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STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SACRAMENTO

February 1, 1930

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

MONTHLY BULLETIN OF SNOW SURVEY AND PRECIPITATION DATA

The Division of Water Resources, State Department of Public Works has prepared a bulletin covering snow survey and precipitation data up to February first for this season. This bulletin is being sent to irrigation districts, water companies, public utilities, water users, engineers and many others, and is available for distribution to any to whom the data are of importance or interest.

The snow surveys have been made pursuant to an act and appropriation by the last Legislature empowering and directing the Department to do this work. During the Summer and Fall last year "snow courses" throughout the Sierra from the Upper Sacramento River basin on the north to Kern River Basin on the south were established and the necessary preparations made in the way of stocking shelter cabins with provisions, bedding, and wood, providing equipment for the surveys, and making the arrangements for the men to do the work. Most of the surveys are made through cooperation with agencies such as the public utilities, irrigation districts, etc., which have men located in the mountains in connection with their regular duties. One hundred and fifty snow course locations have been made and all of these will be surveyed about the first of April to furnish the data upon which estimates of the April-July stream flow may be made. In each major stream basin certain "key" courses have been selected at which snow surveys will be made monthly from January to May. This is done to furnish data for progress reports of snow and precipitation conditions prior to the time of the main survey about April first. The bulletin now being sent out gives the results of the surveys at the key courses up to February first and furnishes also the data on seasonal precipitation to this date at nearly all stations of the U. S. Weather Bureau, State and private agencies located in the mountainous portions of the stream basins.

Snow and Precipitation Conditions to February First.

As most of the snow courses are newly established, no comparison with results of previous years or reference to "normals" can be made. In a few instances, however, the snow surveys have been conducted for many years, and the comparisons in these cases are given. In Tahoe Basin, courses at Tahoe City and Marlette Lake show a water content between 30 and 40 per cent of the entire seasonal normal (October to May). In the Yuba Basin, courses at Summit and Lake Fordyce show a water content about 35 per cent of the entire seasonal normal and in the Mokelumne Basin a crest course at Blue Lakes shows a water content 45 per cent of the entire seasonal normal.

