 CUBIC METRES) DURING MARCH, AND DOWN 280,000 ACRE-FEET (345 x 10^6 CUBIC METRES) FROM ONE YEAR AGO. THIS IS 60 PERCENT OF THE AVERAGE FOR APRIL 1 AND ABOUT 44 PERCENT OF AVAILABLE CAPACITY.



RUNOFF

OCTOBER 1 TO DATE IN PERCENT OF AVERAGE

APRIL 1, 1976 ▥ APRIL 1, 1977 ■

<u>RUNOFF</u> - MARCH RUNOFF IN SELECTED SAN FRANCISCO BAY AREA STREAMS WAS 500 ACRE-FEET (617 x 10^3 CUBIC METRES) OR ABOUT 3 PERCENT OF THE 18,000 ACRE-FEET (22 x 10^6 CUBIC METRES) NORMALLY RECEIVED DURING MARCH. FOR THE WATER YEAR TO DATE THE SIX-MONTH TOTAL WAS 1 PERCENT OF NORMAL, 95,000 ACRE-FEET (117 x 10^6 CUBIC METRES) BELOW THE AVERAGE RUNOFF FOR THIS PERIOD. A NEW RECORD LOW FLOW FOR THE OCTOBER THROUGH MARCH PERIOD WAS ESTABLISHED ON THE COYOTE AND NAPA RIVERS.

SELECTED CENTRAL COASTAL AREA STREAMS DURING MARCH PRODUCED 2,300 ACRE-FEET (2.8 x 10^6 CUBIC METRES) OF RUNOFF, OR 4 PERCENT OF NORMAL. FOR THE WATER YEAR TO DATE, THE SIX-MONTH TOTAL RUNOFF WAS 5 PERCENT OF NORMAL, 237,000 ACRE-FEET (292 x 10^6 CUBIC METRES) BELOW THE AVERAGE RUNOFF FOR THIS PERIOD. NEW RECORD LOW FLOW FOR THE OCTOBER THROUGH MARCH PERIOD WAS ESTABLISHED ON THE ARROYO SECO NEAR SOLEDAD AND THE NACIMIENTO RIVER BELOW NACIMIENTO DAM.

SOUTH COASTAL AND COLORADO DESERT AREAS

PRECIPITATION - IN THE SOUTH COASTAL AREA, PRECIPITATION AVERAGED 55 PERCENT OF NORMAL FOR THE PERIOD OCTOBER 1, 1976, THROUGH MARCH 31, 1977. SEASONAL VALUES OF SUBDRAINAGES ARE SLIGHTLY LESS THAN THOSE EXPERIENCED DURING THE SAME PERIOD LAST YEAR. EXTREMES VARIED FROM 19.54 INCHES (496 MILLIMETRES) OR 68 PERCENT AT MT. WILSON TO 4.98 INCHES (126 MILLIMETRES) OR 40 PERCENT AT LONG BEACH. MARCH PRECIPITATION AVERAGED 65 PERCENT OF NORMAL. IT VARIED FROM 4.31 INCHES (109 MILLIMETRES) OR 90 PERCENT AT MT. WILSON TO 0.61 INCH (15 MILLIMETRES) OR 41 PERCENT AT SAN DIEGO.

PRECIPITATION IN THE COLORADO DESERT AREA DURING THE OCTOBER THROUGH MARCH PERIOD AVERAGED 55 PERCENT OF NORMAL. EXTREMES VARIED FROM 83 PERCENT AT NEEDLES TO 16 PERCENT AT BLYTHE. MARCH PRECIPITATION AVERAGED 40 PERCENT OVER THE AREA. IT VARIED FROM 0.30 INCH (8 MILLIMETRES) OR 120 PERCENT AT IRON MOUNTAIN TO NO MEASURABLE AMOUNT AT BLYTHE.

