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THE RESOURCES AGENCY

Department of Water Resources

BULLETIN No. 130-63

HYDROLOGIC DATA: 1963

Volume V: SOUTHERN CALIFORNIA

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Bulletin No. 130-63, Hydrologic Data 1963
Volume V
Southern California

The following 13 pages replace pages B-1 through B-13.

These corrected DAILY MEAN DISCHARGE tables are for the years 1961, 1962, and 1963.

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1961	V92200	WEST FORK OF THE MOJAVE RIVER BELOW CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	NR	NR	NR	NR	0.5	0.4	0.1	0.1	0.0	0.0	0.0	0.0	1
2	NR	NR	NR	NR	0.7	0.4	0.1	0.0*	0.0	0.0	0.0	0.0	2
3	NR	NR	NR	NR	0.4*	0.3	0.1	0.0	0.0	0.0	0.0	0.0	3
4	NR	NR	NR	NR	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	4
5	NR	NR	NR	NR	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	5
6	NR	NR	NR	NR	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	6
7	NR	NR	NR	NR	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	7
8	NR	NR	NR	NR	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	8
9	NR	NR	NR	NR	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	9
10	NR	NR	NR	NR	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	10
11	NR	NR	NR	NR	0.2	0.1	0.1	0.0*	0.0	0.0	0.0	0.0	11
12	NR	NR	NR	NR	0.2	0.7	0.1	0.0	0.0	0.0	0.0	0.0	12
13	NR	NR	NR	NR	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	13
14	NR	NR	NR	NR	0.2	0.1*	0.1	0.0	0.0	0.0	0.0	0.0	14
15	NR	NR	NR	NR	0.3	0.6	0.1	0.0	0.0	0.0	0.0	0.0	15
16	NR	NR	NR	NR	0.6	1.6	0.1	0.0	0.0	0.0	0.0	0.0	16
17	NR	NR	NR	NR	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	17
18	NR	NR	NR	NR	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	18
19	NR	NR	NR	NR	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	19
20	NR	NR	NR	NR	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	20
21	NR	NR	NR	NR	0.3	0.1*	0.1	0.0	0.0	0.0	0.0	0.0	21
22	NR	NR	NR	NR	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	22
23	NR	NR	NR	NR	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	23
24	NR	NR	NR	NR	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	24
25	NR	NR	NR	NR	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	25
26	NR	NR	NR	NR	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	26
27	NR	NR	NR	1.7	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	27
28	NR	NR	NR	3.3	0.5*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	28
29	NR	NR	NR	2.1		0.1	0.1	0.0	0.0	0.0	0.0	0.0	29
30	NR	NR	NR	1.9*		0.1*	0.1	0.0	0.0	0.0	0.0	0.0	30
31	NR		NR	1.4		0.1		0.0		0.0	0.0		31
MEAN	NR	NR	NR	NR	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	MEAN
MAX.	NR	NR	NR	NR	0.7	1.6	0.1	0.1	0.0	0.0	0.0	0.0	MAX.
MIN.	NR	NR	NR	NR	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	MIN.
AC. FT.	NR	NR	NR	NR	18	15	6						AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
= — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
NR	NR					NR					NR

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1961	V92300	WEST FORK OF THE MOJAVE RIVER ABOVE CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	NR	NR	NR	NR	NR	0.2	0.1	0.2	0.0	0.0	0.0	0.0	1
2	NR	NR	NR	NR	NR	0.2	0.1	0.2*	0.0	0.0	0.0	0.0	2
3	NR	NR	NR	NR	NR	0.2	0.1	0.1	0.0	0.0	0.0	0.0	3
4	NR	NR	NR	NR	NR	0.2	0.1	0.2	0.0*	0.0	0.0	0.0	4
5	NR	NR	NR	NR	NR	0.2	0.1	0.2	0.0	0.0	0.0	0.0	5
6	NR	NR	NR	NR	NR	0.1	0.2	0.2	0.0	0.0*	0.0	0.0	6
7	NR	NR	NR	NR	NR	0.1	0.2	0.2	0.0	0.0	0.0*	0.0	7
8	NR	NR	NR	NR	NR	0.2	0.2	0.2	0.0	0.0	0.0	0.0	8
9	NR	NR	NR	NR	NR	0.2	0.2	0.2	0.0	0.0	0.0	0.0	9
10	NR	NR	NR	NR	NR	0.2	0.2	0.2	0.0	0.0	0.0	0.0	10
11	NR	NR	NR	NR	NR	0.2	0.2	0.2*	0.0	0.0	0.0	0.0	11
12	NR	NR	NR	NR	NR	0.2	0.2	0.2	0.0	0.0	0.0	0.0*	12
13	NR	NR	NR	NR	NR	0.1	0.2	0.2	0.0	0.0	0.0	0.0	13
14	NR	NR	NR	NR	NR	0.1*	0.2	0.2	0.0	0.0	0.0	0.0	14
15	NR	NR	NR	NR	NR	0.4	0.2	0.1	0.0	0.0	0.0	0.0	15
16	NR	NR	NR	NR	NR	0.3	0.2	0.1	0.0	0.0	0.0	0.0	16
17	NR	NR	NR	NR	NR	0.3	0.1	0.1	0.0	0.0	0.0	0.0	17
18	NR	NR	NR	NR	NR	0.2	0.1	0.1	0.0	0.0	0.0	0.0	18
19	NR	NR	NR	NR	NR	0.2	0.2	0.1	0.0	0.0	0.0	0.0	19
20	NR	NR	NR	NR	NR	0.2	0.4	0.1	0.0	0.0	0.0	0.0	20
21	NR	NR	NR	NR	NR	0.1	0.4	0.2	0.0	0.0	0.0	0.0	21
22	NR	NR	NR	NR	0.2	0.1	0.6	0.2	0.0	0.0	0.0	0.0	22
23	NR	NR	NR	NR	0.2	0.1	0.5	0.1	0.0	0.0	0.0	0.0	23
24	NR	NR	NR	NR	0.2	0.2	0.4	0.1	0.0	0.0	0.0	0.0	24
25	NR	NR	NR	NR	0.2	0.4	0.4	0.1	0.0	0.0	0.0	0.0	25
26	NR	NR	NR	NR	0.2	0.3	0.4	0.1	0.0	0.0	0.0	0.0	26
27	NR	NR	NR	NR	0.1	0.3	0.4	0.1	0.0	0.0	0.0	0.0	27
28	NR	NR	NR	NR	0.1*	0.4	0.3	0.1	0.0	0.0	0.0	0.0	28
29	NR	NR	NR	NR		0.4	0.3	0.1	0.0	0.0	0.0	0.0	29
30	NR	NR	NR	NR		0.3*	0.2	0.1	0.0	0.0	0.0	0.0	30
31	NR		NR	NR		0.2		0.1		0.0	0.0		31
MEAN	NR	NR	NR	NR	NR	0.2	0.2	0.1	0.0	0.0	0.0	0.0	MEAN
MAX.	NR	NR	NR	NR	NR	0.4	0.6	0.2	0.0	0.0	0.0	0.0	MAX.
MIN.	NR	NR	NR	NR	NR	0.1	0.1	0.1	0.0	0.0	0.0	0.0	MIN.
AC. FT.	NR	NR	NR	NR	NR	13	15	9					AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
≠ — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
NR	NR					NR					NR

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

1962	V92250	E.F. OF WEST FORK OF THE MOJAVE RIVER ABOVE CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.3	1.9	3.6*	0.2	19	2.8	2.6	0.5	0.0*	0.0	1
2	0.0	0.0	39 E	2.1	4.3*	0.9	18	2.8	2.4	0.5	0.0	0.0	2
3	0.0	0.0*	6.5	2.1*	3.9	2.3	20	2.7	2.5	0.5	0.0	0.0	3
4	0.0*	0.0	2.4*	2.2	4.1	4.6	20	2.6	2.3	0.5	0.0	0.0	4
5	0.0	0.0	1.7	2.3	4.5*	8.1*	13	2.6	2.3	0.4	0.0	0.0	5
6	0.0	0.0	1.4	1.7	4.8	20 *	8.5	2.5	2.2	0.3	0.0	0.0	6
7	0.0	0.0	1.1	1.5	5.2*	21	8.3	2.3	2.3	0.3	0.0	0.0	7
8	0.0	0.0	1.0	1.3	53 *	17 *	7.9	2.3	2.1*	0.2	0.0	0.0	8
9	0.0	0.0	0.8	1.5	223 *	13 *	7.1	2.2	2.1	0.2	0.0	0.0	9
10	0.0	0.0	0.8	1.3	106	13	8.3	2.2	1.8	0.2	0.0	0.0	10
11	0.0	0.0	0.8	1.6	115	13	8.5*	2.1*	1.7	0.2	0.0	0.0	11
12	0.0	0.0	0.6	2.2	69 *	13 *	6.0	2.3	1.7	0.2	0.0	0.0	12
13	0.0	0.0	0.4	1.5	106	12	4.1	2.5	1.6	0.3	0.0	0.0	13
14	0.0	0.0	0.5	1.2	117	12	3.9	3.7	2.0*	0.2	0.0	0.0	14
15	0.0	0.0	0.5	1.1	112	12	3.6	3.6	1.9	0.2	0.0	0.0	15
16	0.0	0.0	0.7	0.6	73	11	3.4	6.2	1.7	0.2	0.0	0.0	16
17	0.0	0.0	0.8	0.7	66	13	3.4	6.2	1.4	0.2	0.0	0.0	17
18	0.0	0.0	0.8	0.7	52	13	3.3	5.6*	1.2	0.2	0.0	0.0	18
19	0.0	0.0	0.9	0.6*	40	16 *	3.3	4.8	1.1	0.2	0.0	0.0	19
20	0.0	2.0	0.9*	28 *	27 *	23	3.0	4.3	1.0	0.2	0.0	0.0	20
21	0.0	1.3*	0.9	10 *	7.6	20	3.1	3.6	0.9	0.2	0.0	0.0	21
22	0.0	0.1	0.9	4.3	0.8	18	3.1	3.2	0.8*	0.2	0.0	0.0	22
23	0.0	0.0	0.9	3.4*	0.0	25	3.0	2.7	0.7	0.1	0.0	0.0	23
24	0.0	0.0	1.0	4.8*	0.0	23	3.0	2.8	1.3	0.1	0.0	0.0	24
25	0.0	0.5*	1.0	3.3	0.0	22	3.1	3.2	2.3	0.1	0.0	0.0	25
26	0.0	0.3	1.1	3.5*	0.0	19	2.9	3.8	1.7	0.1	0.0	0.0	26
27	0.0	0.3	1.0	4.1	0.0	17	3.1*	3.5	0.6	0.1	0.0	0.0	27
28	0.0	0.2	1.0	4.4	0.0	19	3.3	2.9	0.6	0.1	0.0	0.0	28
29	0.0	0.2	1.2	4.9		19	3.1	3.0*	0.6	0.0	0.0	0.0	29
30	0.0	0.3	1.4	5.4*		19	2.9	2.9	0.6	0.0	0.0	0.0	30
31	0.0		1.6	4.5*		18		2.8		0.0	0.0		31
MEAN	0.0	0.2	2.4	3.5	42.8	14.7	6.8	3.2	1.6	0.2	0.0	0.0	MEAN
MAX.	0.0	2.0	39.0E	28.0	223	25.0	20.0	6.2	2.6	0.5	0.0	0.0	MAX.
MIN.	0.0	0.0	0.3	0.6	0.0	0.2	2.9	2.1	0.6	0.0	0.0	0.0	MIN.
AC. FT.		10	147	216	2376	907	403	200	95	13			AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
# — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
6.0	413	4.82	2	9	1000	0.0		10	1	0000	4366