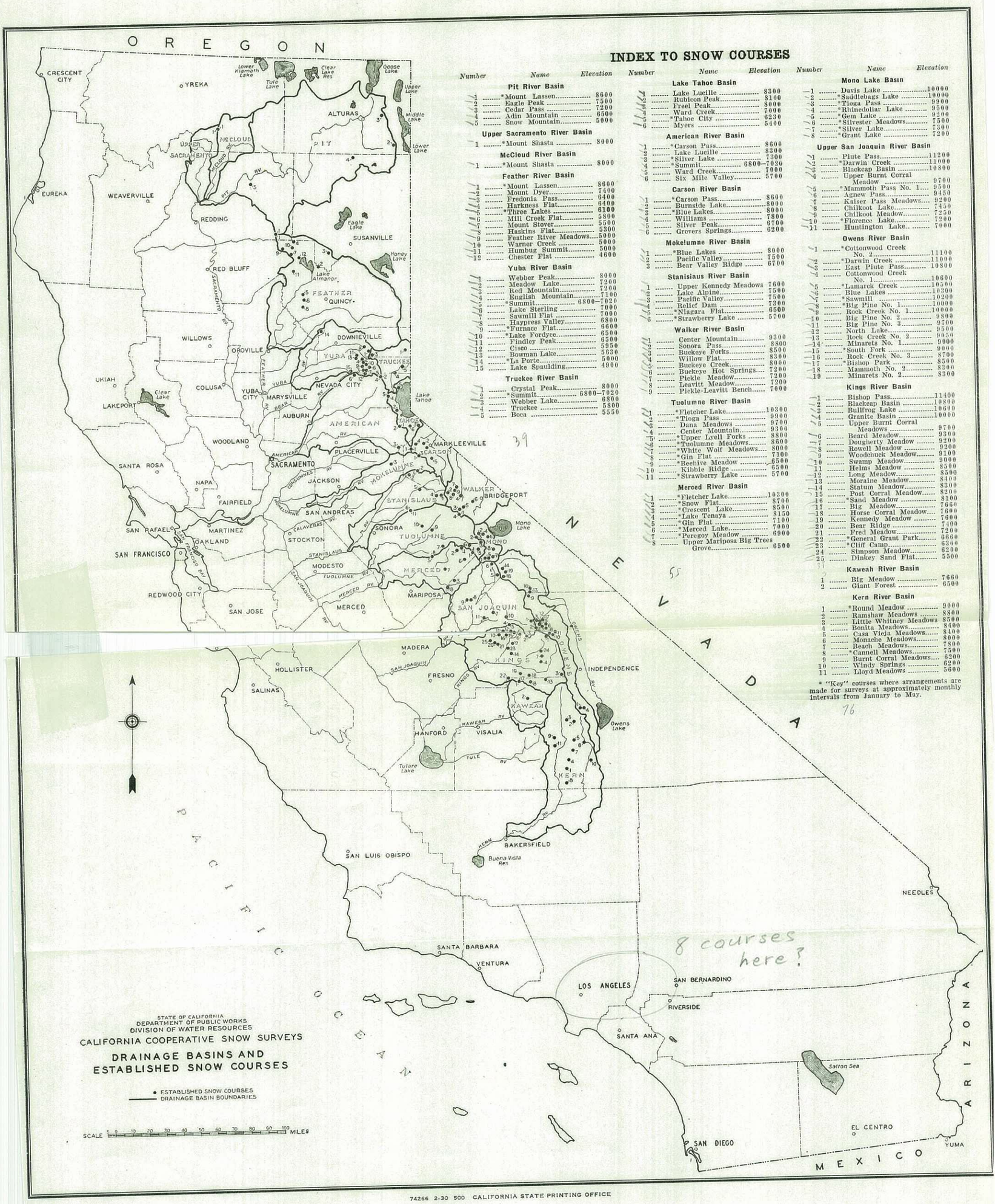
The comparison of conditions to February first with normal, using the data from the precipitation stations shows in general that the precipitation in the northern stream basins, Upper Sacramento, Pit, McCloud, Feather and Yuba, ranges from about 20 per cent above to about 15 per cent below normal. In the central basins, American, Mokelumne, Stanislaus, Tuolumne, Merced, and Mono, it varies from about normal to as much as 40 per cent below, and in the southern basins, Upper San Joaquin, Kings, Kaweah, and Kern, it is practically 50 per cent below normal.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