RESERVOIR STORAGE - THE 28 MAJOR RESERVOIRS IN THE SOUTH COASTAL AREA HAVE A COMBINED STORAGE OF 897,000 ACRE-FEET (1 106 x 10^6 CUBIC METRES), AN INCREASE OF 3,000 ACRE-FEET (4 x 10^6 CUBIC METRES) DURING MARCH, AND DOWN 212,000 ACRE-FEET (262 x 10^6 CUBIC METRES) FROM ONE YEAR AGO. THIS IS 73 PERCENT OF THE AVERAGE STORAGE FOR APRIL 1 AND ABOUT 42 PERCENT OF AVAILABLE CAPACITY. FOURTEEN RESERVOIRS CONTAIN STORAGE OF IMPORTED WATER. TOTAL IMPORTED WATER STORED IN THESE RESERVOIRS WAS 584,000 ACRE-FEET (720 x 10^6 CUBIC METRES) OR 71 PERCENT OF NORMAL APRIL 1 STORAGE. RESERVOIRS ON THE COLORADO RIVER SUPPLYING IMPORT TO CALIFORNIA ARE STORING 130 PERCENT OF NORMAL.

RUNOFF - RUNOFF DURING MARCH IN SELECTED STREAMS OF THE SOUTH COASTAL AREA WAS 3,500 ACRE-FEET (4.3 x 10^6 CUBIC METRES) OR 13 PERCENT OF NORMAL. RUNOFF OF THESE STREAMS DURING THE WATER YEAR, OCTOBER THROUGH MARCH, WAS 17,500 ACRE-FEET (22 x 10^6 CUBIC METRES) OR 18 PERCENT OF NORMAL.

MAJOR WATER DISTRIBUTION PROJECTS

COLORADO RIVER - APRIL 1 SNOWPACK IN THE COLORADO RIVER BASIN, ACCORDING TO THE U. S. SOIL CONSERVATION SERVICE, IS 44 PERCENT OF NORMAL FOR THE AREA AND RANGES FROM A LOW OF 22 PERCENT ON THE ANIMAS RIVER IN COLORADO TO A HIGH OF 53 PERCENT ON THE UPPER COLORADO BASIN.

THE U. S. BUREAU OF RECLAMATION, SALT LAKE CITY, UTAH, FORECASTS THAT FLOW IN THE COLORADO RIVER, INFLOW TO LAKE POWELL, DURING APRIL-JULY 1977 WILL BE 2,200,000 ACRE-FEET (2.7 x 10^9 CUBIC METRES), 28 PERCENT OF THE 50-YEAR AVERAGE.

STORAGE IN LAKE MEAD ON APRIL 1 WAS 21,429,000 ACRE-FEET (26.4 x 10^9 CUBIC METRES), 123 PERCENT OF AVERAGE FOR THIS DATE. CURRENTLY, STORAGE IS 1,122,000 ACRE-FEET (1.4 x 10^9 CUBIC METRES) ABOVE WHAT IT WAS LAST YEAR AT THIS TIME. COMBINED STORAGE IN THE FOUR INTERSTATE RESERVOIRS ON THE COLORADO RIVER IS 41,646,000 ACRE-FEET (51.4 x 10^9 CUBIC METRES), 130 PERCENT OF THE APRIL 1 AVERAGE.

MAJOR WATER DISTRIBUTION PROJECTS

CENTRAL VALLEY PROJECT - APRIL 1 RUNOFF FORECASTS INDICATE THAT ALL CVP RIVER BASINS WILL LIKELY HAVE RECORD LOW FLOWS THIS YEAR. THE U. S. BUREAU OF RECLAMATION REPORTS THAT DEFICIENCIES OF 75 PERCENT FOR AGRICULTURAL WATER USERS AND 50 PERCENT FOR MUNICIPAL AND INDUSTRIAL WATER USERS HAVE BEEN IMPOSED.

