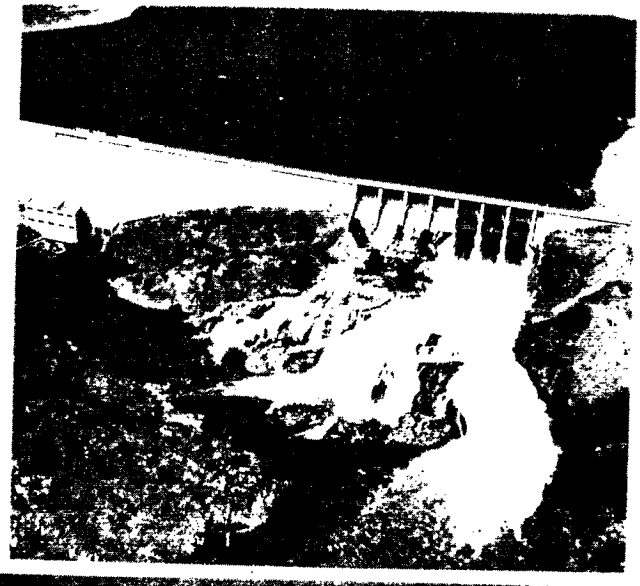
California
Water Supply Outlook

January 26, 1998

Compiled by the
Division of Flood Management,
Flood Operations and Hydrology Branches

Climate and Weather . . . Snowpack . . . Streamflow . . . Reservoir Storage



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D-010030

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The data in this publication are preliminary and may be subject to revision.

Water Supply Outlook is usually published monthly by the Flood Operations and Hydrology Branches of the Division of Flood Management. It is compiled from data and information gathered by the Chief Hydrologist, Chief Forecaster, Forecasting Section, State Meteorologist/Climatologist, Snow Surveys Section, Data Control Section (California Data Exchange Center), and Emergency Response Section.

Some of this information, along with real-time data, is available from the California Snow Surveys Program through the Internet on the World Wide Web (**URL = http://cdec.water.ca.gov/snow/**) and through the **California Data Exchange Center (CDEC)**. Reports and data from past months and years are also available. CDEC can be accessed through the Internet (**URL = http://cdec.water.ca.gov**). Also of interest is the **"California Water Page"** (**URL = http://wwwdwr.water.ca.gov/**) operated by the Department of Water Resources.

The Snow Surveys Program also produces the **California Cooperative Snow Surveys Bulletin 120, *Water Conditions in California.*** This bulletin is published monthly by the Department of Water Resources from February 1 to May 1, with a final Fall Report at the end of the water year. Bulletin 120 provides forecasts of unimpaired runoff for California rivers, along with precipitation, snowpack, and reservoir storage data. To receive Bulletin 120, contact the Department of Water Resources Mailing List Coordinator (see below).

Questions or comments regarding the contents of *Water Supply Outlook* may be directed to Matthew Winston (916-574-2615, Fax 916-574-2767) at:

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Changes or additions to this publication's mailing list should be directed to the Department of Water Resources Mailing List Coordinator at the address on the back cover, or by calling 916-653-0995.

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Water Conditions in California

The first three weeks of January were wet, with a series of moderate storms generating about 180 percent of the northern Sierra monthly average and raising the seasonal total to 140 percent of average (pages 2-3). The mountain snowpack, which was about 75 percent of average on January 1 statewide has now recovered to slightly above average normal water content for this point in the season and is about 65 percent of the average April 1 amount (page 5). The Snow Surveys Office updated the water year runoff forecasts to include the recent storms. The median forecasted runoff for the four major Sacramento River tributaries (the upper Sacramento, Feather, Yuba, and American rivers) increased from 16.5 MAF on January 1 to 20.1 MAF as of January 20 (page 2).