CALIFORNIA COOPERATIVE SNOW SURVEYS

PROGRESS REPORT OF SNOW SURVEY AND PRECIPITATION DATA

February 1, 1930



STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

CALIFORNIA COOPERATIVE SNOW SURVEYS

DRAINAGE BASINS AND ESTABLISHED SNOW COURSES

• ESTABLISHED SNOW COURSES
—— DRAINAGE BASIN BOUNDARIES

SCALE 0 10 20 30 40 50 60 70 80 90 100 MILES

INDEX TO SNOW COURSES

Number	Name	Elevation
	Pit River Basin	
1	*Mount Lassen	8600
2	Eagle Peak	7500
3	Cedar Pass	7200
4	Adin Mountain	6500
5	Snow Mountain	5000
	Upper Sacramento River Basin	
1	*Mount Shasta	8000
	McCloud River Basin	
1	*Mount Shasta	8000
	Feather River Basin	
1	*Mount Lassen	8600
2	Mount Dyer	7400
3	Fredonia Pass	6400
4	Harkness Flat	6400
5	*Three Lakes	6100
6	Mill Creek Flat	5800
7	Mount Stover	5500
8	Haskins Flat	5300
9	Feather River Meadows	5000
10	Warner Creek	5000
11	Humbug Summit	5000
12	Chester Flat	4600
	Yuba River Basin	
1	Webber Peak	8000
2	Meadow Lake	7200
3	Red Mountain	7200
4	English Mountain	7100
5	*Summit	6800–7020
6	Lake Sterling	7000
7	Sawmill Flat	7000
8	Haypress Valley	6800
9	*Furnace Flat	6600
10	*Lake Fordyce	6500
11	Findley Peak	6500
12	Cisco	5950
13	Bowman Lake	5630
14	*La Porte	5000
15	Lake Spaulding	4900
	Truckee River Basin	
1	Crystal Peak	8000
2	*Summit	6800–7020
3	Webber Lake	6800
4	Truckee	5800
5	Boca	5550
	Lake Tahoe Basin	
1	Lake Lucille	8300
2	Rubicon Peak	8100
3	Freel Peak	8000
4	Ward Creek	7000
5	*Tahoe City	6230
6	Myers	5400
	American River Basin	
1	*Carson Pass	8600
2	Lake Lucille	8300
3	*Silver Lake	7300
4	*Summit	6800–7020
5	Ward Creek	7000
6	Six Mile Valley	5700
	Carson River Basin	
1	*Carson Pass	8600
2	Burnside Lake	8000
3	*Blue Lakes	8000
4	Williams	7800
5	Silver Peak	6700
6	Grovers Springs	6200
	Mokelumne River Basin	
1	*Blue Lakes	8000
2	Pacific Valley	7500
3	Bear Valley Ridge	6700
	Stanislaus River Basin	
1	Upper Kennedy Meadows	7600
2	Lake Alpine	7500
3	Pacific Valley	7500
4	Relief Dam	7300
5	*Niagara Flat	6500
6	*Strawberry Lake	5700
	Walker River Basin	
1	Center Mountain	9300
2	Sonora Pass	8800
3	Buckeye Forks	8500
4	Willow Flat	8300
5	Buckeye Creek	8000
6	Buckeye Hot Springs	7200
7	Pickle Meadow	7200
8	Leavitt Meadow	7200
9	Pickle-Leavitt Bench	7000
	Tuolumne River Basin	
1	*Fletcher Lake	10300
2	*Tioga Pass	9900
3	Dana Meadows	9700
4	Center Mountain	9300
5	*Upper Lyell Forks	8800
6	*Tuolumne Meadows	8600
7	*White Wolf Meadows	8000
8	*Gin Flat	7300
9	*Beehive Meadow	6500
10	Kibbie Ridge	6500
11	*Strawberry Lake	5700
	Merced River Basin	
1	*Fletcher Lake	10300
2	*Snow Flat	8700
3	*Crescent Lake	8500
4	*Lake Tenaya	8150
5	*Gin Flat	7100
6	*Merced Lake	7000
7	*Peregoy Meadow	6900
8	Upper Mariposa Big Trees Grove	6500
	Mono Lake Basin	
1	Davis Lake	10000
2	*Saddlebags Lake	10000
3	*Tioga Pass	9900
4	*Rhinedollar Lake	9500
5	*Gem Lake	9200
6	*Silvester Meadows	7500
7	*Silver Lake	7300
8	*Grant Lake	7200
	Upper San Joaquin River Basin	
1	Piute Pass	11200
2	*Darwin Creek	11000
3	Blackcap Basin	10800
4	Upper Burnt Corral Meadow	9700
5	*Mammoth Pass No. 1	9500
6	Agnew Pass	9450
7	Kaiser Pass Meadows	9200
8	Chilkoot Lake	7450
9	Chilkoot Meadow	7250
10	*Florence Lake	7200
11	Huntington Lake	7000
	Owens River Basin	
1	*Cottonwood Creek No. 2	11100
2	*Darwin Creek	11000
3	East Piute Pass	10800
4	Cottonwood Creek No. 1	10600
5	*Lamarck Creek	10500
6	Blue Lakes	10200
7	*Sawmill	10200
8	*Big Pine No. 1	10000
9	Rock Creek No. 1	10000
10	Big Pine No. 2	9800
11	Big Pine No. 3	9700
12	North Lake	9500
13	Rock Creek No. 2	9050
14	Minarets No. 1	9000
15	*South Fork	9000
16	Rock Creek No. 3	8700
17	*Bishop Park	8500
18	Mammoth No. 2	8200
19	Minarets No. 2	8300
	Kings River Basin	
1	Bishop Pass	11400
2	Blackcap Basin	10800
3	Bullfrog Lake	10600
4	Granite Basin	10000
5	Upper Burnt Corral Meadows	9700
6	Beard Meadow	9300
7	Dougherty Meadow	9200
8	Rowell Meadow	9200
9	Woodchuck Meadow	9100
10	Swamp Meadow	9000
11	Helms Meadow	8500
12	Long Meadow	8500
13	Moraine Meadow	8400
14	Statum Meadow	8300
15	Post Corral Meadow	8200
16	*Sand Meadow	8100
17	Big Meadow	7660
18	Horse Corral Meadow	7600
19	Kennedy Meadow	7500
20	Bear Ridge	7400
21	Fred Meadow	7200
22	*General Grant Park	6660
23	*Cliff Camp	6200
24	Simpson Meadow	6200
25	Dinkey Sand Flat	5500
	Kaweah River Basin	
1	Big Meadow	7660
2	Giant Forest	6500
	Kern River Basin	
1	*Round Meadow	9000
2	Ramshaw Meadows	8800
3	Little Whitney Meadows	8500
4	Bonita Meadows	8400
5	Casa Vieja Meadows	8400
6	Monache Meadows	8000
7	Beach Meadows	7800
8	*Cannell Meadows	7500
9	Burnt Corral Meadows	6200
10	Windy Springs	6200
11	Lloyd Meadows	5600