STORAGE IN MAJOR CENTRAL VALLEY PROJECT RESERVOIRS

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1/ 1,000 AF	STORAGE AS OF APRIL 1		
			1976 1,000 AF	1977 1,000 AF	PERCENT AVERAGE
CLAIR ENGLE LAKE	2,448.0	2,161.6	1,849.3	1,062.1	49
SHASTA LAKE	4,552.0	3,959.5	3,170.2	1,460.7	37
WHISKEYTOWN	241.1	218.7	220.8	227.2	104
FOLSOM	1,101.3	660.2	633.5	285.3	43
MILLERTON LAKE	520.6	359.8	357.8	226.4	63
SAN LUIS CVP	970.9 2/	937.4 3/	904.3 3/	545.3 3/	60

STORAGE IN STATE WATER PROJECT RESERVOIRS

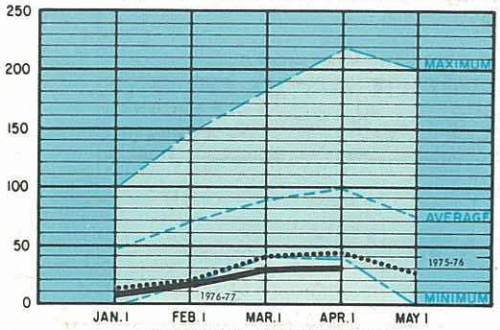
STATE WATER PROJECT - THE APRIL 1 RUNOFF FORECAST FOR THE FEATHER RIVER BASIN SHOWS THAT THE APRIL THROUGH JULY FLOW WILL BE 27 PERCENT OF NORMAL. THE STATE WATER PROJECT HAS IMPOSED 50 PERCENT DEFICIENCIES ON AGRICULTURAL DELIVERIES AND UP TO 10 PERCENT ON ALL MUNICIPAL AND INDUSTRIAL WATER. IN ADDITION TO THE 320,000 ACRE-FEET (395×10^6 CUBIC METRES) OF COLORADO RIVER WATER, MADE AVAILABLE THROUGH AN EXCHANGE WITH THE METROPOLITAN WATER DISTRICT, ANOTHER 35,000 ACRE-FEET (43×10^6 CUBIC METRES) HAS BEEN MADE AVAILABLE TO THE PROJECT THROUGH A RELEASE OF ENTITLEMENTS BY THREE OTHER SOUTHERN WATER AGENCIES

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1/ 1,000 AF	STORAGE AS OF APRIL 1		
			1976 1,000 AF	1977 1,000 AF	PERCENT AVERAGE
OROVILLE	3,537.6	2,851.0	2,864.0	1,564.5	54
SAN LUIS SWP 2/	1,067.9	1,015.6 3/	1,032.5 3/	658.3 3/	65
LAKE DEL VALLEY	77.1	35.6	33.4	38.4	98
SILVERWOOD LAKE	75.0	59.8	63.8	55.1	91
PYRAMID LAKE	171.2	162.1	163.0	166.4	102
CASTAIC LAKE	323.7	254.1	285.8	108.5	42
PERRIS RESERVOIR	131.5	97.0	93.8	83.1	85

1/ AVERAGE STORAGE BASED ON 10-YEAR PERIOD 1967-1976, AND EXCLUDING PERIOD OF INITIAL FILLING. ALL STATE WATER PROJECT RESERVOIRS, SAN LUIS RESERVOIR, AND CVP WHISKEYTOWN RESERVOIR, HAVE LESS THAN 10-YEAR AVERAGES.

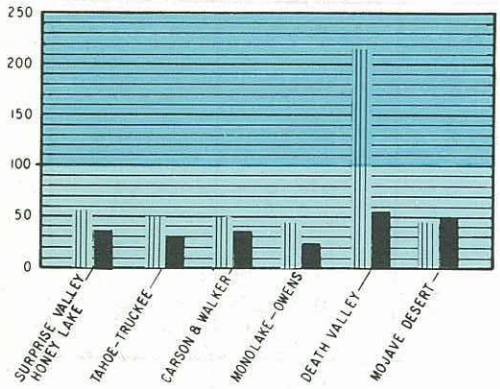
2/ JOINT FEDERAL-STATE RESERVOIR, WITH APPROXIMATELY 52 PERCENT OF CAPACITY (1,067,900 AF) ALLOCATED TO SWP, AND APPROXIMATELY 48 PERCENT (970,900 AF) ALLOCATED TO CVP.