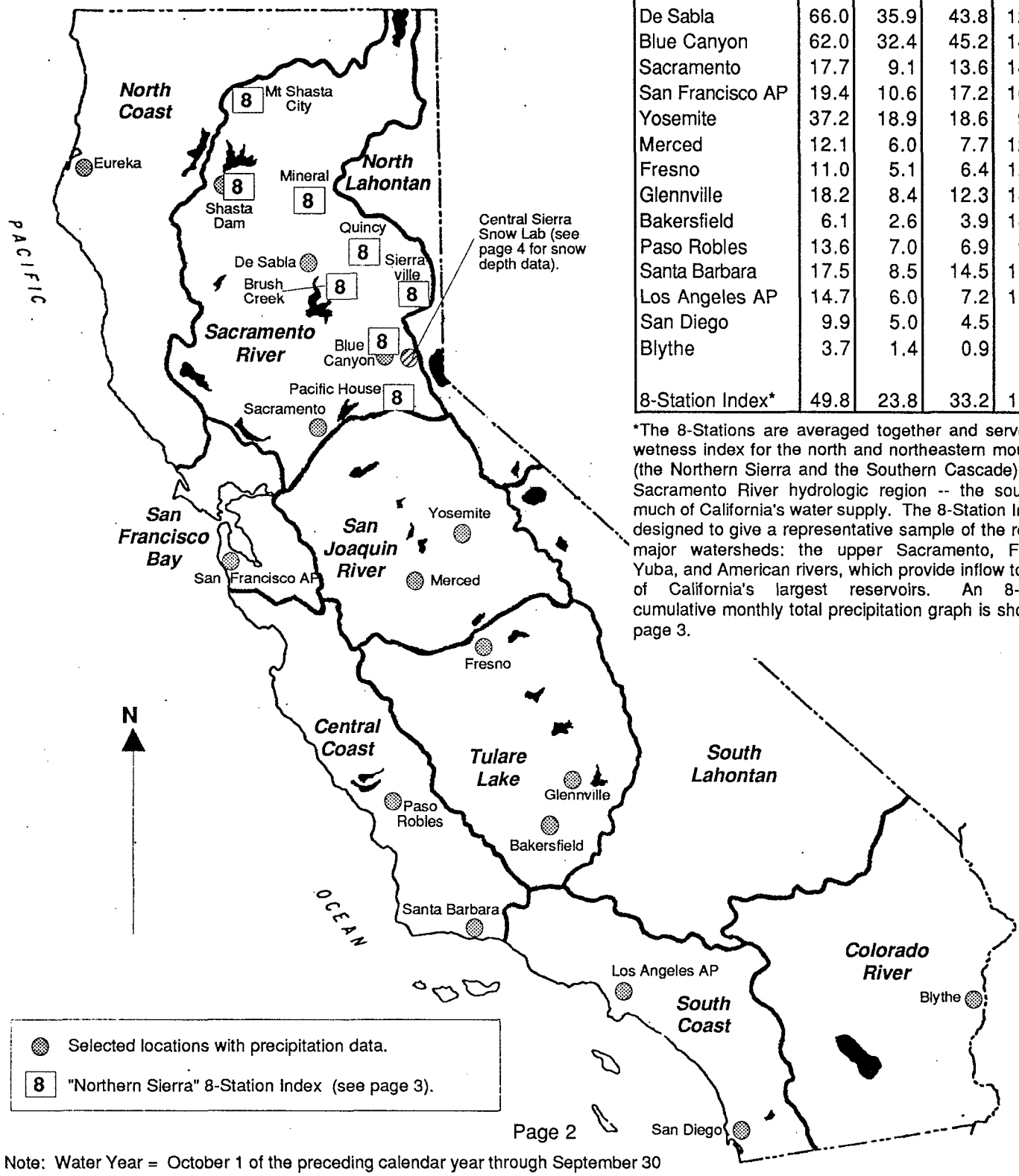
A few of the major flood control reservoirs have temporarily encroached slightly into flood control space, but most are a little under flood control thresholds. The improvement in water supply has caused many operators to increase releases for power generation. As of this week, the 15 major Sacramento-San Joaquin system multipurpose reservoirs had a little over 5 million acre-feet (MAF) of flood control space, 0.4 MAF more than required. Total intrastate storage stood at 107 percent of average on January 1, which is 62 percent of capacity (table below). The 155 reservoir percentage is expected to rise to about 110 percent at the end of January.

Reservoir Storage by Hydrologic Region
December 31, 1997
(1,000 Acre-Feet)

Hydrologic Region	No of Res	Capacity	Hist Avg*	Last Day of December in Calendar Year: 1977*	1983*	1995	1996	1997	December 31, 1997 Percent Avg	Percent Capacity
Intrastate*										
North Coast	7	3,148	**2,064**	614	2,413	2,311	2,620	1,891	92%	60%
San Francisco Bay	18	696	**402**	316	566	484	562	459	114%	66%
Central Coast	6	947	**521**	233	846	612	712	595	114%	63%
South Coast	29	1,989	**1,153**	902	1,711	1,515	1,453	1,321	115%	66%
Sacramento River	43	16,009	**10,003**	5,296	13,170	11,311	13,140	9,657	97%	60%
San Joaquin River	33	11,347	**6,008**	1,987	9,122	8,143	9,061	7,427	124%	65%
Tulare Lake	6	2,045	**679**	296	1,335	980	1,053	854	126%	42%
North Lahontan	5	1,072	**514**	50	909	646	922	708	138%	66%
South Lahontan	8	403	**278**	147	300	269	222	268	96%	67%
CA Subtotal	155	37,656	**21,622**	9,841	30,372	26,271	29,745	23,180	**107%**	62%
Percent of Average				**46%**	**140%**	**122%**	**138%**	**107%**		
Interstate (shared with other states)										
North Coast	3	1,494	**582**	509	824	633	814	703	121%	47%
Colorado River	4	53,590	**37,746**	37,798	49,635	45,166	44,743	48,991	130%	91%
Subtotal	7	55,085	**38,328**	38,307	50,459	45,799	45,557	49,694	130%	90%
Total	162	92,740	**59,950**	48,148	80,831	72,070	75,302	72,874	122%	79%

*Based on reservoirs monitored by the Division of Flood Management. This represents about 90 percent of the capacity of all intrastate reservoirs in California. There are approximately 1,400 reservoirs in California. (See page 6 for a partial listing of the reservoirs monitored by the Division of Flood Management.) The Historical Average is based on the length of record through 1990 for each individual reservoir. Data for 1977, the driest runoff year this century, does not include New Melones, Warm Springs, New Spicer Meadows Reservoirs, and several small reservoirs that were not in operation in 1977. The wettest runoff year this century was 1983.