* "Key" courses where arrangements are made for surveys at approximately monthly intervals from January to May.

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PROGRESS REPORT OF SNOW SURVEY AND PRECIPITATION DATA
February 1, 1930

TABLE I - SNOW SURVEY DATA FOR KEY COURSES

Basin and Snow Courses	Elevation in Feet	Date of Survey	Depth of Snow Inches	Density Per cent	Water Content Inches	Normal Seasonal Water Content (Entire Season) Inches	Percentage of Normal Seasonal Water Content To Date
UPPER SACRAMENTO AND McCLOUD:							
Mount Shasta	8000	1/28/30	65.5	39.5	26	*	*
FEATHER AND PIT							
Mount Lassen	8600	2/7/30	92	38.5	36	*	*
TAHOE							
Marlette Lake	8000	1/19/30	34	31.5	10.5	27.8	38.5
Tahoe City	6200	1/19/30	28	17.5	5	15.9	31.5
YUBA							
Summit	7019	1/2/30	9.5	48	4.5	47.8	9.5
		2/3/30	44.5	38	17.0	47.8	35.5
Soda Springs	6750	1/2/30	9	49.5	4.5	*	*
		1/21/30	51	29.5	15	*	*
Furnace Flat	6600	2/2/30	50.5	37	18.5	-----	----
Lake Fordyce	6500	1/2/30	No snow on course				
		2/1/30	44.5	34	15	44.4	34
La Porte	5000	1/30/30	38	37.5	14	*	*
AMERICAN							
Silver Lake	7300	1/4/30	2.5	40.5	1	*	*
		2/1/30	30	32.5	9.5	*	*
Carson Pass	8600	1/3/30	27.5	38	10.5	*	*
		1/30/30	62.5	34.5	21.5	*	*

* Snow course either just established or record is of insufficient length to report a normal.