3/ AMOUNT IN STORAGE FOR CVP OR FOR SWP.



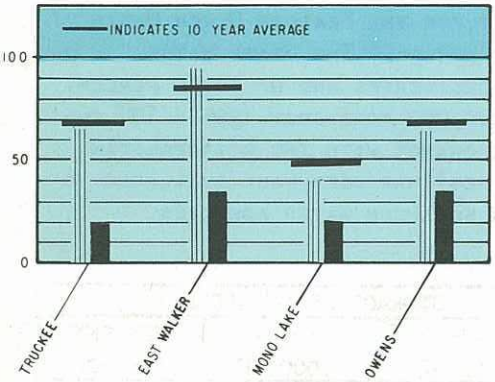
SNOWPACK ACCUMULATION

WATER CONTENT IN PERCENT OF APRIL 1 AVERAGE



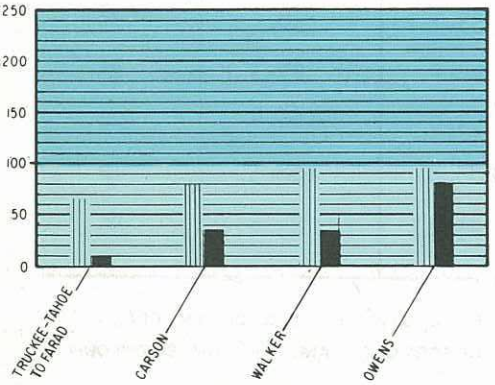
PRECIPITATION

OCTOBER 1 TO DATE IN PERCENT OF AVERAGE



RESERVOIR STORAGE

CONTENTS OF MAJOR RESERVOIRS IN PERCENT OF CAPACITY



RUNOFF

OCTOBER 1 TO DATE IN PERCENT OF AVERAGE

APRIL 1, 1976 APRIL 1, 1977

LAHONTAN AREA

SNOWPACK - MEASUREMENTS OF SNOWPACK WERE OBTAINED AT 70 SNOW COURSES AND 18 AERIAL MARKERS ON OR ABOUT APRIL 1. THESE MEASUREMENTS INDICATED SNOW WATER CONTENT WAS 30 PERCENT OF AVERAGE COMPARED TO 45 PERCENT ONE YEAR AGO.

NORMAL MARCH INCREASE IN THE SNOWPACK FOR THIS AREA IS 10 PERCENT, BUT THERE WAS NO INCREASE IN THE SNOWPACK DURING MARCH THIS YEAR. SNOW WATER CONTENT FOR THIS AREA WAS THE LOWEST IN THE 47-YEAR PERIOD OF RECORD.

PRECIPITATION - OCTOBER THROUGH MARCH PRECIPITATION AVERAGED 35 PERCENT OF NORMAL FOR THE LAHONTAN AREA. ALL SUB-DRAINAGES ARE AT DROUGHT LEVEL. AMOUNTS ARE ABOUT ONE-THIRD THOSE VALUES FOR THE CORRESPONDING PERIOD LAST YEAR. SEASONAL CATCHES VARIED FROM 10.20 INCHES (259 MILLIMETRES) OR 39 PERCENT AT TRUCKEE TO 1.01 INCHES (26 MILLIMETRES) OR 22 PERCENT AT BISHOP, A RECORD LOW. MONO LAKE'S 2.82 INCHES (72 MILLIMETRES) OR 22 PERCENT IS ALSO A RECORD SEASONAL LOW. MARCH PRECIPITATION AVERAGED 40 PERCENT OF NORMAL. EXTREMES VARIED WIDELY FROM 64 PERCENT (1.25 INCHES OR 32 MILLIMETRES) AT LAKE SABRINA TO 19 PERCENT (0.76 INCH OR 19 MILLIMETRES) AT BISHOP.