Hydrologic Regions of California



Water Year 1998 Precipitation at Selected Locations in California

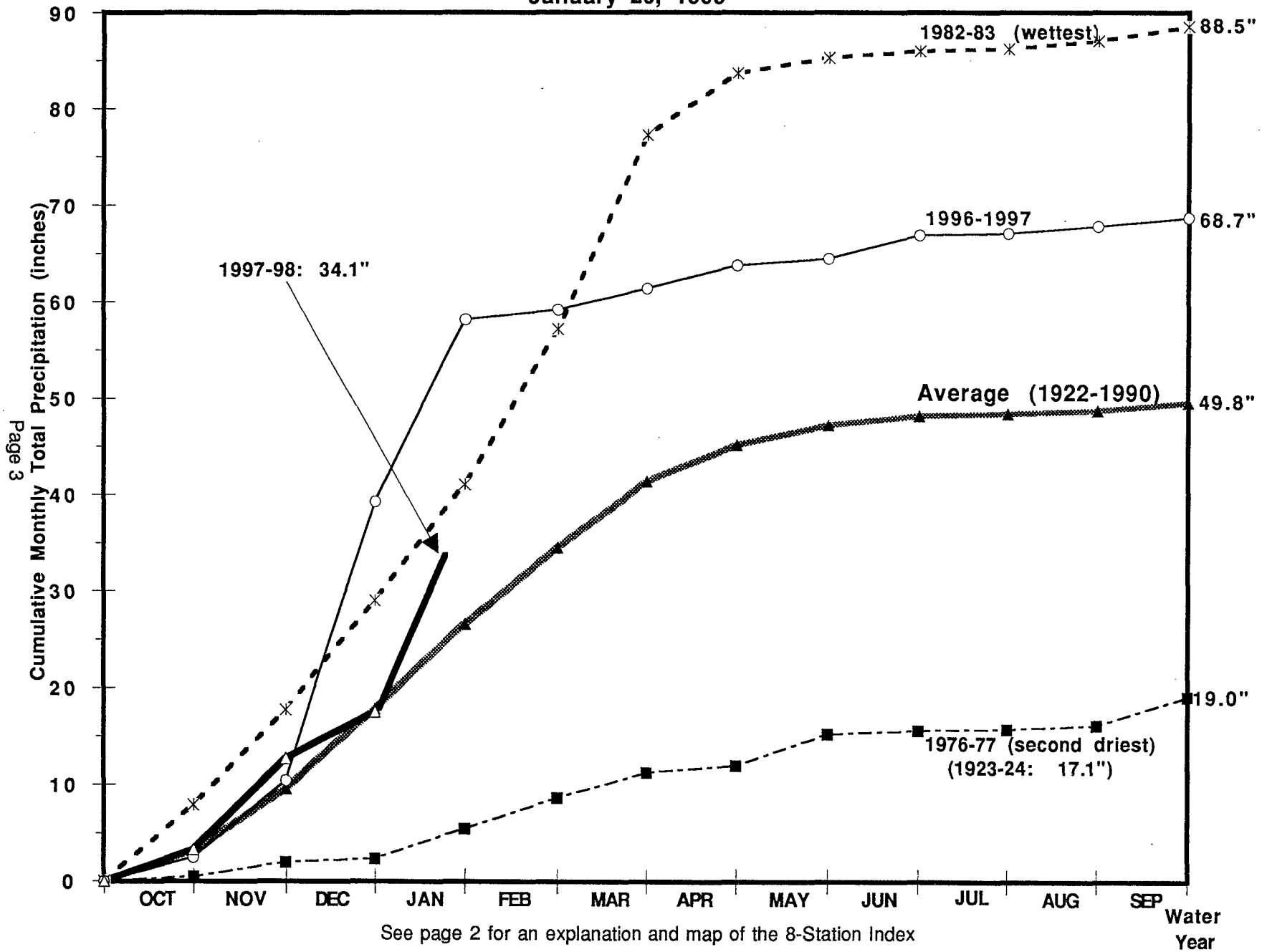
October 1, 1997 - January 26, 1998

Station	inches			% of
	Avg WY	Avg to Date	since Oct 1	Avg to Date
Eureka	38.2	20.4	26.2	128%
Shasta Dam	58.2	31.4	42.6	136%
De Sabla	66.0	35.9	43.8	122%
Blue Canyon	62.0	32.4	45.2	140%
Sacramento	17.7	9.1	13.6	149%
San Francisco AP	19.4	10.6	17.2	162%
Yosemite	37.2	18.9	18.6	98%
Merced	12.1	6.0	7.7	128%
Fresno	11.0	5.1	6.4	125%
Glennville	18.2	8.4	12.3	146%
Bakersfield	6.1	2.6	3.9	149%
Paso Robles	13.6	7.0	6.9	98%
Santa Barbara	17.5	8.5	14.5	171%
Los Angeles AP	14.7	6.0	7.2	119%
San Diego	9.9	5.0	4.5	89%
Blythe	3.7	1.4	0.9	64%
8-Station Index*	49.8	23.8	33.2	139%

*The 8-Stations are averaged together and serve as a wetness index for the north and northeastern mountains (the Northern Sierra and the Southern Cascade) of the Sacramento River hydrologic region -- the source of much of California's water supply. The 8-Station Index is designed to give a representative sample of the region's major watersheds: the upper Sacramento, Feather, Yuba, and American rivers, which provide inflow to some of California's largest reservoirs. An 8-Station cumulative monthly total precipitation graph is shown on page 3.