TABLE I - SNOW SURVEY DATA FOR KEY COURSES (CONTINUED)

Basin and Snow Courses	Elevation in Feet	Date of Surveys	Depth of Snow Inches	Density per cent	Water Content Inches	Normal Seasonal Water Content (Entire Season) Inches	Percentage of Normal Seasonal Water Content To date
MOKELUMNE							
Blue Lakes	8100	1/23/30	64	34	22	48.1	45.5
STANISLAUS							
Upper Kennedy Meadows	7600	2/8/30	22.5	37.5	8.5	*	*
Relief Dam	7300	2/7/30	25	33.5	8.5	*	*
Niagara Flat	6500	2/4/30	25	32	8	*	*
Strawberry Lake	5700	2/1/30	20	31	6.5	*	*
TUOLUMNE							
Upper Lyell Forks	8800	1/31/30	29	27	8	*	*
Tuolumne Meadows	8600	1/29/30	37	33.5	12.5	*	*
MERCED							
Fletcher Lake	10300	2/1/30	41.5	33	13.5	*	*
Snow Flat	8700	1/28/30	68.5	30.5	21.0	*	*
Lake Tenaya	8150	1/29/30	52	30	15.5	*	*
Gin Flat	7100	1/24/30	34	31	10.5	*	*
Merced Lake	7000	1/2/30	16	30	5	*	*
Peregoy Meadow	6900	1/25/30	33	31	10	*	*
MONO LAKE							
Rhinedollar Lake	9500	1/1/30	17	32	5.5	*	*
		2/1/30	41	30	12.5	*	*
Gem Lake	9200	1/31/30	33	47.5	15.5	*	*
Sylvester Meadows	7500	2/1/30	Practically no snow on ground				
Silver Lake	7300	2/1/30	Practically no snow on ground				
Grant Lake	7200	2/1/30	Practically no snow on ground				

* Snow course either just established or record is of insufficient length to report a normal.

TABLE I - SNOW SURVEY DATA FOR KEY COURSES (CONTINUED)

Basin and Snow Courses	Elevation in Feet	Date of Surveys	Depth of Snow Inches	Density per cent	Water Content Inches	Normal Seasonal Water Content (Entire Season) Inches	Percentage of Normal Seasonal Water Content to date
UPPER SAN JOAQUIN							
Huntington Lake	7000	1/23/30	31.5	39.5	12.5	*	*
OWENS							
North Lake	9500	2/1/30	7	No Meas.	No Meas.		
KINGS							
Sand Meadow	8100	1/1/30	Practically no snow on ground				
		1/21/30	43	22	9.5	*	*
General Grant Park	6660	1/31/30	25	31	8	*	*
Cliff Camp	6300	1/1/30	Practically no snow on ground				
		1/18/30	25	24	6	*	*
KERN							
Monache Meadow	8000	1/28/30	18	25	4.5	*	*
Windy Springs	6200	2/1/30	7.5	35	2.5	*	*
KAWEAH							
Giant Forest	6500	1/24/30	34	23.5	8	*	*

PROGRESS REPORT OF SNOW SURVEY AND PRECIPITATION DATA
February 1, 1930

TABLE II- PRECIPITATION DATA

Station [1]	Elevation in Feet	Precipitation since July 1, 1929 Inches (Including Snow as Water)	[2] Normal Seasonal Precipitation Inches (July to June)	Percentage of Normal Seasonal Precipitation to date	Normal Percentage of Seasonal Precipitation for this date	Total Seasonal Snowfall to date Inches (Unmelted)	Snow on Ground Inches: This Date	[3] Maximum this date and year	[3] Minimum this date and year
PIT RIVER BASIN									
Hat Creek	3400	7.90	(8) 16.04	49	48	37	1	6-1923 (7)	0
Fall River Mills	3330	6.88	(5) 17.93	38	50	39	9	9-1930 (6)	0
UPPER SACRAMENTO RIVER BASIN									
Mount Shasta City	3555	16.20	35.59	46	59	34	0	48-1921(16)	0
Kennett	800	42.38	60.87	70	58				
McCLOUD RIVER BASIN									
McCloud	3270	22.36	45.18	49	59	53	4	55-1916(17)	0
FEATHER RIVER BASIN									
Westwood	5000	17.70	(8) 21.68	82	54	61	9	15-1923 (8)	0
Sierraville	5000	13.03	23.08	56	60	33	10	49-1916(15)	0
Mineral	4935	29.88				73	23		

1 A few of the precipitation stations are not actually in the Basin shown but are closely adjacent thereto.

2 The normals in this column without a numeral prefix are those as published by the U. S. Weather Bureau and based upon the records up to the 1922-23 season. Where only short time records are available, the normals given are based upon the number of years record to date as shown by the numeral prefix. The prefix F denotes a normal furnished by Fresno office of the U. S. Weather Bureau and is based upon the records up to 1928-29.