RESERVOIR STORAGE - APRIL 1 STORAGE IN EIGHT MAJOR RESERVOIRS IN THIS AREA WAS 170,000 ACRE-FEET (210 x 10^6 CUBIC METRES), AN INCREASE OF 6,000 ACRE-FEET (7 x 10^6 CUBIC METRES) DURING MARCH, AND DOWN 102,000 ACRE-FEET (126 x 10^6 CUBIC METRES) FROM ONE YEAR AGO. THIS IS 59 PERCENT OF THE AVERAGE STORAGE FOR APRIL 1 AND 40 PERCENT OF AVAILABLE CAPACITY. STORAGE IN FIVE INTERSTATE RESERVOIRS, WHICH INCLUDES WATER FOR USE IN BOTH CALIFORNIA AND NEVADA, WAS 222,000 ACRE-FEET (274 x 10^6 CUBIC METRES), A DECREASE OF 24,000 ACRE-FEET (30 x 10^6 CUBIC METRES) DURING MARCH, AND DOWN 487,000 ACRE-FEET (601 x 10^6 CUBIC METRES) FROM ONE YEAR AGO. STORAGE IS 29 PERCENT OF AVERAGE FOR APRIL 1 AND 20 PERCENT OF AVAILABLE CAPACITY. ON APRIL 1 THE USABLE STORAGE IN LAKE TAHOE WAS 139,600 ACRE-FEET (172 x 10^6 CUBIC METRES), A DECREASE OF 25,400 ACRE-FEET (31 x 10^6 CUBIC METRES) DURING MARCH, AND DOWN NEARLY 340,000 ACRE-FEET (419 x 10^6 CUBIC METRES) FROM ONE YEAR AGO. SURFACE ELEVATION ON APRIL 1 WAS 6224.15 FEET (1 897.12 METRES) AS COMPARED TO AN ELEVATION OF 6224.36 FEET (1 897.18 METRES) A MONTH AGO, AND 6226.58 FEET (1 897.86 METRES) A YEAR AGO.

RUNOFF - MARCH RUNOFF IN SELECTED STREAMS OF THE LAHONTAN AREA TOTALED 16,400 ACRE-FEET (20 x 10^6 CUBIC METRES) OR 21 PERCENT OF NORMAL. RUNOFF FOR THE FIRST SIX MONTHS OF THE WATER YEAR WAS 38 PERCENT OF NORMAL AS COMPARED TO 80 PERCENT OF NORMAL FOR THE SAME PERIOD ONE YEAR AGO. A NEW RECORD LOW FOR THE OCTOBER THROUGH MARCH PERIOD WAS ESTABLISHED ON THE TRUCKEE RIVER AND THE WEST CARSON RIVER AT WOODFORDS. ON THE EAST FORK OF THE CARSON RIVER NEAR GARDENVILLE AND THE WEST WALKER RIVER BELOW LITTLE WALKER, FLOWS FOR OCTOBER THROUGH MARCH WERE THE SECOND LOWEST IN MORE THAN FIFTY YEARS OF RECORD.

FORECASTS - CONDITIONS OF APRIL 1 INDICATE THAT RUNOFF FROM THE LAHONTAN AREA DURING THE 1976-77 WATER YEAR WILL BE ABOUT 25 PERCENT OF AVERAGE. THE DEPARTMENT OF WATER AND POWER OF THE CITY OF LOS ANGELES FORECASTS THE APRIL-JULY RUNOFF FOR THE OWENS RIVER AT LONG VALLEY RESERVOIR TO BE ABOUT 10,000 ACRE-FEET (12 x 10^6 CUBIC METRES), 16 PERCENT OF AVERAGE.