Note: Water Year = October 1 of the preceding calendar year through September 30

"Northern Sierra" Precipitation
8-Station Index
January 26, 1998

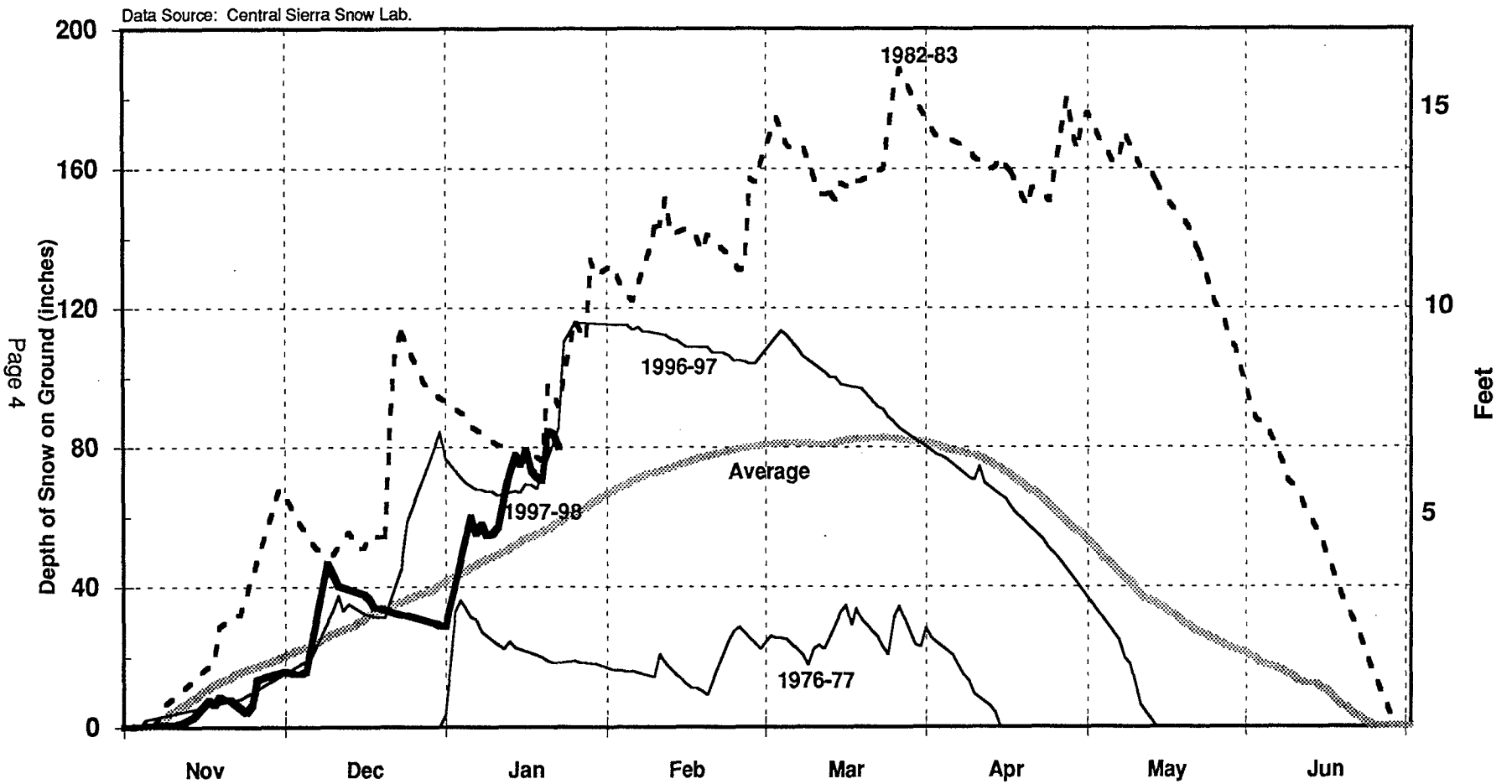


See page 2 for an explanation and map of the 8-Station Index

D—010034

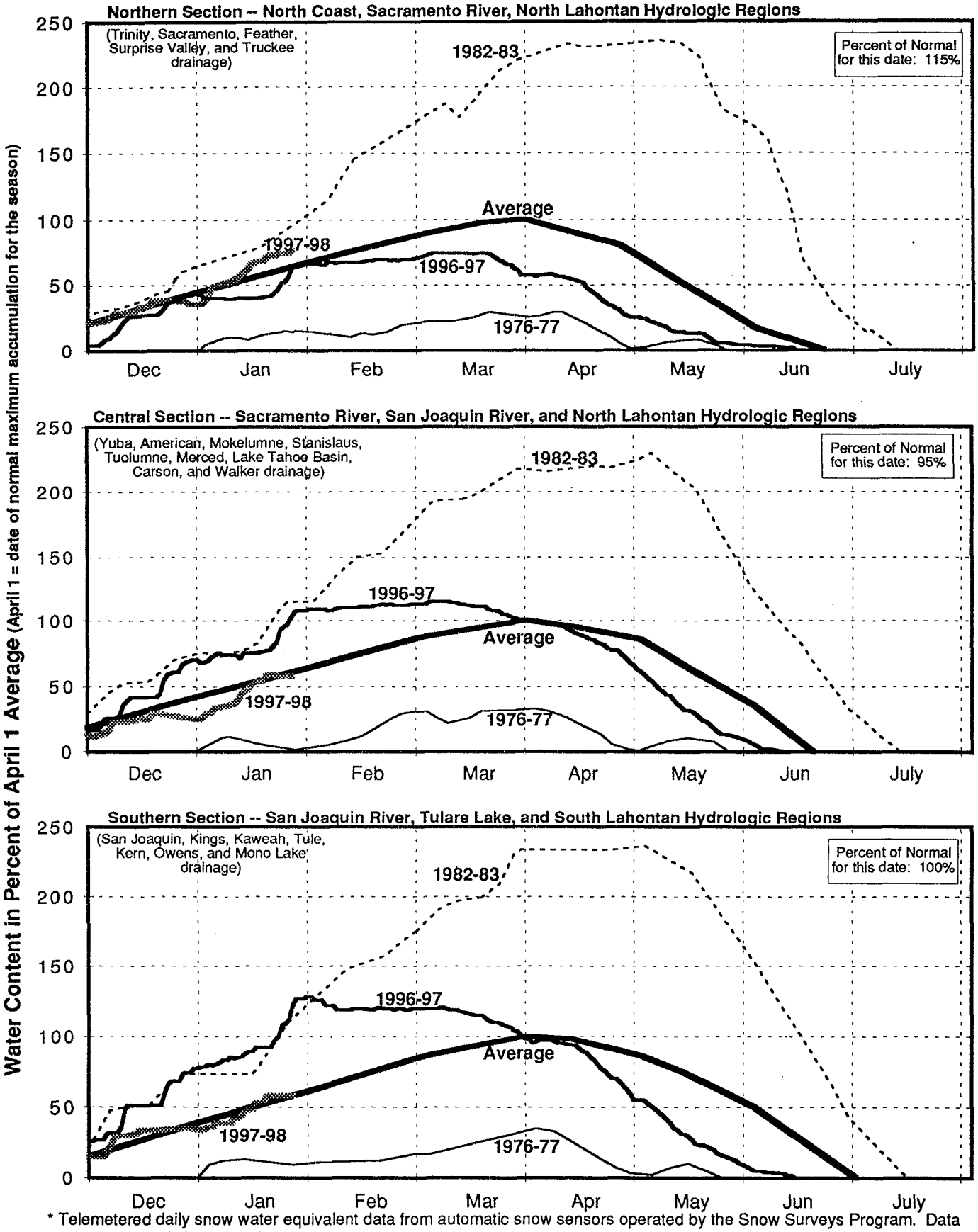
Snow Depth* at the Central Sierra Snow Lab
Soda Springs, California (near Donner Summit, elevation: 6,900 feet)

January 21, 1998



*Snow water content (page 5) is used for water supply forecasting. Snow Depth is included here only for general information and as a comparison to past years.
See hydrologic region map on page 2 for station location.

California Snow Water Content* - January 26, 1998



* Telemetered daily snow water equivalent data from automatic snow sensors operated by the Snow Surveys Program. Data from prior years is based on fewer sensors.

D-010036

Water Storage in Selected California Reservoirs
(1,000 Acre-Feet)