3 The periods covered by published records of snow on the ground differ considerably for the various stations, and long time records are available for only a few stations. In these columns the numeral in parentheses indicates the number of years record upon which the data is based. The year of zero minimum is only shown when zero did not occur in more than one year in the period of record.

J Record only available to January 1st.

F See note 2.

TABLE II (CONTINUED) - PRECIPITATION DATA

Station [1]	Elevation in Feet	Precipitation Since July 1 1929 Inches (Including Snow as Water)	[2] Normal Seasonal Precipitation Inches (July to June)	Percentage of Normal Seasonal Precipitation to Date	Normal Percentage of Seasonal Precipitation for this date	Total Seasonal Snowfall to date Inches (Unmelted)	Snow on Ground Inches: This Date	[3] Maximum this date and year	[3] Minimum this date and year
FEATHER RIVER BASIN (CONTINUED)									
Inskip	4808	44.76	80.65	56	56	78	25	120-1916(16)	0
Portola	4832	10.59	(10)13.38	79	53	38	8	51-1916(15)	0
Canyon Dam	4570	23.64	35.18	67	50	47	17	68-1916(15)	0-1918
Chester	4550	17.59	28.50	62	61	44	14	64-1921(17)	0
Humbug Valley	4300	13.08 J	(12)33.53	39 J	50	0 J	0 J		
Doyle	4300	9.01	(5) 10.56	85	51	20	4		
Quincy	3409	17.68 J	41.57	42 J	57	0 J	0 J	52-1916(15)	0
West Branch	3216	46.37	72.95	64	57	66	6	56-1916(15)	0
Las Plumas	506	30.07	42.07	71	58	30	0		
YUBA RIVER BASIN									
Norden	6871	21.28	45.48	47	52	154	58	218-1911(23)	2-1918
Carvin Mine	6250	29.84				9			
Bowman Dam	5347	31.61	74.38	43	52	112	27	34-1927(5)	10-1926
La Porte	5000	23.13 J	75.51	31 J	49		38	120-1916(16)	0-1918
Lake Spaulding	4600	31.02	69.78	44	53	87	24	138-1916(16)	0
Alleghany	4500	30.38							
Deer Creek	3700	35.31	69.54	51	57	78	14	60-1916(16)	0
Camptonville	3500	36.90	68.75	54	59	62	2	40-1916(16)	0
Downieville	3150	34.60	62.89	55	58	90	T	48-1916(16)	0
North Bloomfield	3214	26.57	54.18	49	52	60	T	23-1922(13)	0
Nevada City	2580	15.87 J	52.99	30 J	56	0 J	0 J	18-1922(12)	0
Dobbins	1650	15.97 J	43.30	37 J	56	0 J	0 J		
Chute Camp	1500	23.30 J	54.08	43 J	59				
TRUCKEE AND TAHOE RIVER BASINS									
Tahoe	6230	10.43 J	31.35	33 J	59	1 J	0 J	64-1921(13)	3-1918

1, 2, 3, J, F, - See footnotes first page of this table.