LAHONTAN AREA AND GOOSE LAKE FORECASTS AS OF APRIL 1, 1977			
STREAM AND STATION	APRIL-JULY RUNOFF		
	AVERAGE IN ACRE-FEET	IN ACRE-FEET	IN PERCENT OF AVERAGE
Bidwell Creek near Ft. Bidwell	11,180	3,200	29
Mill Creek above diversions	4,870	1,600	33
Deep Creek above diversions	3,540	1,100	31
Eagle Creek at Eagleville	4,770	1,700	36
Truckee River, Lake Tahoe to Farad accretion	264,000	65,000	25
Lake Tahoe Rise (assuming gates closed)	1.42 ft.	0.25 ft.	18
East Carson River near Gardnerville	181,000	45,000	25
West Carson River at Woodfords	51,000	12,000	24
East Walker River near Bridgeport	60,000	7,000	12
West Walker River near Coleville	143,000	35,000	24
Goose Lake Tributaries			
New Pine Creek below Schroeders	7,350	3,450	47
Cottonwood Creek below Larkin Garden Ditch	2,450	1,350	55
Lassen Creek near Willow Ranch	7,540	4,150	55
Davis Creek above Diversion No. 4	6,250	3,250	52

SNOW LINES

SNOWMETRICS - ALTHOUGH METRIC SNOW SURVEYS MAY BE SEVERAL YEARS AWAY, THE SNOW SURVEYS OFFICE IS STARTING TO PLAN NOW. FOR INSTANCE, WE HAVE JUST RECEIVED TWO METRIC SNOW SAMPLE TUBE CUTTER SECTIONS AND WILL BE EVALUATING THEIR PERFORMANCE AT THE ALPHA TEST SITE OVER THE NEXT FEW WINTERS. THE CUTTERS, COMPLIMENTS OF CARPENTER MACHINE WORKS, SEATTLE, HAVE AN AREA OF 10 CUBIC CENTIMETRES. THIS MAKES THE DIAMETER 3.5692 CENTIMETRES, AND SO -- 1 CENTIMETRE OF SNOW WATER WILL WEIGH 10 GRAMS. WE WILL REPORT TO COOPERATORS ON HOW THEY PERFORM AS OUR EVALUATION PROGRESSES.

SKI HISTORY - "SNOWSHOE" THOMPSON DELIVERED MAIL ACROSS THE WINTER BOUND SIERRA ON SKIS. BUT "SNOWSHOE" WAS NO RACER. THE REAL SNOWSHOE RACERS WERE THE MINERS OF LAPORTE WHERE THEY RACED ON 12-FOOT SKIS, WAXED WITH SECRET DOPE. WHEN THOMPSON ENTERED THEIR SNOWSHOE CLUB'S RACE IN 1869, HIS TIME WAS FAR BEHIND THAT OF MEN LIKE MR. O'LIBERTY'S OR JACOB GOULD'S WHO MADE QUARTER MILE RUNS IN ABOUT 15 SECONS. IF YOU WANT TO SAVOR THE COLOR AND EXCITEMENT OF EARLY-DAY SKIING, GO TO LAPORTE AND TALK WITH TRUMAN GOULD AND HIS WIFE HELEN. TRUMAN, GRANDSON OF RACER JACOB GOULD, IS THE "SNOWSHOEING" EXPERT OF THE AREA. ALSO, A SNOW SURVEYOR, HE HAS SAMPLED THE GIBSONVILLE SNOW COURSE FOR THE LAST 25 YEARS FOR THE CALIFORNIA COOPERATIVE SNOW SURVEYS PROGRAM.

FRONT COVER - THIS (NORMAL YEAR) SCENE SHOWS THE SILVER CREEK FORK OF THE AMERICAN RIVER OPENING UP AS THE WEATHER WARMS AND SUSTAINED SNOWMELT RUNOFF BEGINS. (DWR PHOTO.)

BACK COVER - THIS 1930'S SCENE SHOWS A STATE CAR FORDING THE SOUTH FORK OF SILVER CREEK NEAR ICE HOUSE. THERE'S A BRIDGE AT THIS CROSSING NOW. (DWR PHOTO.)