RESERVOIR by Hydrologic Region	CAP	Hist Avg for length of record	DECEMBER End-of-month Storage in Calendar Year: 1977	1991	1992	1993	1994	1995	1996	1997
North Coast:										NC
Klamath River (Interstate)										
Upper Klamath L	873.3	311.9	343.0	238.8	212.1	258.4	165.5	357.6	382.8	343.8
Shasta River										
Shastina (Dwinnell)	50.0	22.8	11.0	4.1	4.1	13.4	3.8	27.6	42.0	15.8
Humboldt MWD										
Ruth Reservoir	51.8	41.6	53.2	24.4	45.1	38.0	41.0	49.7	60.0	45.0
Russian River										
Lake Sonoma	381.0	140.9	n/a	167.4	228.4	206.1	199.7	222.8	295.1	211.3
San Francisco Bay:										SFB
Marin MWD										
Soulajule Res	10.6	8.3	n/a	3.6	9.1	7.7	7.2	9.7	10.6	8.1
Nicasio Reservoir	22.4	16.0	5.4	11.5	20.8	16.8	16.9	22.2	22.4	21.1
Kent Lake	32.9	17.6	5.1	14.1	21.2	25.9	22.3	26.8	32.9	22.2
Alpine Lake	8.9	5.1	8.3	6.8	8.4	6.4	8.8	7.1	8.9	8.4
SUM	74.8	47.0	18.8	36.0	59.5	56.8	55.2	65.8	74.8	59.8
East Bay MUD										
San Pablo Res	38.6	25.4	19.8	27.5	27.6	25.7	29.2	20.0	30.7	28.7
Briones Reservoir	60.5	50.4	56.5	53.6	51.9	53.3	53.8	57.2	58.2	57.5
Up San Leandro R	41.4	28.0	26.7	29.2	26.4	28.0	23.4	24.9	35.1	32.0
Lake Chabot	10.4	9.2	8.7	7.5	7.5	8.8	8.2	9.4	9.7	8.9
Pardee Res*	198.0	177.2	89.8	188.4	157.4	177.8	148.6	205.8	186.0	162.2
Camanche Res*	417.1	232.0	43.0	118.9	90.1	292.3	205.5	267.1	308.0	307.2
SUM	766.0	522.2	244.5	425.1	360.9	585.9	468.7	584.4	627.7	596.5
San Francisco Cy & Co										
San Andreas Lake	19.0	14.2	15.9	7.2	11.1	11.3	14.1	14.5	15.3	14.0
Crystal Springs R	58.4	41.5	44.2	52.3	40.5	36.7	38.4	34.1	44.7	44.0
San Antonio Res	50.5	30.3	38.8	44.0	35.0	46.5	40.8	40.3	44.8	42.3
Calaveras Res	96.9	56.8	28.1	6.9	38.7	82.6	66.0	81.2	90.5	66.6
Hetch Hetchy R*	360.4	165.9	91.8	155.3	118.3	258.0	196.8	291.8	265.4	227.5
Lake Eleanor*	26.1	7.9	4.4	1.2	1.8	19.2	0.0	6.6	26.2	1.7
Cherry Lake*	268.0	110.0	100.4	100.7	72.1	263.5	169.1	246.8	181.8	156.2
SUM	879.3	426.6	323.6	367.6	317.5	717.8	525.2	715.3	668.7	552.3
Central Coast:										CC
Salinas River										
Santa Margarita L	23.0	15.6	21.4	10.4	18.9	17.5	16.4	19.1	24.3	18.1
Nacimiento Res	340.0	121.6	46.3	26.8	37.6	102.6	22.6	224.3	272.0	187.1
San Antonio Res	330.0	199.9	25.7	23.5	24.1	136.1	40.6	201.1	240.9	212.4
SUM	693.0	337.1	93.4	60.7	80.6	256.2	79.6	444.5	537.2	417.6
Santa Ynez River										
Gibraltar Res	8.2	7.1	6.2	5.7	6.9	7.3	6.1	5.3	8.7	7.6
Cachuma Res	204.9	148.4	106.2	52.9	150.7	172.4	142.6	128.6	123.5	131.8
SUM	213.1	155.5	112.4	58.6	157.6	179.7	148.7	133.9	132.2	139.4

* Located in Sierra Nevada (San Joaquin Basin drainage)

See note regarding this table on last page

Water Storage in Selected California Reservoirs
(1,000 Acre-Feet)