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1962	V92200	WEST FORK OF THE MOJAVE RIVER BELOW CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.1	9.2*	34	26	3.9	4.3	0.1	0.0	0.0	1
2	0.0	0.0	29 *	0.1	9.2	31	26 *	3.5	3.7	0.1	0.0	0.0	2
3	0.0	0.0	0.8	0.1*	9.2	28	29	2.8	3.7	0.1	0.0	0.0	3
4	0.0	0.0	7.4*	0.1	9.2	26	34	2.5*	3.7	0.1	0.0	0.0	4
5	0.0	0.0	3.3	0.0	7.7	26	30	2.7	3.5	0.1	0.0	0.0	5
6	0.0	0.0	2.1	0.0	6.4*	56 *	21 *	2.8	3.7	0.1	0.0	0.0	6
7	0.0	0.0	1.5	0.0	11	53	22	2.7	3.5	0.1	0.0	0.0	7
8	0.0	0.0	1.3	0.0	133 *	42	20	2.2	3.3*	0.1	0.0	0.0	8
9	0.0	0.0	1.3	0.0	472 *	42	16	3.0	2.5	0.1	0.0	0.0	9
10	0.0	0.0	1.3	0.0	159 *	38	15	4.8	1.9	0.1	0.0	0.0	10
11	0.0	0.0	1.3	0.0	532 *	36	15	2.8*	1.5	0.1	0.0	0.0	11
12	0.0	0.0	1.3	0.0	696 *	34	15 *	2.2	1.5	0.1	0.0	0.0	12
13	0.0	0.0	1.3	0.0	117	34	17	2.1	1.2	0.0	0.0	0.0	13
14	0.0	0.0	1.4	0.0	70	29	17	9.4	1.0*	0.0	0.0	0.0	14
15	0.0	0.0	1.4	0.0	158	28 *	14	12	0.8	0.0	0.0	0.0	15
16	0.0	0.0	1.2	0.0	163	29	9.3	13	0.6	0.0	0.0	0.0	16
17	0.0	0.0	1.4	0.0	98	30	6.8	13	0.4	0.0	0.0	0.0	17
18	0.0	0.0	1.4	0.0	71	34	8.1	9.3*	0.3	0.0	0.0	0.0	18
19	0.0	0.0	1.0	0.0	124	35	11	8.3	0.2*	0.0	0.0	0.0	19
20	0.0	0.0	1.0*	48	119 *	45	11	6.8	0.6	0.0	0.0	0.0	20
21	0.0	0.0	1.1	36	84	41	11	5.4	0.7	0.0	0.0	0.0	21
22	0.0	0.0	1.1	14 *	64	40	9.7	5.2	0.1*	0.0	0.0	0.0	22
23	0.0	0.0	0.9	14 *	60	50	11	4.4	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.1	12 *	59	46	9.7	2.9	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.1	11	58	41	10	4.7	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.1	10 *	51	36	9.7	9.1	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.1	11	43	29	9.7*	10	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.1	12	38	27	7.8	9.1	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.1	11		30	4.7	4.1*	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.1	11 *		30	4.1	5.4	0.0	0.0	0.0	0.0	30
31	0.0		0.1	8.6*		27		4.7		0.0	0.0		31
MEAN	0.0	0.0	2.1	6.4	123	35.7	15.0	5.6	1.4	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	29.0	48.0	696	56.0	34.0	13.0	4.3	0.1	0.0	0.0	MAX.
MIN.	0.0	0.0	0.0	0.0	6.4	26.0	4.1	2.1	0.0	0.0	0.0	0.0	MIN.
AC. FT.			128	395	6805	2196	894	347	85	2			AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
= — E AND R

MEAN	MAXIMUM				MINIMUM				TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
15.0	2750	5.90	2	12	0200	0.0		10	1	0000	10850

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

1962	32330	ELIZABETH LAKE CANYON CREEK ABOVE CASTAIC

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	NR	NR	NR	0.0	19	23	9.2	4.3	2.5	1.7	0.0*	0.0*	1
2	NR	NR	NR	0.0	19	21 *	9.2	4.3	2.7	1.4	0.0	0.0	2
3	NR	NR	NR	0.0	19	20	8.5	4.1	2.9	1.4	0.0	0.0	3
4	NR	NR	NR	0.0	20	19	8.7	3.9*	3.2	1.4	0.0	0.0	4
5	NR	NR	NR	0.0	20	19	8.7	3.9	3.6	1.4	0.0	0.0	5
6	NR	NR	NR	0.0	20	26	8.3	3.9	4.1	1.4	0.0	0.0	6
7	NR	NR	NR	0.0	21	23	8.3	3.9	4.3	1.4	0.0	0.0	7
8	NR	NR	NR	0.0	88	22	7.9	3.9	4.1	1.1	0.0	0.0	8
9	NR	NR	NR	0.0	150 *	22 *	7.9	3.9	3.6	0.8	0.0	0.0	9
10	NR	NR	NR	0.0	330	20	7.7	3.9	3.4	0.8	0.0	0.0	10
11	NR	NR	NR	0.0	984 *	18	7.4	3.9*	3.4*	0.8	0.0	0.0	11
12	NR	NR	NR	0.0	326 *	17	7.0	3.9	0.8	0.4	0.0	0.0	12
13	NR	NR	NR	0.0	176	16	6.7	3.9	0.0	0.0	0.0	0.0	13
14	NR	NR	NR	0.0	121	15	6.6	3.9	0.0	0.0	0.0	0.0	14
15	NR	NR	NR	0.0	133 *	14	6.4	4.3	2.5	0.0	0.0	0.0	15
16	NR	NR	NR	0.0	110	14	6.4	5.1	2.9	0.0	0.0	0.0	16
17	NR	NR	NR	0.0	86	13	6.8	7.5	1.0	0.0	0.0	0.0	17
18	NR	NR	NR	0.0	54	14	6.6*	6.0*	0.0*	0.0	0.0	0.0	18
19	NR	NR	NR	0.0	113	15	6.4	5.0	0.1	0.0	0.0	0.0	19
20	NR	NR	NR	0.0	88	13	5.8	4.5	0.1	0.0	0.0	0.0	20
21	NR	NR	NR	0.0	68 *	12	5.4	4.3	0.1	0.0	0.0	0.0	21
22	NR	NR	NR	0.0	55	12	5.0	4.5	0.0	0.0	0.0	0.0	22
23	NR	NR	NR	0.0	48	12 *	4.7	4.3	0.2	0.0	0.0	0.0	23
24	NR	NR	NR	0.0	44	10	4.3	4.3	0.2	0.0	0.0	0.0	24
25	NR	NR	NR	0.0	39	11	4.3	4.3*	0.8*	0.0	0.0	0.0	25
26	NR	NR	NR	0.0	34 *	11	4.3*	4.1	1.1	0.0	0.0	0.0	26
27	NR	NR	NR	0.0	26	11	4.1	3.9	1.4	0.0	0.0	0.0	27
28	NR	NR	NR	1.4	24	11	3.9	4.1	1.9	0.0	0.0	0.0	28
29	NR	NR	NR	20		11	3.9	3.6	1.7	0.0	0.0	0.0	29
30	NR	NR	NR	21		9.8*	4.3	2.9	1.7	0.0	0.0	0.0*	30
31	NR		NR	21		8.7		2.5*		0.0	0.0*		31
MEAN	NR	NR	NR	2.0	116	15.6	6.5	4.2	1.8	0.5	0.0	0.0	MEAN
MAX.	NR	NR	NR	21.0	984	26.0	9.2	7.5	4.3	1.7	0.0	0.0	MAX.
MIN.	NR	NR	NR	0.0	19.0	8.7	3.9	2.5	0.0	0.0	0.0	0.0	MIN.
AC. FT.	NR	NR	NR	126	6417	959	386	259	108	28			AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
= — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
NR	NR					NR					NR

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1962	V92300	WEST FORK OF THE MOJAVE RIVER ABOVE CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.2	1.4*	6.8	3.1	1.3	0.9	0.1	0.0*	0.0	1
2	0.0	0.0	8.8	0.2	1.4*	6.6	3.0	1.3	0.8	0.1	0.0	0.0	2
3	0.0	0.0	1.9	0.2*	1.4	4.6	3.0	1.2	0.8	0.1	0.0	0.0	3
4	0.0	0.0	0.9*	0.1	1.4	4.2	2.8	1.1	0.8	0.1	0.0	0.0	4
5	0.0	0.0	0.5	0.1	1.4*	13	2.7	1.1	0.7	0.1	0.0	0.0	5
6	0.0	0.0	0.4	0.1	1.4	10 *	2.5	1.1	0.7	0.1	0.0	0.0	6
7	0.0	0.0	0.4	0.1	1.6	12	2.4	1.1	0.7	0.0	0.0	0.0	7
8	0.0	0.0	0.3	0.1	30 *	12	2.7	1.1	0.6*	0.0	0.0	0.0	8
9	0.0	0.0	0.3	0.1	76 *	13	2.6	1.0	0.5	0.0	0.0	0.0	9
10	0.0	0.0	0.3	0.1	24	13	2.4	1.0	0.5	0.0	0.0	0.0	10
11	0.0	0.0	0.2	0.1	113	14	2.3	1.0	0.4	0.0	0.0	0.0	11
12	0.0	0.0	0.2	0.1	57 *	14	2.1	1.0	0.4	0.0	0.0	0.0	12
13	0.0	0.0	0.2	0.2	37	15 *	2.1	1.0	0.4	0.0	0.0	0.0	13
14	0.0	0.0	0.3	0.1	24	10	2.0	1.6	0.4*	0.0	0.0	0.0	14
15	0.0	0.0	0.2	0.1	32	6.4	1.9	1.3	0.5	0.0	0.0	0.0	15
16	0.0	0.0	0.2	0.1	23	4.0*	1.9	1.5	0.5	0.0	0.0	0.0	16
17	0.0	0.0	0.2	0.1	17	4.0	1.9	1.3	0.5	0.0	0.0	0.0	17
18	0.0	0.0	0.2	0.1*	13	4.0	1.7	1.2	0.4	0.0	0.0	0.0	18
19	0.0	0.0	0.2	0.1	12	4.0	1.7	1.1	0.4	0.0	0.0	0.0	19
20	0.0	0.0	0.2*	7.6	11 *	4.4	1.7	1.1	0.3	0.0	0.0	0.0	20
21	0.0	0.0	0.2	3.4*	11	4.1	1.7	1.1	0.3	0.0	0.0	0.0	21
22	0.0	0.0	0.2	1.9	9.7	4.3	1.6	1.0	0.3	0.0	0.0	0.0	22
23	0.0	0.0	0.2	1.7*	9.5	4.3	1.6	1.0	0.3	0.0	0.0	0.0	23
24	0.0	0.0	0.2	1.4*	9.5	4.0	1.6	1.0	0.2	0.0	0.0	0.0	24
25	0.0	0.0	0.2	0.8	8.4	3.9	1.5	1.0*	0.2	0.0	0.0	0.0	25
26	0.0	0.0	0.2	0.5*	5.7	3.9	1.4	1.0	0.2	0.0	0.0	0.0	26
27	0.0	0.0	0.2	0.7	2.1	3.8	1.4*	1.1	0.2	0.0	0.0	0.0	27
28	0.0	0.0	0.2	1.0	6.0	3.6	1.5	1.1	0.2	0.0	0.0	0.0	28
29	0.0	0.0	0.2	1.2		3.5	1.4	1.0	0.1	0.0	0.0	0.0	29
30	0.0	0.0	0.2	1.4*		3.3	1.4	1.0	0.1	0.0	0.0	0.0*	30
31	0.0		0.2	1.4*		3.2		1.0		0.0	0.0		31
MEAN	0.0	0.0	0.6	0.8	19.3	7.0	2.1	1.1	0.4	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	8.8	7.6	113	15.0	3.1	1.6	0.9	0.1	0.0	0.0	MAX.
MIN.	0.0	0.0	0.0	0.1	1.4	3.2	1.4	1.0	0.1	0.0	0.0	0.0	MIN.
AC. FT.			36	50	1073	430	122	69	26	1			AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
= — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
2.5	337	5.55	2	12	0000	0.0		10	1	0000	1808