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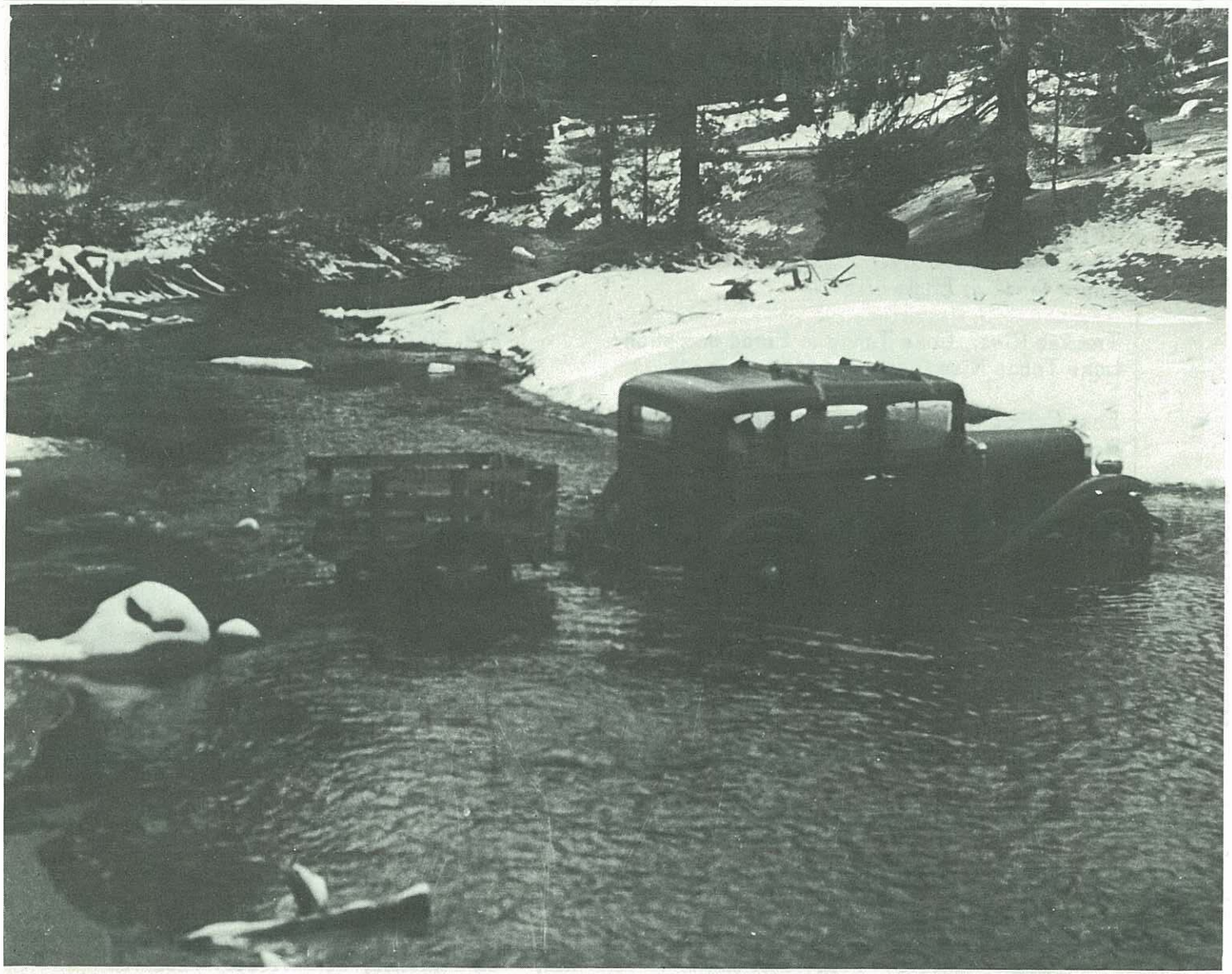

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