RESERVOIR by Hydrologic Region	CAP	Hist Avg for length of record	DECEMBER End-of-month Storage in Calendar Year: 1977	1991	1992	1993	1994	1995	1996	1997
South Coast:										SC
Ventura River										
Lake Casitas	254.0	172.5	178.1	142.1	191.4	242.2	224.1	238.9	231.9	227.9
Santa Ana River										
Big Bear Lake	73.0	38.7	33.1	37.5	39.6	66.4	62.4	65.1	61.6	58.0
SWP, South										
Pyramid Lake	171.2	158.7	167.8	144.3	161.2	160.3	159.5	161.7	166.7	167.4
Castaic Lake	323.7	228.5	51.0	295.4	239.4	225.7	147.1	264.8	288.4	287.1
Silverwood Lake*	73.0	61.0	42.5	71.9	65.1	58.7	69.9	39.0	15.0	69.2
Lake Perris	131.5	104.7	79.0	124.1	115.0	120.6	109.6	111.9	124.9	107.4
SUM	699.4	552.9	340.3	635.7	580.7	565.3	486.1	577.4	595.0	631.1
Sacramento Basin:										SB
CVP, North										
Trinity Res**	2447.7	1734.1	426.8	540.3	689.6	1892.5	1158.5	1869.8	2045.4	1495.6
Shasta Lake	4552.0	2977.0	1172.3	1301.9	2088.7	2961.9	2042.6	3274.9	3840.6	2734.1
Whiskeytown L	241.1	205.6	210.8	147.5	178.6	205.4	207.0	204.6	240.3	204.9
Folsom Lake	977.0	511.4	258.8	352.2	259.9	393.1	252.3	320.2	496.9	421.2
SUM	8217.8	5428.1	2068.7	2341.9	3216.8	5452.9	3660.4	5669.5	6623.2	4855.7
Orland Project										
East Park Res	50.9	26.1	13.7	40.0	45.7	40.1	12.1	45.9	49.7	23.0
Stony Gorge Res	50.0	25.1	22.7	19.8	33.2	40.0	12.5	38.6	42.1	33.0
SUM	100.9	51.2	36.4	59.8	78.9	80.1	24.6	84.5	91.8	56.0
Cache Creek										
Indian Valley Res	301.0	138.8	13.8	2.4	14.5	138.5	54.7	253.8	260.8	163.7
Clear Lake	313.0	168.4	0.0	25.1	83.6	89.3	45.6	160.3	220.0	124.9
SUM	614.0	307.2	13.8	27.5	98.1	227.8	100.3	414.1	480.8	288.6
Solano Project										
Lake Berryessa	1600.0	1230.6	790.6	545.6	468.7	759.6	560.4	1342.9	1554.5	1388.3
Feather River										
Lake Almanor	1143.0	693.1	543.1	696.4	687.9	693.7	695.1	874.1	873.4	624.2
Lake Oroville	3537.6	2312.6	1119.9	1265.7	1402.1	2429.9	1668.2	2702.1	2929.1	2224.2
SUM	4680.6	3005.7	1663.0	1962.1	2090.0	3123.6	2363.3	3576.2	3802.5	2848.4
Yuba County WA										
Bullards Bar Res	966.1	480.5	316.9	493.2	516.1	555.3	530.6	682.4	837.9	548.4
PG and E										
L Spaulding Sys	144.6	50.3	46.0	38.8	24.9	23.4	24.7	56.6	106.1	25.9
Nevada ID										
Jackson Meadows	69.2	28.7	5.7	34.6	20.9	23.4	20.7	33.7	46.0	32.7
French Lake	13.8	8.2	0.0	8.0	3.0	5.5	2.6	13.8	10.7	5.5
Bowman Lake	68.5	26.3	18.2	31.7	25.3	42.8	29.6	41.0	49.2	32.7
Scotts Flat Res	48.5	26.5	6.5	31.9	27.0	37.2	28.3	40.4	48.5	36.6
Rollins Reservoir	66.0	53.8	16.8	34.5	47.8	37.2	44.4	54.9	66.8	45.7
SUM	266.0	143.5	47.2	140.7	124.0	146.1	125.6	183.8	221.2	153.2

* Located in South Lahontan Basin drainage