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

1963	V92200	WEST FORK OF THE MOJAVE RIVER BELOW CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.0	0.2*	0.7	8.3	0.4	0.5	0.0*	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.2	0.6	7.3	0.3	0.5	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.2	0.5	6.7	0.3	0.5	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.2	0.4	5.4	0.3	0.5	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.2*	0.4	4.4	0.3	0.5	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.2	0.4	3.8	0.3	0.4	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.2	0.5	3.6	0.3	0.3	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.2	0.5	3.0	0.3	0.3	0.0	0.0	8
9	0.0	0.0	0.0	0.0	1.8*	0.2	0.5	2.3	0.3	0.8	0.0	0.0	9
10	0.0	0.0	0.0	0.0	46 *	0.2	0.5	2.0	0.2	1.8	0.0	0.0	10
11	0.0	0.0	0.0	0.0	5.1*	0.1*	0.5	1.5	0.2	1.5	0.0	0.0	11
12	0.0	0.0	0.0	0.0	1.4	0.1	0.5	1.3	0.2*	0.9	0.0	0.0	12
13	0.0	0.0	0.0	0.0	1.1*	0.1	0.5	1.1	0.2	0.6	0.0	0.0	13
14	0.0	0.0	0.0	0.0	1.1*	0.1	1.2	1.0	0.2	0.3	0.0	0.0	14
15	0.0	0.0	0.0	0.0	1.0*	0.2	2.2	0.8	0.3	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.3	0.3	1.3	0.8	0.3	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.3	1.5	1.4	0.7	0.2*	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.3*	1.3	1.4	0.7	0.1	0.0	0.0	24 *	18
19	0.0	0.0	0.0	0.0	0.2*	0.3*	1.1	0.5	0.2	0.0	0.0	10 *	19
20	0.0	0.0	0.0	0.0	0.2*	0.3	1.8	0.5	0.2	0.0	0.0	0.0*	20
21	0.0	0.0	0.0	0.0	0.3*	0.4	19	0.6	0.3	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.4	0.4*	12 *	0.8	0.3	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.2	0.7	7.3	1.1	0.3	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.2	1.0	6.8	1.2	0.3	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.2*	0.6	6.7	1.4	0.4	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.2	0.5	15 *	1.8	0.3	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.2	0.6	14	2.3	0.3	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.2	4.1	8.9	1.7	0.4	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0		3.7	6.8*	0.7	0.3	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0		1.4	7.7	0.5	0.4	0.0	0.0	0.0	30
31	0.0		0.0	0.0		0.9		0.4		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.0	2.2	0.7	4.0	2.2	0.3	0.3	0.0	1.1	MEAN
MAX.	0.0	0.0	0.0	0.0	46.0	4.1	19.0	8.3	0.4	1.8	0.0	24.0	MAX.
MIN.	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.4	0.1	0.0	0.0	0.0	MIN.
AC. FT.					120	41	240	135	17	19		67	AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
≠ — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
0.9	131	4.31	2	10	0250	0.0		10	1	0000	639

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

1962	32360	CASTAIC CREEK ABOVF CORDOVA RANCH

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	NR	NR	NR	0.0	0.0	28	14	5.4	2.1	0.2	0.0	0.0	1
2	NR	NR	NR	0.0	0.0	28 *	14	5.1	2.2	0.2*	0.0	0.0	2
3	NR	NR	NR	0.0	0.0	39	14	4.8	2.0	0.0	0.0	0.0	3
4	NR	NR	NR	0.0	0.0	38	13	4.6*	1.7	0.0	0.0	0.0	4
5	NR	NR	NR	0.0	0.0	36	13	4.3	1.5	0.0	0.0	0.0	5
6	NR	NR	NR	0.0	0.0	48	12	4.3	1.5	0.0	0.0	0.0	6
7	NR	NR	NR	0.0	0.0	43	12	4.1	1.3	0.0	0.0	0.0	7
8	NR	NR	NR	NR	154	38	11	3.9	1.1	0.0	0.0	0.0	8
9	NR	NR	NR	NR	639	34 *	10	3.7	0.9	0.0	0.0	0.0	9
10	NR	NR	NR	NR	2420	29	11	3.7	0.9	0.0	0.0	0.0	10
11	NR	NR	NR	NR	2190 *	26	11	3.5*	0.5*	0.0	0.0	0.0	11
12	NR	NR	NR	NR	699	28	10	3.7	0.4	0.0	0.0	0.0	12
13	NR	NR	NR	NR	257	27	10	3.9	0.4	0.0	0.0	0.0	13
14	NR	NR	NR	NR	151 *	25	9.9	4.2	0.4	0.0	0.0	0.0	14
15	NR	NR	NR	NR	276	24	9.8	4.6	0.2	0.0	0.0	0.0	15
16	NR	NR	NR	NR	172	22	9.8	4.8	0.2	0.0	0.0	0.0	16
17	NR	NR	NR	NR	119	21	9.9	5.0	0.2	0.0	0.0	0.0	17
18	NR	NR	NR	NR	99	24	9.8*	5.2*	0.2*	0.0	0.0	0.0	18
19	NR	NR	0.0	NR	279	31	9.3	5.0	0.2	0.0	0.0	0.0	19
20	NR	NR	0.0	NR	160	24	8.9	4.7	0.2	0.0	0.0	0.0	20
21	NR	NR	0.0	NR	132	23	8.7	4.3	0.2	0.0	0.0	0.0	21
22	NR	NR	0.0	NR	112	21	8.3	4.3	0.2	0.0	0.0	0.0	22
23	NR	NR	0.0	NR	99	21 *	7.8	4.1	0.2	0.0	0.0	0.0	23
24	NR	NR	0.0	NR	88	19	7.4	3.9	0.2	0.0	0.0	0.0	24
25	NR	NR	0.0	NR	79	18	7.2	3.7*	0.2*	0.0	0.0	0.0	25
26	NR	NR	0.0	NR	68 *	18	6.7*	3.5	0.2	0.0	0.0	0.0	26
27	NR	NR	0.0	NR	43	17	6.5	3.3	0.2	0.0	0.0	0.0	27
28	NR	NR	0.0	NR	28	16	6.3	3.0	0.2	0.0	0.0	0.0	28
29	NR	NR	0.0	NR		16	6.1	2.6	0.2	0.0	0.0	0.0	29
30	NR	NR	0.0	NR		15 *	5.7	2.4	0.2	0.0	0.0	0.0	30
31	NR		0.0	NR		14		2.2*		0.0	0.0		31
MEAN	NR	NR	NR	NR	295	26.2	9.8	4.1	0.7	0.0	0.0	0.0	MEAN
MAX.	NR	NR	NR	NR	2420	48.0	14.0	5.4	2.2	0.2	0.0	0.0	MAX.
MIN.	NR	NR	NR	NR	0.0	14.0	5.7	2.2	0.2	0.0	0.0	0.0	MIN.
AC. FT.	NR	NR	NR	NR	16390	1609	581	250	40	1			AC.FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
≠ — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
NR	NR					NR					NR

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1963	V92300	WEST FORK OF THE MOJAVE RIVER ABOVE CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.0	0.1	0.4	1.0	0.2	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.9	0.2	0.0	0.0	0.0	2
3	0.0*	0.0	0.0	0.0	0.0	0.2	0.4	0.8	0.2	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.8	0.2	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.8	0.2	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.8	0.2	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0*	0.0	0.2	0.2	0.8	0.2	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.7	0.2	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	0.6*	0.1	0.3	0.7	0.1	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	4.8*	0.1	0.2	0.6	0.2	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	0.8*	0.1	0.1	0.5	0.2	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.6	0.1	0.2	0.5	0.2	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.5	0.1	0.2	0.5	0.2	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.5*	0.1	0.4	0.4	0.1	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.5*	0.1	0.4	0.4	0.1	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.4	0.2	0.3	0.4	0.1	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.3	0.4	0.3	0.3	0.1	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.3*	0.4	0.4	0.3	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.1*	0.4	0.4	0.3	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.2*	0.4*	0.5	0.3	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.2*	0.5	1.5	0.3	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.2	0.5	1.3	0.3	0.1	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.2	0.6	1.0	0.3	0.1	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.2	0.7	0.8	0.2	0.1	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.2*	0.6	0.8	0.2	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.2	0.6	1.5	0.2	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.2	0.5	1.8	0.2	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0*	0.0	0.2	0.8	1.7	0.2	0.0	0.0	0.0	0.0	28
29	0.0*	0.0	0.0	0.0		0.6	1.5	0.2	0.0	0.0	0.0	0.0	29
30	0.0	0.0*	0.0	0.0		0.5	1.3	0.2	0.0	0.0	0.0	0.0	30
31	0.0		0.0	0.0		0.4		0.2		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.0	0.4	0.3	0.6	0.5	0.1	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	0.0	4.8	0.8	1.8	1.0	0.2	0.0	0.0	0.0	MAX.
MIN.	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	MIN.
AC. FT.					22	20	38	28	6				AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
= — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
0.2	45.0	4.88	2	10	0000	0.0		10	1	0000	116

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1963	V92250	E.F. OF WEST FORK OF THE MOJAVE RIVER ABOVE CEDAR SPRINGS

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	2.4	0.0	0.1	0.2	0.5	0.6	0.7	1.6	1.0	0.2	0.0*	0.0	1
2	6.1	0.0	0.1	0.2	0.4	0.6	0.7	1.4	0.9	0.1	0.0	0.0	2
3	4.3	0.0	0.1	0.2*	0.3	0.5	0.6	1.3	0.9	0.1	0.0	0.0	3
4	5.9	0.0	0.1	0.2	0.3	0.5	0.6	1.3	0.8	0.1	0.0	0.0	4
5	9.8	0.0	0.1	0.2	0.4	0.5	0.6	1.3	0.8	0.1	0.0	0.0*	5
6	10	0.0	0.1	0.2	0.4	0.6	0.6	1.3	0.9	0.1	0.0	0.0	6
7	5.4	0.0	0.1	0.2*	0.4	0.6	0.6	1.2	0.8	0.1	0.0	0.0	7
8	0.4	0.0	0.1	0.2	0.4	0.6	0.6	1.2	0.7	0.1	0.0	0.0	8
9	0.1	0.0	0.1	0.2	5.6*	0.6	0.6	1.1	0.7	0.1	0.0	0.0	9
10	0.1	0.0	0.1*	0.4*	16 *	0.6	0.6	1.1	0.8	0.1	0.0	0.0	10
11	0.0	0.0	0.1	0.3	2.8*	0.6	0.6	1.1	0.8	0.0	0.0	0.0	11
12	0.0	0.0	0.2	0.2	1.5	0.6	0.6	1.0	0.8	0.0	0.0	0.0	12
13	0.0	0.0	0.2	0.2	1.1*	0.6	0.5	1.0	0.7	0.0	0.0	0.0	13
14	0.1	0.1	0.1	0.2	0.8*	0.6	0.9	1.0	0.7	0.0	0.0	0.0	14
15	0.1	0.1	0.1	0.2	0.7*	0.9	0.9	1.0	0.6	0.0	0.0	0.0	15
16	0.1	0.1*	0.2	0.3	0.7	0.8	0.7	1.0	0.5	0.0	0.0	0.0	16
17	0.1	0.1	0.2*	0.3	0.7	1.2	1.0	0.9	0.4	0.0	0.0	0.3	17
18	0.1	0.1	0.2	0.2	0.7*	1.2	0.9	0.9	0.4	0.0	0.0	29 *	18
19	0.1	0.1	0.2	0.2	0.6*	1.1	0.8	0.9	0.4	0.0	0.0	4.5*	19
20	0.1*	0.1	0.2	0.2	0.6*	1.1	1.0	0.9	0.3	0.0	0.0	1.4	20
21	0.1	0.1	0.2	0.2	0.6*	1.1	4.2	0.9	0.4	0.0	0.0	0.9	21
22	0.1	0.1	0.2	0.2	0.6	1.1	2.1	0.9	0.6	0.0	0.0	0.5	22
23	0.0	0.1	0.2	0.2	0.6	1.3	1.7	0.9	0.6	0.0	0.0	0.5	23
24	0.0	0.1	0.2	0.2*	0.6	1.1	1.5	0.9	0.5	0.0	0.0	0.3	24
25	0.0	0.1	0.2	0.2	0.6	1.0	1.3	0.9	0.4	0.0	0.0	0.2	25
26	0.0	0.1	0.1	0.2	0.6	0.9	2.5	0.9	0.3	0.0	0.0	0.2	26
27	0.0	0.2	0.2	0.2	0.6	0.8	2.0	0.9	0.3	0.0	0.0	0.1	27
28	0.0	0.2	0.2	0.2	0.5	1.6	1.6	0.9	0.3	0.0	0.0	0.1	28
29	0.0	0.2	0.1	0.3		1.1	1.9	1.0	0.3	0.0	0.0	0.1	29
30	0.0	0.2*	0.2	0.3		1.0	1.8	1.0	0.2	0.0	0.0	0.1*	30
31	0.0		0.2	0.3*		0.9		1.0		0.0	0.0		31
MEAN	1.5	0.1	0.2	0.2	1.4	0.8	1.2	1.1	0.6	0.0	0.0	1.3	MEAN
MAX.	10.0	0.2	0.2	0.4	16.0	1.6	4.2	1.6	1.0	0.2	0.0	29.0	MAX.
MIN.	0.0	0.0	0.1	0.2	0.3	0.5	0.5	0.9	0.2	0.0	0.0	0.0	MIN.
AC. FT.	90	4	9	14	79	52	69	65	35	2		76	AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
# — E AND R