TABLE II (CONTINUED) - PRECIPITATION DATA

Station [1]	Elevation in Feet	Precipitation since July 1, 1929 Inches (Including Snow as Water)	[2] Normal Seasonal Precipitation Inches (July to June)	Percentage of Normal Seasonal Precipitation to date	Normal Percentage of Seasonal Precipitation for this date	Total Seasonal Snowfall to date Inches (Unmelted)	Snow on Ground Inches: This Date	[3] Maximum this date and year	[3] Minimum this date and year
AMERICAN RIVER BASIN									
Twin Lakes	7970	19.65				125	56	14-1921(11)	0
Phillips Station	7050	10.43 J				3 J			
Blue Canyon	4695	20.87	65.27	32	54	86	16	25-1911(18)	0
Drum Forebay	4563	15.46 J	50.87	30 J	48	0 J	0 J		
Rasor Lodge	3300	22.38				43			
Colfax	2420	20.29	47.52	43	54	50	0		
Placerville	1925	15.28	43.18	35	53	24	0		
MOKELUMNE RIVER BASIN									
Salt Springs	4200	15.50				44			
Mill Creek #1	2400	14.03	46.38	30	54	32	0		
West Point	2326	13.47	41.60	32	51	25	0		
Electra	700	4.59 J	33.23	14 J	51	0 J	0		
STANISLAUS RIVER BASIN									
Strawberry Lake	5620	15.07	(7) 29.30	51	41	60	0 J		
Spring Gap	4875	5.42 J	(7) 36.23	15 J	47	0 J	0 J		
Calaveras Big Trees	4700	14.51				55			
Sand Bar	2700	5.13 J	(7) 34.83	15 J	49	0 J	0 J		
WALKER RIVER BASIN									
Shields Ranch	5300	1.71 J	(13) 10.22	17 J	46	0 J	0 J	14-1922 (9)	0
TUOLUMNE RIVER BASIN									
Lake Eleanor	4650	13.21	40.18	33	51	56	5	56-1916(15)	0
Mather	4500	11.90				41			
Confidence	4300	15.02				35			

1, 2, 3, J, F, - See footnotes first page of this table.

TABLE II (CONTINUED) - PRECIPITATION DATA

Station 1	Elevation in Feet	Precipitation since July 1, 1929, Inches (Including Snow as Water)	2 Normal Seasonal Precipitation Inches (July to June)	Percentage of Normal Seasonal Precipitation to date	Normal Percentage of Seasonal Precipitation for this date	Total Seasonal Snowfall to date Inches (Unmelted)	Snow on Ground Inches: This Date	3 Maximum this date and year	3 Minimum this date and year
TUOLUMNE RIVER BASIN (CONTINUED									
Hetch Hetchy	3530	11.36	33.58	34	51	44	T	23-1923(15)	0
Groveland	1400	11.00				30			
Sonora	1825	11.02	35.02	31	51	25	0		
MERCED RIVER BASIN									
Fish Camp	5500	19.13				55			
Yosemite	3960	13.33	F 33.52	40	55	41	T	31-1922(16)	0
Dudleys	3000	12.80	38.74	33	52	37	T	21-1922(9)	0
Mariposa	1932	8.71	30.72	28	56				
Merced Falls	351	3.81	F 15.26	25	53				
MONO LAKE BASIN									
Ellery Lake	9600	5.29 J	(4)35.59	15 J	47	43 J	13 J	48-1929 (6)	24-1926
Gem Lake	9120	4.85 J	(4)27.71	18 J	48	20 J	9 J	54-1927 (6)	24-1925
Lundy Lake	7760	4.38	(4)13.30	33	47	40	12	29-1926 (6)	3-1928
SAN JOAQUIN RIVER BASIN									
Huntington Lake	7000	7.95	F 30.64	26	49	98	33	102-1922(15)	0-1918
Big Creek	4900	8.15	F 30.03	27	50	62	0	6-1926 (5)	0
Crane Valley	3500	10.86	F 40.63	27	51	0 J	0 J		
North Fork	3000	7.27	F 34.21	21	53	33	0		
Auberry	2050	7.02	F 23.49	30	51	25	0		
OWENS RIVER BASIN									
South Lake	9620	2.97 J	(4)17.79	17 J	50	14 J	2 J	38-1927 (5)	15-1929
Lake Sabrina	9100	1.98 J	(4)17.39	11 J	53	3 J	0 J	33-1927 (5)	7-1928
Mammoth Lakes	9000	3.15 J				19 J			

1, 2, 3, J, F, - See footnotes first page of this table.