**Located in North Coast drainage

Water Storage in Selected California Reservoirs
(1,000 Acre-Feet)

RESERVOIR by Hydrologic Region	CAP	Hist Avg for length of record	DECEMBER End-of-month Storage in Calendar Year: 1977	1991	1992	1993	1994	1995	1996	1997
Sacramento Basin, continued:										***SB, cont.***
South Sutter WD										
Camp Far West R	104.0	76.3	19.2	49.8	29.4	93.9	59.3	102.1	114.2	95.4
Placer CO WA										
French Meadows R	136.4	65.7	49.6	30.4	36.1	55.4	42.0	64.2	94.8	50.5
Hell Hole Res	207.6	108.9	86.4	40.1	47.8	85.3	76.1	122.7	158.0	54.5
SUM	344.0	174.6	136.0	70.5	83.9	140.7	118.1	186.9	252.8	105.0
Sacramento MUD										
Loon Lake	76.5	31.9	25.6	44.1	24.0	41.7	36.3	41.9	57.6	26.6
Union Valley Res	277.3	142.0	73.2	100.0	76.4	131.2	120.9	158.7	230.7	137.7
Ice House Res	46.0	19.5	13.4	20.5	18.5	26.8	21.3	28.9	31.3	24.0
Slab Creek Res	16.6	14.3	14.0	15.9	15.9	15.4	15.6	15.5	17.5	15.1
SUM	416.4	207.7	126.2	180.5	134.8	215.1	194.1	245.0	337.1	203.4
San Joaquin Basin:										***SJB***
Sly Park										
Jenkinson Lake	41.0	26.7	7.7	29.9	25.9	22.1	18.1	27.8	41.6	23.9
Calaveras River										
New Hogan Res	317.1	124.1	14.6	19.3	27.3	119.3	30.9	181.4	172.1	105.1
Tri-Dam										
Donnell Reservoir	64.3	22.3	17.1	11.5	8.7	12.9	7.7	31.0	44.4	8.4
Beardsley Lake	97.8	43.0	9.4	25.6	24.1	45.9	20.7	53.1	66.5	32.2
Tulloch Lake	67.0	49.2	34.9	54.7	54.2	55.7	56.1	54.9	56.7	53.8
SUM	229.1	114.5	61.4	91.8	87.0	114.5	84.5	139.0	167.6	94.4
CVP, Stanislaus R										
New Melones R*	2420.0	1380.7	*9.7*	317.5	115.6	747.5	425.4	1828.8	2010.8	1853.0
Tuolumne River										
Don Pedro Res	2030.0	1131.9	364.8	977.0	816.3	1589.1	1410.4	1632.5	1799.8	1542.4
Merced River										
Lake McClure	1024.6	452.3	99.8	153.9	116.7	642.8	281.5	632.7	767.8	587.0
Up. San Joaquin R										
Florence Lake	64.6	1.7	0.3	1.1	1.1	1.1	1.1	1.2	1.5	1.0
Lake Edison	125.0	58.0	6.7	21.8	24.0	57.0	31.4	108.5	70.7	37.9
Mammoth Pool R	122.7	34.6	37.3	27.7	28.5	11.9	43.5	36.0	36.0	10.6
Huntington Lake	89.8	56.1	59.6	57.1	46.3	63.3	52.9	33.0	60.9	56.8
Shaver Lake	135.4	44.1	33.0	78.4	42.9	91.7	98.5	122.4	111.6	87.7
Bass Lake	45.4	23.0	24.2	21.4	26.9	22.6	23.8	22.9	34.4	16.4
Redinger Lake	35.0	24.2	21.2	23.3	24.7	24.7	24.9	24.3	21.3	24.2
SUM	617.9	241.7	182.3	230.8	194.4	272.3	276.1	348.3	336.4	234.6
Friant										
Millerton Lake	520.0	251.9	226.5	200.2	179.2	227.9	216.8	305.8	448.5	218.1
DWR & USBR										
San Luis Res-USBR	*****	620.6	145.4	401.1	144.7	923.0	502.4	750.5	794.2	649.4
San Luis Res-DWR	*****	764.2	417.8	409.3	379.8	1062.6	694.2	896.4	1109.2	993.6
SUM	2039.0	1384.8	563.2	810.4	524.5	1985.6	1196.6	1646.9	1903.4	1643.0