MEAN	MAXIMUM				MINIMUM				TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
0.7	217	4.36	9	18	0700	0.0		10	1	0000	495

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1963	32360	CASTAIC CREEK ABOVE CORDOVA RANCH

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.0	0.0	0.9*	0.6	0.0	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.9	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.1	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.0	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.0*	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.0	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	87	0.0	0.4*	0.8	0.0	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	32 *	0.0	0.4	1.1	0.0	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	0.9*	0.0	0.3	0.9	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.9	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0*	0.0	0.2	0.6	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.0	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.0	0.0	0.4*	0.4	0.0	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.0	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	1.3	0.2	0.7	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.6*	0.1	0.7	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.2*	0.0	0.5	0.0	0.0	0.0	0.1*	19
20	0.0	0.0	0.0	0.0	0.0	0.1*	0.1	0.3	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.2	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.2	13 *	0.1	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.1	3.7*	0.1	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.0	4.3*	0.9	0.1	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0		2.1*	0.2	0.1	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0		1.0	0.1	0.0	0.0	0.0	0.0	0.0*	30
31	0.0		0.0	0.0		0.9		0.0		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.0	4.3	0.4	0.9	0.5	0.0	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	0.0	87.0	4.3	13.0	1.9	0.0	0.0	0.0	0.1	MAX.
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	MIN.
AC. FT.					238	25	51	30					AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
= — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
0.5	663	3.85	2	9	2000	0.0		10	1	0000	344

DAILY MEAN DISCHARGE

(IN CUBIC FEET PER SECOND)

WATER YEAR	STATION NO.	STATION NAME
1963	32330	ELIZABETH LAKE CANYON CREEK ABOVE CASTAIC

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0*	0.0*	0.0*	0.0*	0.4*	0.4	5.4	1.3	0.4	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.4	0.5	5.2	1.0	0.3	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.4	0.6	5.1	0.9	0.3	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.4	0.8*	4.7	0.9	0.2	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.4	0.9	4.9	0.9	0.3	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.4	0.9	4.9	0.8	0.6	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.4	1.0	5.4	0.7	0.6	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.3	1.1	6.2	0.6	0.4	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	5.8	1.2	6.6	1.4	0.3	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	11 *	1.3	7.1	1.3	0.4	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	4.4*	1.2*	6.8	1.0	0.7	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	3.5	1.1	6.6	0.8	1.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.1	2.9*	1.0	6.6	0.6	0.8	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.2	2.2	1.1	9.5	0.6	0.5	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.2	1.6	1.0	10	0.6	0.2	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.2	1.4	2.2	9.8	0.4	0.1	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.2	1.2	3.7	9.8	0.3	0.1	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.3	1.1	2.7*	9.8	0.3	0.1	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.3	0.8	2.2	9.8	0.3	0.0	0.0	0.0	0.2*	19
20	0.0	0.0	0.0	0.3	0.7	2.0	12	0.3	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.3	0.6*	1.6	16 *	0.3	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.3	0.6	1.8	9.5	0.4	0.1	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.3	0.6	3.7	6.0	0.5	0.2	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.3	0.6	3.9	3.7	0.6	0.1	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.3	0.5	3.7	2.3	0.6	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.3	0.5	3.3	6.4*	0.6	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.4	0.4	3.4	4.1	0.8	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.4	0.4	10	2.7	0.8	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.4		7.9	1.9	0.8	0.0	0.0	0.0	0.0	29
30	0.0	0.0*	0.0	0.4		7.6	1.5	0.6	0.0	0.0	0.0	0.0*	30
31	0.0*		0.0*	0.4*		5.6		0.4		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.2	1.6	2.6	6.7	0.7	0.3	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	0.4	11.0	10.0	16.0	1.4	1.0	0.0	0.0	0.2	MAX.
MIN.	0.0	0.0	0.0	0.0	0.3	0.4	1.5	0.3	0.0	0.0	0.0	0.0	MIN.
AC. FT.				11	87	157	397	42	15				AC. FT.

E — ESTIMATED
NR — NO RECORD
* — DISCHARGE MEASUREMENT OR OBSERVATION OF FLOW MADE THIS DAY.
= — E AND R

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO.	DAY	TIME	DISCHARGE	GAGE HT.	MO.	DAY	TIME	ACRE FEET
1.0	27.0	2.85	2	9	2400	0.0		10	1	0000	711

State of California

THE RESOURCES AGENCY

Department of Water Resources

BULLETIN No. 130-63

HYDROLOGIC DATA: 1963

Volume V: SOUTHERN CALIFORNIA

NOVEMBER 1965

HUGO FISHER
Administrator
The Resources Agency

EDMUND G. BROWN
Governor
State of California

WILLIAM E. WARNE
Director
Department of Water Resources

ORGANIZATION OF BULLETIN NO. 130 SERIES

Volume I - NORTH COASTAL AREA

Volume II - NORTHEASTERN CALIFORNIA

Volume III - CENTRAL COASTAL AREA

Volume IV - SAN JOAQUIN VALLEY

Volume V - SOUTHERN CALIFORNIA

Each volume consists of the following:

TEXT and

Appendix A - CLIMATE

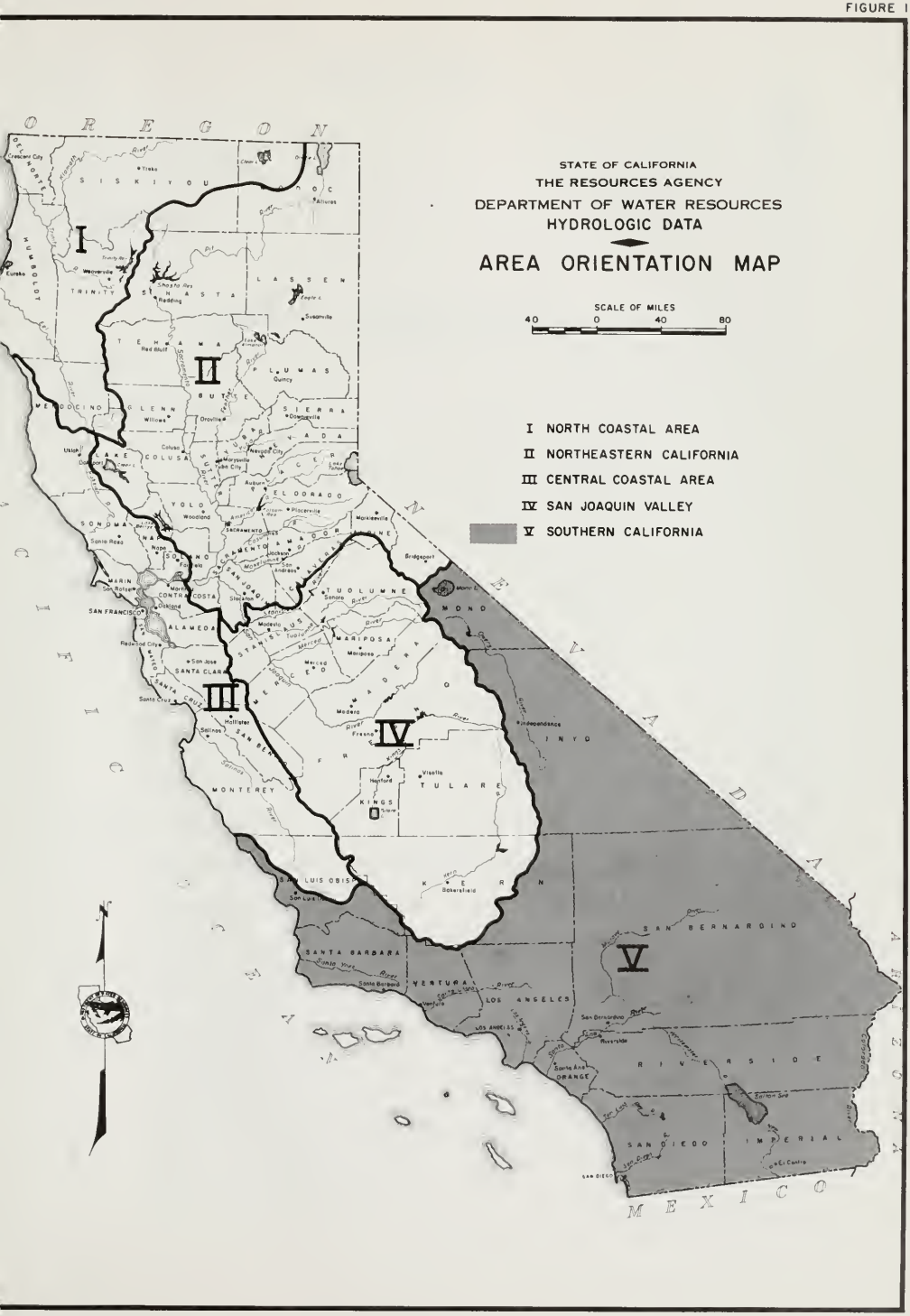
Appendix B - SURFACE WATER FLOW

Appendix C - GROUND WATER MEASUREMENTS

Appendix D - SURFACE WATER QUALITY

Appendix E - GROUND WATER QUALITY

FIGURE 1


STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
HYDROLOGIC DATA
AREA ORIENTATION MAP
SCALE OF MILES
40 0 40 80
I NORTH COASTAL AREA
II NORTHEASTERN CALIFORNIA
III CENTRAL COASTAL AREA
IV SAN JOAQUIN VALLEY
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TRINITY
HUMBOLDT
SHASTA
LASSEN
TEHAMA
PLUMAS
BUTTE
GLENN
MENDOCINO
SIERRA
NEVADA
COLUSA
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NAPA
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EL DORADO
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KERN
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CALIFORNIA—RESOURCES AGENCY WILLIAM E. WARNE, Director

RTMENT OF WATER RESOURCES
388
NTO

August 27, 1965

Honorable Edmund G. Brown, Governor, and
Members of the Legislature of the
State of California

Gentlemen:

The Bulletin No. 130 series of reports incorporates data on surface water, ground water, and climate previously published annually in Bulletins No. 23, 39, 65, 66, and 77. With the inauguration of the new series, publication of the earlier reports is suspended.

Bulletin No. 130 will be published annually in five volumes, each volume to report hydrologic data for one of five specific reporting areas of the State. The area orientation map on page iii delineates these areas. Page ii outlines the organization of the bulletin, its volumes and appendixes.

This report is Volume V, "Southern California". It includes a text which summarizes hydrologic conditions in this part of California during the 1963 water year (October 1, 1962 through September 30, 1963) and two appendixes of detailed hydrologic data: Appendix A, "Climate", and Appendix B, "Surface Water Flow". Appendixes C, D, and E will be published separately.

The collection and publication of data such as is contained in Bulletin No. 130 is authorized by Sections 225, 226, 229, 230, 232, 345, 12609, and 12616 of the Water Code of the State of California.

The basic data programs of the Department of Water Resources have been designed to supplement the activities of other agencies, in order to satisfy specific needs of this State. Bulletin No. 130 is designed to present useful, comprehensive, accurate, and timely hydrologic data to the public.

Sincerely yours,

William E. Warne

Director

ACKNOWLEDGMENT

The Department of Water Resources gratefully acknowledges the assistance and contributions of the many public agencies, private organizations, and individuals whose cooperation has greatly facilitated the preparation of this bulletin. In this regard, special mention is made of the following:

California Disaster Office
California Radiological Service
California Water Quality Board
City of Long Beach, Department of Public Health
City of Long Beach, Water Department
City of Los Angeles, Department of Public Health
City of Los Angeles, Department of Water and Power
City of San Bernardino
City of San Diego
Imperial Irrigation District
Los Angeles County Flood Control District
Orange County Air and Water Pollution Control Committee
Orange County Flood Control District
Riverside County Flood Control and Water Conservation District
San Bernardino County Flood Control District
San Luis Obispo County Flood Control and Water Conservation District
The Metropolitan Water District of Southern California
United States Geological Survey
United States Weather Bureau
United States Soil Conservation Service
United States Public Health Service
Ventura County Department of Public Works
Ventura County Flood Control District

State of California
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CHAPTER I. HYDROLOGIC CONDITIONS 1962-63

California is an area that is unique in many respects. Its climate has always been exceptional and the range of land forms within the State sets it apart from neighboring areas. California has often been described as being set apart, isolated so to speak, by features that prevail over wide areas adjoining the State. Perhaps it would be more appropriate to consider the State as a link between dissimilar regions rather than isolated by them. California does, in fact, span all the dissimilarities of climate and topography from the arid plateaus of the Great Basin to the marshy tidelands of the Pacific and from the rain forests of the Pacific Northwest to the parched plains of the Sonoran Desert.

Statewide

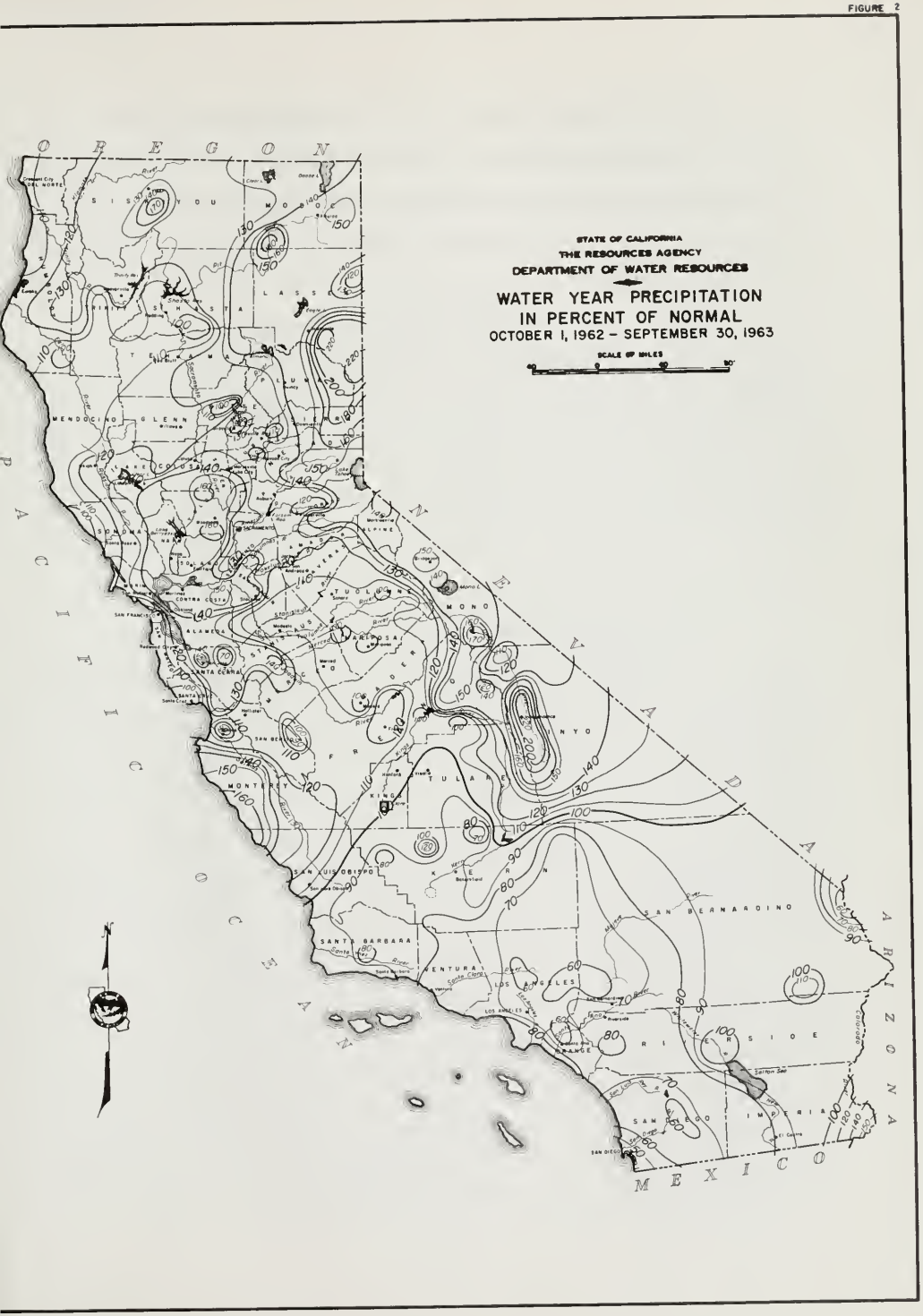
California climate is fostered by a balance between the slow forces of geology and turbulent storms born of the Pacific Ocean. The massive walls of the Rocky Mountains and the Sierra Nevada protect the State from all but a few thrusts of the dry, cold, polar continental air masses. Maritime air masses, originating far out in the Pacific, receive some impetus and direction from wind patterns of the troposphere and move toward the California coast. California lies in a transition zone between the prevailing westerlies that blow across the North Pacific and a calm high pressure zone, the horse latitudes, in the vicinity of 30 degrees north latitude. The horse latitudes, just south of California, buffer the State from many tropical storms which originate further to the south so that the north coast of California is crossed by more storms than the south coast. The Sierra Nevada and the Cascade Mountains, along the

eastern border of the great Central Valley, receive much of their precipitation by orographic lifting of the maritime air masses, while interior lands of Southern California are shielded from maritime air masses by the Transverse Ranges and the northerly extension of the Peninsular Ranges. The water year, from October 1, 1962, through September 30, 1963, illustrates the extreme variability of weather conditions that occur in the State.

Average values summing up annual conditions for the whole State show the 1962-63 water year to have been about normal. A closer look at this apparent normality shows a series of extreme conditions which in combination resulted in nearly normal averaged values. Figure 2, showing water year precipitation in percent of 30-year mean of the years 1931-1960, indicates that normal annual precipitation amounts were recorded in the latitude of the north line of San Luis Obispo, Kern, and San Bernardino Counties. Recorded annual precipitation south of that latitude ranged to less than 50 percent of normal in the vicinity of San Diego and north of that latitude ranged to greater than 150 percent of normal in the mountains along the northern boundary of the State.

During 1962-63, even these annual precipitation values were composed of extremes. In mid-October a series of storm waves drenched Northern California, Oregon, and Washington. Rivers in Northern California were at near flood level; and Feather River at Oroville reached the highest October stage of record, inundating construction work at the Oroville Dam site. Southern California stayed dry. A midwinter drought followed, setting new records for lack of precipitation and for continuous days of fog in the Central Valley. Again, Southern California was dry.

FIGURE 2


STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER YEAR PRECIPITATION
IN PERCENT OF NORMAL
OCTOBER 1, 1962 - SEPTEMBER 30, 1963
SCALE OF MILES
OREGON
NEVADA
ARIZONA
MEXICO
PACIFIC OCEAN
SISKIYOU
MODOC
LASSEN
SHASTA
TEHAMA
PLUMAS
MENDOCINO
GLENN
BUTTE
SIERRA
NEVADA
SONOMA
SACRAMENTO
ALPINE
CONTRA COSTA
TUOLUMNE
MONO
ALAMEDA
MARIPOSA
SANTA CLARA
MADERA
INYO
SAN BENITO
FRESNO
TULARE
MONTEREY
KINGS
SAN LUIS OBISPO
KERN
SAN BERNARDINO
SANTA BARBARA
VENTURA
LOS ANGELES
RIVERSIDE
SAN DIEGO
IMPERIAL

The drought was broken by a three-day downpour at the end of January. Again, flood conditions prevailed in Northern California and some areas, particularly in the upper Yuba River Basin, suffered from serious floods. Much of Southern California received moderate amounts of rain at this time.

During April, Northern California was covered by a series of storms: precipitation was moderate but continued for almost two weeks. The April rains, along with record late season snowfall during May, largely in the northern Sierra, built up snowpacks and assured a normal water supply during the summer. Southern California gained some precipitation but had a less than normal wet season which extended the dry trend that has prevailed in the southern part of the State since 1944.

Understandably, other hydrologic features showed abnormal responses. Streamflows alternated between extreme highs and extreme lows but were about normal during the summer. With the recurring threat of floods, operation of reservoirs was difficult, yet the amount of water stored in reservoirs at the end of the water year was greater than year-end storage during most of the preceding years. Still, a greater than usual proportion of winter rain flowed directly to the ocean. In Southern California both surface runoff and reservoir storage were below normal.

Ground water conditions followed the irregular pattern of precipitation. In the northern part of the State, the amount of water stored in the ground water basins generally increased. However, due to the intermittent distribution of precipitation, the increase of stored ground water was less than it should have been. Throughout Southern California, where precipitation was well below normal, ground water levels generally continued to drop.

In general, during the 1962-63 season, hydrologic conditions were about normal for the State except the distribution of the normal supply was unusual, the northern part of the State was deluged while Southern California again was below normal.

Southern California

The variability of California climate referred to above is most pronounced in the southern part of the State, so that it is usually difficult to make generalized statements concerning hydrologic conditions. For example, in Southern California mean precipitation can be found to vary in a distance of less than 50 miles from over 40 inches per year to nearly as little as 2 inches per year.

Generally mild climates prevail along the coast because of the proximity of the Pacific Ocean. In the southernmost coastal areas a variety of tropical plants can be grown because of the infrequent occurrence of frost and snow. Because most of the coastal area is mountainous, climatic conditions in the inland areas are different from those on the coast. A series of high mountain ranges, extending from Santa Barbara County east to the San Bernardino Mountains and then southerly through San Diego County into Mexico, have a sharply demarcated effect on climate. The series of mountain ranges extending from the Tehachapis northeasterly and then northerly to merge with the Sierra Nevada causes a similar effect. On the leeward, or inland, side of these mountain ranges, desert conditions generally prevail with wide temperature extremes in the higher deserts. The higher mountains sustain a considerable growth of timber because of the relatively abundant precipitation which can reach to an average of over 40 inches per year. The major part of the precipitation in the

higher mountains is in the form of snow; however, except for the eastern slopes of the Sierra Nevada in Mono and Owens Valleys, accumulated snowpack which produces runoff in the spring and summer is generally not a major water supply factor because the snow usually melts too rapidly to accumulate. Snowfall is important, though, to the natural and artificial recharge of several ground water basins because the precipitation does not run off immediately, thus allowing time for percolation.

Southern California is similar to the rest of the State in that most of the precipitation occurs during the winter months. Precipitation during the months of June through September is usually insignificant. Exceptions occur in the mountain and desert areas where there are occasional summer thunderstorms. On rare occasions, summer tropical storms reach the southern part of the State.