*1977 value is for old Melones Reservoir

Water Storage in Selected California Reservoirs
(1,000 Acre-Feet)

RESERVOIR by Hydrologic Region	CAP	Hist Avg for length of record	DECEMBER End-of-month Storage in Calendar Year: 1977	1991	1992	1993	1994	1995	1996	1997
Tulare Lake Basin:										TLB
Kings River										
Courtright Res	123.2	41.7	0.5	60.9	28.9	34.2	44.7	68.2	27.3	56.5
Wishon Reservoir	128.3	41.8	68.2	44.9	47.0	66.4	38.1	51.9	85.1	39.6
Pine Flat Res	1000.0	421.1	152.7	87.3	77.0	388.6	205.2	594.4	626.0	501.1
SUM	1251.5	504.6	221.4	193.1	152.9	489.2	288.0	714.5	738.4	597.2
Kaweah River										
Lake Kaweah	143.0	16.1	19.0	8.6	9.4	8.1	8.3	8.2	28.5	6.7
Tule River										
Lake Success	82.3	13.0	12.3	10.5	8.5	10.4	9.2	11.2	32.9	7.9
Kern River										
Lake Isabella	568.0	145.2	43.8	89.7	82.3	242.5	115.6	246.5	252.8	242.5
North Lahontan Basin:										NLB
Truckee River										
Lake Tahoe	732.0	348.8	0.0	0.0	0.0	0.0	0.0	372.1	649.9	468.5
Prosser Creek R	29.8	9.0	2.2	9.7	9.8	10.0	9.7	10.0	11.3	9.9
Stampede Res	226.5	117.2	31.9	78.6	73.9	169.5	68.7	203.5	206.1	183.2
Boca Reservoir	41.1	17.1	11.2	6.9	5.3	18.8	9.1	22.2	23.1	18.5
SUM	1029.4	492.1	45.3	95.2	89.0	198.3	87.5	607.8	890.4	680.1
East Walker River										
Bridgeport Res	42.6	22.4	5.2	5.9	3.0	10.7	6.5	38.0	31.9	28.3
South Lahontan Basin:										SLB
Los Angeles DWP										
Grant Lake	47.6	28.8	11.9	15.4	18.9	22.0	13.0	44.5	41.8	43.4
Lake Crowley	183.2	126.4	50.1	110.1	107.8	107.4	133.9	129.2	114.4	110.1
Tinemaha Res	16.3	5.2	4.3	3.1	3.1	2.6	1.8	2.3	2.6	2.3
Haiwee Reservoir	41.2	38.6	26.1	13.9	12.6	22.2	32.4	27.3	28.0	25.4
SUM	288.3	199.0	92.4	142.5	142.4	154.2	181.1	203.3	186.8	181.2
Colorado Desert Interstate:										CDI
Colorado River										
Lake Powell	25002.0	15871.1	15360.0	14252.6	13334.7	18403.0	17221.0	21392.0	20497.9	21595.1
Lake Mead	26159.0	19752.1	20250.0	19288.0	19729.0	21324.0	19689.0	21601.0	22112.0	25105.2
Lake Mohave	1810.0	1581.3	1642.5	1782.1	1623.4	1611.6	1647.6	1627.0	1577.8	1692.7
Lake Havasu	619.4	541.0	545.8	549.9	550.4	550.6	578.3	546.0	555.2	598.4
SUM	53590.4	37745.5	37798.3	35872.6	35237.5	41889.2	39135.9	45166.0	44742.9	48991.4

This table contains a subset (92) of the most important 155 intrastate and 7 interstate reservoirs monitored by the Division of Flood Management. It is sorted primarily by hydrologic region (see page 2 for map), with some adjustment for reservoir operator. Historical Average for each reservoir is based on its length of record through 1990.

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