The 1962-63 season is the 19th in a period of generally subnormal precipitation for most of Southern California. During this period, seasonal precipitation that was significantly above normal occurred only three times, the last instance being the previous 1961-62 season. Thus it may be said that a condition of drought is becoming a way of life in Southern California. The severity of the protracted period of drought can be illustrated by the water storage in the major surface reservoirs in San Diego County which contain mostly local runoff. On May 1, 1963, at the close of the runoff-producing season, 11 reservoirs contained 45,200 acre-feet, or 7.1 percent of their capacity of 634,650 acre-feet. One reservoir in San Diego County, San Vicente, which stores imported Colorado River water, contained 59,065 acre-feet on the same date. This example also illustrates the dependence of large areas of Southern California on imported water.

On February 1, 1963, the outlook for supplies of local water was even more bleak than the example cited above. A record-breaking dry year was in prospect, with large areas of Southern California having received less than 10 percent of normal seasonal precipitation by that date. The alarming nature of this situation can be emphasized by pointing out that by the first of February Southern California normally has received about half of the season's precipitation. Exceptions to the above condition were northern San Luis Obispo County and the Mono-Owens region, which shared in the above normal precipitation received by that time in northern parts of the State. However, the bleak outlook was modified by significant precipitation that began to arrive in February and continued through May and partly into June. By July 1, 1963, precipitation was at least 50 percent of normal in most of Southern California. The San Diego area was an exception in having less than 40 percent of normal precipitation. In San Luis Obispo County precipitation for the season was near or above normal, and in parts of the Mono-Owens region it was over 200 percent of normal, partly due to heavy snowfall late in the season. Although beginning as a severe drought year, drier than any on record, the season became a routine year of ordinary precipitation deficiency. The late spring precipitation gave an added bonus in the form of postponing the beginning of the brush and forest fire season.

During September 1963, unusually early precipitation occurred in the extreme southern part of the State, with much of San Diego County receiving over 2 inches, and at high elevations in Los Angeles County over 5 inches were recorded. The storms extended over the Colorado Desert area, where extensive crop damage resulted from rainfall which in places

exceeded 2 inches. The extreme southern part of the Lahontan Drainage Province received over 6 inches of precipitation at the higher elevations. An important effect of the storms was that the brush and forest fire hazard ended earlier in the season than usual.

In Southern California the impact of a deficiency in precipitation varies with geographical area. San Luis Obispo, Santa Barbara, and Ventura Counties have relied solely on local supplies of water, a large part of which is surface runoff; therefore, an extended precipitation deficit in these areas might cause an emergency situation. In the Los Angeles Coastal Plain area, however, imported water supplies, together with a large supply of ground water, are presently adequate to withstand the impact of an extended drought period. In San Diego County no large ground water basins exist, so that water supplies must come mostly from local surface runoff or be imported from the Colorado River. Dry periods in this area increase the cost of water by requiring the purchase of more imported water. In the upper Santa Ana River drainage area, precipitation deficiency causes increased overdraft of ground water and increased imports of Colorado River water. The Colorado River Drainage Province relies mostly on imported Colorado River water, and deficient precipitation may be welcomed rather than lamented because huge crop losses could result from untimely rainfall. In the southern part of the Lahontan Drainage Province, precipitation is important mostly for ground water recharge, since there is no major surface runoff except in Owens Valley and Mono Basin.

In San Luis Obispo, Santa Barbara, and Ventura Counties there was a considerable carry-over of local water stored in surface reservoirs

from the previous 1961-62 season. In Owens Valley and Mono Basin there was a large increase in reservoir storage due to the heavy precipitation in the spring of 1963. The reservoirs on the Colorado River which contain water imported into Southern California showed a considerable decrease in water in storage. There was no significant amount of local water in storage in the remaining reservoirs of Southern California at the end of the 1963 water year.

In summary, the water year ending on September 30, 1963, was another year of generally deficient precipitation in Southern California with resultant deficient runoff and a lack of local water for ground water recharge. Reservoir storage generally declined. Water levels continued to decline in many basins. A notable exception was the Los Angeles Coastal Plain in Los Angeles and Orange Counties where the continuing spreading of imported water and controlled pumping actually resulted in a small rise in water levels.

CHAPTER II. INTRODUCTION TO DATA ACTIVITIES

This is the first report in the Bulletin No. 130 series entitled "Hydrologic Data", and supersedes 31 years of publication of the annual report in the Bulletin No. 39 series and 7 years of publication of the two water quality reports, Bulletins Nos. 65 and 66, on surface and ground water quality, respectively. Consolidation of the three series of reports into the Bulletin No. 130 series and the expansion of the scope of the presentation of data to include the publication of climatological data not published elsewhere, is designed to enhance the value of these reports and considerably reduce the amount of time involved in consolidating hydrologic data by users. Furthermore, this report is a part of a standardized and coordinated reporting procedure for the State of California, which also enhances the availability of hydrologic data and gives an annual summary of hydrologic conditions.

Discussions of ground water recharge, weather modification, sewage discharge to the Pacific Ocean and its tidal estuaries, and miscellaneous activities affecting water supply conditions were added to previous reports and are included in this series to provide a more complete description of hydrologic conditions. Precipitation data which have not been included in the appendixes subsequent to Bulletin No. 39-58, published in August 1960, will be published in later reports in the Bulletin No. 130 series. Subsequent bulletins in this series are planned to include the publication of evaporation, wind, temperature, and agroclimatic data.

Volume V of Bulletin No. 130-63 is itself published under four covers. The first cover contains the text and Appendixes A and B. The

second and third covers contain Appendix C. The fourth cover contains Appendixes D and E.

Objectives and Scope

The purpose of this report is to provide a useful source of information for all interested in water development and supply in Southern California. The basic data programs of the Department of Water Resources are designed to supplement the activities of other agencies to provide a basis for effective water resource management. This report is designed to meet the needs of the Department and the public for hydrologic data.

This report contains a discussion of hydrologic conditions in Southern California for the 1962-63 season, with supporting basic data compiled, and in many cases collected, by the Department of Water Resources and other water agencies operating in the Southern California area. Presented in the report are data on precipitation, surface streamflow, reservoir storage, and elevation of the surface of ground waters, including the consideration of the quality of surface and ground waters. Information is also given on the activities of water agencies.

Data Collection Activities

The major portion of the information on ground water level conditions in Southern California is obtained by local water agencies with the Department of Water Resources acting as the collector and central compiling agency for these records. The Department itself routinely measures only approximately 400 wells semiannually for the collection of water level information. The Department also collects ground water level information during special investigations conducted from time to time in various places throughout Southern California.

The U. S. Geological Survey collects ground water level elevation information in Southern California under a cooperative program between the State of California and the United States government whereby funds are provided by the State to the Survey on a matching basis. The Survey conducts two ground water level measuring programs under this cooperative agreement: (1) a routine measuring of selected wells mainly in the desert areas in Southern California, and (2) a measuring of ground water levels during special investigations of localized areas in Southern California. All these records are published in the Bulletin No. 130 series for the appropriate year.

Methods and Procedures

The use of machine processing procedures facilitated preparation of certain of the appendixes to this report. Ground water level data, and ground water quality data were punched onto cards, tabulated, checked, and in certain cases statistics were calculated by a digital computer. In connection with these procedures, it was necessary to adopt coding or numbering systems to designate hydrologic units in which these data appeared and also for the identification of the specific data. These coding systems are described in the following paragraphs.

Hydrologic Area Coding System

In the report series preceding the Bulletin No. 130 series, the procedure for the definition of areas was to use ground water basins, listing them by a decimal numbering system. Because of widespread use of boundaries for areas based on different criteria and the necessity for filing data from hydrologic stations not located on ground water basins,

much confusion ensued regarding just what area was being discussed, and much additional work on the part of hydrologists was required to assemble data for the particular area being considered. Accordingly, an areal designation system was developed which would provide uniform boundaries of geologic and hydrologic significance for utilization in departmental investigations. A system of coding was also developed that would better relate areas of interconnecting hydrologic significance to facilitate the filing, separation and recovery of basic data by machine methods, and at the same time provide a basis for a coding procedure that would have state-wide application. For these reasons, a new system for designating areas for data filing and retrieval was developed for Southern California. The system is described in a DWR Office Report entitled "Names and Areal Code Numbers of Hydrologic Areas in the Southern District", dated April 1964. The data in this Volume V are filed according to the new system of areal designation, which is briefly described here. Tables that cross-reference the new system to the old system are included as Attachments 1 through 6. They are bound at the back of this report.

The areal designation system for the Southern District comprises a series of major drainage provinces which are further subdivided into hydrologic units, hydrologic subunits, and hydrologic subareas. The boundaries of the drainage provinces are shown on Plate 1, "Drainage Province Boundaries".

Boundaries and Definitions. A drainage province is a geographic area, generally equivalent in area and configuration to the water pollution control board regions as defined in Chapter 4, Division 7, of the State Water Code, except that all province boundaries are drainage divides.

A hydrologic unit meets one or the other of the following descriptions, the boundaries of which are defined by surface drainage divides:

1. In general, the total watershed area, including water-bearing and nonwater-bearing formations, such as the total drainage area of the San Diego River Valley;
2. In coastal areas, two or more small contiguous watersheds having similar hydrologic characteristics, each watershed being directly tributary to the ocean and all watersheds emanating from one mountain body located immediately adjacent to the ocean; or
3. In desert areas, a closed drainage area with a difference in elevation between valley floor and lowest point on the drainage divide of 40 feet or more.

A hydrologic subunit is a major logical subdivision of a hydrologic unit, including water-bearing and nonwater-bearing formations, best typified by a major tributary of a stream, a major valley or a plain along a stream containing one or more ground water basins and having closely related geologic, hydrologic, and topographic characteristics.

Subunit boundaries are based primarily on drainage boundaries. However, where strong subsurface evidence indicates that a division of ground water exists, the subunit boundary may be based on subsurface characteristics.

Although political boundaries usually have no hydrologic significance, they may be used as subunit boundaries when they have legal status with respect to water supply, or there is very strong local custom regarding use of the boundary. For example, the Los Angeles-Orange county line, which has historically been considered to be the southeastern boundary of the Coastal Plain of Los Angeles County, was deemed important enough to prompt its adoption as a subunit boundary, although hydrologically, geologically, and topographically, there is no reason to do so.

A hydrologic subarea is a logical subdivision of a hydrologic subunit which may include either water-bearing or nonwater-bearing formations or both. Where possible, a hydrologic subarea includes one known ground water basin* and its tributary area. In areas which are essentially nonwater-bearing, the subarea division was based only on surface drainage conditions, and such factors as locations of gaging stations were given due consideration.

Variations from Previous Coding Systems. It should be noted that the areal designation system, described here, is designed to separate data according to areas of hydrologic significance. However, the system, as developed, does not differentiate between ground-water-bearing formations

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*A ground water basin consists of an area underlain by permeable materials, the basin including both the surface area and the underlying permeable materials. The permeable materials must be generally capable of furnishing a water supply to wells of moderately heavy draft, i.e. must be water-bearing. Ground water basins are separated from each other, or may be subdivided into ground water subbasins, by the following features and conditions, listed in approximate order of desirability as boundaries; nonwater-bearing rock, constriction in permeable materials, fault, zone of low permeability or of change to lower permeability, topographic ridge, shoreline of a lake, political boundary, or ground water divide.

and nonground-water-bearing tributary areas. The boundaries of ground-water-bearing formations are delineated on master quadrangle sheets in the Southern District Office. Furthermore, forebay areas of a ground water basin were not separated from the rest of the basin. For instance, the Los Angeles Forebay Area, the Montebello Forebay Area, and the Central Coastal Plain Pressure Area were combined into a single hydrologic subarea. Similarly, the Mound Pressure Area, the Oxnard Forebay Area, and the Oxnard Plain Pressure Area were combined into a single hydrologic subarea.

In connection with the development of this areal designation system, a review was made of desert areas in the Lahontan and Colorado River Basin Drainage Provinces which revealed numerous closed drainage basins, or sinks, whose valley floors are slightly lower than the lowest point on their drainage divides. In many instances flood runoff, however infrequent, could fill the lower portions of these basins and they would become tributary to adjacent basins. After a careful evaluation of this situation, it was concluded that in these cases a minimum difference of 40 feet between valley floor and drainage divide should be the criterion for the definition of a hydrologic unit.

The eight islands off the Southern California coast were incorporated within drainage provinces according to the county to which the island belongs. The three Santa Barbara County islands (San Miguel, Santa Rosa, and Santa Cruz) were grouped as the Santa Barbara Channel Islands Hydrologic Unit and included within the Central Coastal Drainage Province, while the two Ventura County islands (Anacapa and San Nicolas) and the three Los Angeles County islands (Santa Barbara, Santa Catalina, and San Clemente) were grouped as the San Pedro Channel Islands Hydrologic

Unit and included within the Los Angeles Drainage Province. Each island was made a hydrologic subunit so that it could be subdivided into hydrologic subareas in the future.

Strict adherence to the foregoing definitions, which are based on drainage areas, required some deviation from the historically used system of Water Quality Investigations Report No. 3, "Ground Water Basins in California", November 1952. Drainage province boundaries in the Southern District, however, match regional water pollution control board boundaries, with the exception of the boundary between Water Pollution Control Board Regions Nos. 4 and 8 which uses the Los Angeles-Orange and Los Angeles-San Bernardino county line, while the boundary between Los Angeles and Santa Ana Drainage Provinces uses the drainage divide between the San Gabriel and Santa Ana River systems. In cases where a ground water basin is so located as to be in two adjacent hydrologic units due to drainage boundary considerations, each of the two parts was given subarea status so that, although the data are filed separately, they may be easily combined by machine. An example of this is the Pomona Ground Water Basin, which was split by the boundary line of Los Angeles and Santa Ana Drainage Provinces and resulted in two subareas.

Areal Designation Code. As stated previously, a principal purpose of the areal designation system is the arrangement and coding of basic data to facilitate machine handling. The code developed for this is in the form A-11.A1, consisting of two alphabetical characters and three digits. The alphabetic designations were adopted to permit the expansion of these spaces beyond ten digits while retaining the five-item code.

The alphabetical character to the left of the dash refers to the drainage province which corresponds to the regional water pollution control board boundaries, with the exception of the Los Angeles-Orange and Los Angeles-San Bernardino county boundaries. Drainage province designations and the corresponding water pollution control board region designations are as follows:

	Drainage Province Designation	Water Pollution Control Board Region Designation
Central Coastal	T	3
Los Angeles	U	4
Lahontan	W	6
Colorado River Basin	X	7
Santa Ana	Y	8
San Diego	Z	9

The last letters of the alphabet were used for the data in the southern portion of the State.

The final four positions of the areal designation code comprise two digits to the left of the decimal, which refer to the hydrologic unit, and one alphabetical character and one numerical digit to the right of the decimal, which refer to the hydrologic subunit and hydrologic subarea, respectively. The following is a sample of this code:

Areal Designation	Code
Los Angeles Drainage Province	U-00.00
Los Angeles-San Gabriel River Hydrologic Unit	U-05.00
Coastal Plain of Los Angeles County Hydrologic Subunit	U-05.A0
Palos Verdes Hydrologic Subarea	U-05.A1

West Coast Hydrologic Subarea	U-05.A2
Santa Monica Hydrologic Subarea	U-05.A3
Hollywood Hydrologic Subarea	U-05.A4
Central Hydrologic Subarea	U-05.A5
San Fernando Hydrologic Subunit	U-05.B0
San Fernando Hydrologic Subarea	U-05.B1
Sylmar Hydrologic Subarea	U-05.B2
Tujunga Hydrologic Subarea	U-05.B3
Verdugo Hydrologic Subarea	U-05.B4
Eagle Rock Hydrologic Subarea	U-05.B5

Attachments 1 through 6 list the code associated with each hydrologic subunit in Southern California along with name and number of the previously designated ground water basins.

Station Numbering Systems

In addition to the coding procedure to define areas of hydrologic significance within Southern California, it is necessary to identify each item of hydrologic information in order to provide for its analysis. The designation of several types of data is done simply by the name of the station, such as reservoirs in the case of storage data, agencies in case of water import and sewage export data, and at the present time both surface water stations and precipitation stations also have a common name designating or identifying the station. However, for filing and analysis, it has become convenient to identify these hydrologic data collection stations with their particular numbering system. This is imperative when large masses of data are involved.

The following is a description of station number systems used in this report.

Precipitation Station Numbering System. As used in this report, precipitation stations are identified by their latitude and longitude supplemented by the name of the station. A list of the stations used in this report, together with other data, are given in Appendix A.

Well Numbering System. The state well numbering system used in this report is based on township, range, and section subdivision of the Public Land Survey. It is the system used in all ground water investigations and for numbering all wells for which data are published or filed by the Department of Water Resources. In this report the number of a well, assigned in accordance with this system, is referred to as the state well number.

Under the system, each section is divided into 40-acre tracts lettered as follows:

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Note that I and O are omitted in the grid above.

Wells are numbered within each 40-acre tract according to the chronological sequence in which they have been assigned state well numbers.

For example, a well which has the number 16N/3E-17K1, M would be in Township 16 North, Range 3 East, Section 17, Mount Diablo Base and Meridian, and would be further designated as the first well assigned a state well number in tract K. Well numbers are referenced to the Mount Diablo Base and Meridian (M) or the San Bernardino Base and Meridian (S).

Surface Water Station Number System. In addition to the common terminology for a hydrologic data collection station on a body of surface water, such as the name of the stream and its place on the stream or the name of a reservoir, there are two commonly used numerical systems for identifying surface water hydrologic data collection stations.

The first system is a six-digit number used to identify stream-gaging stations, which system is based on a hydrologic area numbering concept. The first digit is an alphabetical designation for the hydrographic area; the second digit is a number and indicates the river basin; the third, a number, designates the reach of the stream; and the last three digits are sequence numbers which are assigned to the stations. The sequence numbers start at the downstream end of the reach and increase in the upstream direction. A list of these stations for which data are published is included in Appendix B, "Surface Water Flow".

The other system used to identify stations for the collection of surface water quality data is an arbitrary one consisting of two digits which define a particular surface water sample station. This system was started by the State Water Pollution Control Board in April 1951. Both number systems are supplemented by the name of the station. A list of stations for which data are published here and a map showing their locations are included in Appendix D.

Definition of Seasons

Reference is made to a number of periods or seasons in the description of water supply conditions presented in the ensuing chapters of this report. Because the time span for each of these periods or seasons depends upon the type of data being accumulated, the periods are defined in the following paragraphs.

Precipitation

Precipitation data cover the 12-month period, July 1 through June 30. This conforms to standard United States Weather Bureau practice.

Surface Runoff

Surface runoff data are compiled for the water year, which is the 12-month period of October 1 through September 30. Artificial recharge and imported water data are also related to this period.

Sewage Disposal

Because of local practice, sewage disposal data are reported for the 12-month period, July 1 through June 30.

Reservoir Storage

The quantity of water in storage in surface reservoirs having individual capacities in excess of 10,000 acre-feet is given as of October 1 of each year.

Ground Water Levels

The appendixes to this report contain ground water level data for the period July 1, 1962, through June 30, 1963. Because ground water levels are generally lowest in the fall (following the summer period of

heaviest extraction) and highest in the spring (following the winter period of recharge and reduced extractions), the fall and spring measurements of ground water elevations are considered to be the most significant and the most representative of the actual conditions of the ground water reserves. For this reason, most comparative measurements are made in the spring and the fall.

Prior Reports

One of the reports that the Bulletin No. 130 series has superseded is the Bulletin No. 39 series, entitled "Records of Ground Water Levels at Wells". The first one was published in 1932 as a part of the investigation initiated by Chapter 832, Statutes of 1929. Since then, water levels at selected wells have been published annually in Bulletins Nos. 39-A through 39-W, and Bulletins Nos. 39-56 through 39-62. Bulletin No. 39-56, the first of the numbered series, followed Bulletin No. 39-W without interruption in the annual continuity of data. This Bulletin No. 130-63 also follows Bulletin No. 39-62 without interruption in the annual continuity of data and inaugurates a more extensive compilation of hydrologic data.

Bulletins Nos. 65 and 66 commenced with reports covering the 1955-56 period and these reports continued through the publication of Bulletin No. 65-62, dated April 1965, and Bulletin No. 66-62, dated September 1964. The Bulletin No. 130 series succeeds the Bulletins Nos. 65 and 66 series without a break in the continuity of the data.

Since 1930, many bulletins covering various aspects of the hydrology of Southern California have been published by the Department of

Water Resources and its predecessor, the Division of Water Resources of the Department of Public Works. These bulletins include data on water use, ground water levels, quality of water, value and cost of water for irrigation, water losses and evaporation data, ground water geology, and evaluation of overdraft on ground water basins in Southern California.

In addition, water conditions reports are prepared by the Department of Water Resources as of the first of each month from February through May as the annual Bulletin No. 120 series. These reports contain forecasts of the anticipated runoff for the ensuing April to July snowmelt period. The May 1 report contains a section on ground water conditions as of the date of the report.

Contemporary Basic Data Reports

This report is one of several related reports issued annually by the Department of Water Resources, designed primarily to publish basic hydrologic data and to present discussions of water supply conditions. Concurrent reports, not all of which are published annually, are listed below. The year indicated is that of the latest publication.

Bulletin No.	
23-61	"Surface Water Flow for 1961". August 1963.
65-62	"Quality of Surface Waters in California, 1961". April 1965.
66-62	"Quality of Ground Waters in California, 1961-1962, Part II, Southern California". September 1964.
68-62	"Reclamation of Water from Sewage and Industrial Wastes in California, July 1, 1955 - June 30, 1962". June 30, 1962.
73	"Evaporation from Water Surfaces in California". October 1959.

77-60 "Ground Water Conditions in Central and Northern California; 1959-60", January 1963

91- 1 "Data on Wells in the West Part of the Middle Mojave Valley Area, San Bernardino County, California", June 1960

91- 2 "Data on Water Wells and Springs in the Yucca Valley-Twenty-nine Palms Area, San Bernardino and Riverside Counties, California", June 1960

91- 3 "Data on Water Wells in the Eastern Part of the Middle Mojave Valley Area, San Bernardino County, California", August 1960

91- 4 "Data on Water Wells in the Willow Springs, Gloster, and Chaffee Areas, Kern County, California", August 1960

91- 5 "Data on Water Wells in the Dale Valley Area, San Bernardino and Riverside Counties, California", March 1961

91- 6 "Data on Wells in the Edwards Air Force Base Area, California", June 1962

91- 7 "Data on Water Wells and Springs in the Chuckwalla Valley Area, Riverside County, California", May 1963

91- 8 "Data on Water Wells and Springs in Rice and Vidal Valley Areas, Riverside and San Bernardino Counties, California", May 1963

91- 9 "Data on Water Wells in Indian Wells Valley Area, Inyo, Kern, and San Bernardino Counties, California", May 1963

91-10 "Wells and Springs in the Lower Mojave Valley Area, San Bernardino County, California", December 1963

Definition of Terms

A list of definitions and terms as used herein follows:

Second-foot or cubic foot per second is a unit rate of discharge of water. It is a cubic foot of water passing a given point in one second.

Acre-foot, used in measuring the volume of water, equals the quantity of water required to cover one acre to a depth of one foot, 43,560 cubic feet or 325,850 gallons.

Drainage area of a stream at a specified location is that area which is enclosed by a drainage divide.

Unimpaired runoff is the flow that would occur naturally at a point in a stream if there were: (1) no upstream control such as dams and reservoirs; (2) no artificial diversions or accretions; and (3) no changes in ground water storage resulting from development. Unimpaired runoff is computed from measured flow allowing for man-made changes in natural conditions.

Water year is the 12-month period from October 1 of any year through September 30 of the subsequent year, and is designated by the calendar year in which it ends.

Mean is the average of a group of items obtained by adding together all items and dividing by the total number of items used.

Isohyetal line is a line connecting points of equal precipitation.

CHAPTER III. CLIMATE

As was pointed out earlier, the 1962-63 season was generally one of subnormal precipitation in most of Southern California. This was in marked contrast to the above average rainfall of the previous season. Further manifestations of this condition were the low runoff and decreased storage in those surface reservoirs storing only local waters, except in the Owens Valley area. The following pages discuss the precipitation situation in Southern California during the 1962-63 season.

Precipitation

Precipitation in coastal Southern California varied from slightly above normal in San Luis Obispo County, diminishing gradually in a southerly direction, as indicated in Table 1, to a minimum of 38 percent at San Diego. In the desert areas, it was well below normal, whereas in Inyo County, it was about normal. The general distribution of precipitation during the 1962-63 season is shown on Plate 2, "Precipitation During 1962-63 in Percent of 50-Year Mean Precipitation". It should be noted that Figure 2 is based upon water year, whereas Plate 2 is based upon fiscal year.

Plate 3, "Representative Precipitation Characteristics in Southern California", gives an indication of the effect of the 1962-63 season at selected stations on the long-range water supply. From this plate, it may be seen that, while above normal precipitation occurred in the extreme northern portion of coastal Southern California, the overall picture is one of extreme drought. The total precipitation that accumulated during the 19-year period of deficiency which began in 1944, approximates the precipitation of two to three normal years.

TABLE 1

SEASONAL AND MEAN PRECIPITATION AT
SELECTED STATIONS IN SOUTHERN CALIFORNIA

Station	County	50-year mean, 1897-1947, in inches	1962-63 season	
			In inches	In percent of mean
		Coastal		
Paso Robles	San Luis Obispo	15.82	17.09	108
San Luis Obispo	San Luis Obispo	21.68	24.80	114
Santa Maria	Santa Barbara	13.52	11.71	87
Santa Barbara	Santa Barbara	18.56	15.73	85
Ventura	Ventura	15.59	10.73	69
Los Angeles	Los Angeles	14.81	8.38	57
Pomona	Los Angeles	18.21	9.67	53
Santa Ana	Orange	14.16	5.89	42
San Bernardino	San Bernardino	17.21	8.31	48
Oceanside	San Diego	12.38	5.90	48
San Diego	San Diego	10.36	3.98	38
		Interior		
Bishop	Inyo	6.14	6.10	99
Barstow	San Bernardino	4.17	.96	23
Blythe	Riverside	4.03	1.83	45
Brawley	Imperial	2.40	1.37	57

Table 2 indicates the cumulative monthly precipitation at selected stations in Southern California. Note that the three stations in coastal Southern California receive most of their seasonal rainfall during the winter months, whereas the desert station at Barstow receives precipitation in a relatively more uniform sequence during the season.

Central Coastal Drainage Province (T),
(Santa Barbara and San Luis Obispo Counties)

Precipitation data for those hydrologic units or subunits in the San Luis Obispo and Santa Barbara portions of the Central Coastal

TABLE 2

CUMULATIVE MONTHLY PRECIPITATION
AT SAN LUIS OBISPO, LOS ANGELES,
SAN DIEGO AND BARSTOW

Month	Cumulative monthly precipitation at San Luis Obispo			Cumulative monthly precipitation at Los Angeles			Cumulative monthly precipitation at San Diego			Cumulative monthly precipitation at Barstow		
	50-year mean 1897-1947, in inches	1962-63 Season In inches	1962-63 Season In percent of mean	50-year mean 1897-1947, in inches	1962-63 Season In inches	1962-63 Season In percent of mean	50-year mean 1897-1947 in inches	1962-63 Season In inches	1962-63 Season In percent of mean	50-year mean 1897-1947 in inches	1962-63 Season In inches	1962-63 Season In percent of mean
July	0.00	0.00	0	0.01	0.00	0	0.03	0.00	0	0.15	0.00	0
August	0.04	0.00	0	0.03	0.00	0	0.09	0.00	0	0.41	0.00	0
September	0.27	0.00	0	0.31	0.00	0	0.23	0.00	0	0.58	0.00	0
October	1.08	1.52	140	0.90	0.12	13	0.79	0.01	1	0.87	0.24	28
November	2.76	1.56	57	1.96	0.12	6	1.61	0.02	1	1.16	0.24	21
December	6.56	4.29	65	4.46	0.12	3	3.59	0.24	7	1.75	0.31	18
January	11.50	7.85	68	7.41	0.64	9	5.51	0.35	6	2.41	0.31	13
February	16.02	15.93	99	10.78	3.52	33	7.67	1.57	20	3.04	0.44	14
March	19.62	20.54	105	13.45	6.30	47	9.32	2.90	31	3.72	0.61	16
April	20.96	24.38	116	14.40	8.24	57	10.05	3.61	36	3.98	0.90	23
May	21.54	24.71	115	14.74	8.24	56	10.32	3.70	36	4.08	0.90	22
June	21.68	24.80	114	14.81	8.38	57	10.36	3.98	38	4.17	0.96	23

Drainage Province are presented in Table 3; the location of the units is shown on Plate 4, "Location of Wells at Which Water Level Fluctuations are Shown, Central Coastal Drainage Province (T)".

TABLE 3

AVERAGES OF INDEXES OF PRECIPITATION FOR STATIONS IN HYDROLOGIC UNITS IN CENTRAL COASTAL DRAINAGE PROVINCE FOR THE 1962-63 SEASON

Hydrologic unit or subunit	Code	Number of stations	Average index
Paso Robles Hydrologic Subunit	T-09.H0	7	86
San Luis Obispo Hydrologic Subunit	T-10.B0	3	98
Carrizo Plain Hydrologic Unit	T-11.00	1	79
Santa Maria Hydrologic Subunit	T-12.A0	1	87
Sisquoc Hydrologic Subunit	T-12.B0	1	75
Cuyama Valley Hydrologic Subunit	T-12.C0	1	59
San Antonio Hydrologic Unit	T-13.00	2	82
Lompoc Hydrologic Subunit	T-14.A0	1	80
Santa Ynez Hydrologic Subunit	T-14.D0	1	63
Headwater hydrologic Subunit	T-14.E0	3	65
Arguello Hydrologic Subunit	T-15.A0	2	70
South Coast Hydrologic Subunit	T-15.C0	3	89
Central Coastal Drainage Province, San Luis Obispo and Santa Barbara Counties	T	26	78

Precipitation in this area varied from a minimum of 59 percent of the mean for the 50-year period 1897-98 through 1946-47 in the Cuyama Valley Hydrologic Subunit to a maximum of 98 percent of the mean in the San Luis Obispo Hydrologic Subunit. In general, the precipitation indexes are somewhat higher in San Luis Obispo County than they are in Santa Barbara County with the City of San Luis Obispo recording 24.80 inches for an index of 114 while the City of Santa Barbara had only 15.73 inches for an index of 85. The average of precipitation indexes for the 26 stations in the province was 78 percent of the mean.

There were no reports of weather modification activities in this province during the 1962-63 water year.

Los Angeles Drainage Province (U)

In the Los Angeles Drainage Province, the average precipitation index for the 1962-63 season was 57 percent of the 50-year mean, 1897-98 through 1946-47 as shown in Table 4. The average areal precipitation index

TABLE 4

AVERAGES OF INDEXES OF PRECIPITATION FOR STATIONS IN HYDROLOGIC UNITS IN LOS ANGELES DRAINAGE PROVINCE FOR THE 1962-63 SEASON

Hydrologic unit or subunit	Code	Number of stations	Average index
Lower Ventura River Hydrologic Subunit	U-02.A0	3	68
Upper Ventura River Hydrologic Subunit	U-02.B0	5	71
Ojai Hydrologic Subunit	U-02.C0	5	56
Oxnard Plain Hydrologic Subunit	U-03.A0	6	61
Santa Paula Hydrologic Subunit	U-03.B0	6	58
Sespe Hydrologic Subunit	U-03.C0	7	65
Piru Hydrologic Subunit	U-03.D0	5	56
Upper Santa Clara River Hydrologic Subunit	U-03.E0	21	45
Calleguas-Conejo Hydrologic Subunit	U-03.F0	11	64
Topanga Hydrologic Subunit	U-04.A0	1	61
Malibu Creek Hydrologic Subunit	U-04.B0	1	78
Camarillo Hydrologic Subunit	U-04.D0	1	71
Coastal Plain of Los Angeles County Hydrologic Subunit	U-05.A0	55	67
San Fernando Hydrologic Subunit	U-05.B0	44	52
Raymond Hydrologic Subunit	U-05.C0	24	53
San Gabriel Valley Hydrologic Subunit	U-05.D0	43	48
Spadra Hydrologic Subunit	U-05.E0	7	56
Anaheim Hydrologic Subunit	U-05.F0	11	59
Los Angeles Drainage Province	U	256	57

for the units and subunits (shown on Plate 5, "Location of Wells at Which Water Level Fluctuations are Shown, Los Angeles Drainage Province (U)") within the province ranged from a low of 45 percent in the Upper Santa Clara River Hydrologic Subunit in Los Angeles County to a high of 78 percent in Malibu Creek Hydrologic Subunit in coastal Los Angeles County. Precipitation, as measured at the U. S. Weather Bureau Station located

atop the Federal Building in downtown Los Angeles, amounted to 8.38 inches, or 57 percent of the 50-year mean, which was 45 percent of the previous year's precipitation.

Weather modification operations were conducted by the Los Angeles County Flood Control District in the drainage area above San Gabriel Dam where ground-based silver iodide smoke generators were operated for a total of 602 hours during the season.

Lahontan Drainage Province (W), (Southern Portion)

In the Lahontan region, precipitation indexes were on the same order as those for the rest of Southern California, varying from a minimum of 23 percent of the mean in the Lower Mojave Hydrologic Unit to a high of 98 percent in Deep Springs Unit, as presented in Table 5. The locations of the units are shown on Plate 6, "Location of Wells at Which Water Level Fluctuations are Shown, Lahontan Drainage Province (W)". It is noted that

TABLE 5

AVERAGES OF INDEXES OF PRECIPITATION FOR STATIONS IN HYDROLOGIC UNITS IN LAHONTAN DRAINAGE PROVINCE FOR THE 1962-63 SEASON

Hydrologic unit or subunit	Code	Number of stations	Average index
Mono Hydrologic Unit	W-01.00	3	95
Upper Owens Hydrologic Subunit	W-03.B0	8	40
Lower Owens Hydrologic Subunit	W-03.C0	7	55
Deep Springs Hydrologic Unit	W-05.00	1	98
Searles Hydrologic Subunit	W-21.A0	1	39
Rose Hydrologic Subunit	W-24.A0	1	62
Indian Wells Hydrologic Subunit	W-24.B0	1	45
Antelope Hydrologic Subunit	W-26.A0	34	40
El Mirage Hydrologic Subunit	W-28.A0	1	28
Upper Mojave Hydrologic Subunit	W-28.B0	4	42
Lower Mojave Hydrologic Subunit	W-28.E0	1	23
Baker Hydrologic Subunit	W-28.H0	1	72
Lahontan Drainage Province	W	63	46

the pattern for this area is similar to that along the coast with the higher precipitation index values found in the more northern hydrologic units.

No weather modification activities were reported for the 1962-63 season in the Lahontan Drainage Province.

Colorado River Basin Drainage Province (X)

The average precipitation index for this province for the 1962-63 season was 47 percent of the 50-year mean 1897-98 through 1946-47, as shown on Table 6. The maximum precipitation index for this area was observed in the Ward Hydrologic Unit with minimums being recorded in the Needles and Coyote Wells Subunits. The locations of the units are shown on Plate 7, "Location of Wells at Which Water Level Fluctuations are Shown, Colorado River Basin Drainage Province (X)".

TABLE 6

AVERAGES OF INDEXES OF PRECIPITATION FOR STATIONS IN HYDROLOGIC UNITS IN COLORADO RIVER BASIN DRAINAGE PROVINCE FOR THE 1962-63 SEASON

Hydrologic unit or subunit	Code	Number of stations	Average index
Emerson Hydrologic Unit	X-05.00	1	39
Twentynine Palms Hydrologic Subunit	X-09.A0	1	44
Ward Hydrologic Unit	X-12.00	1	80
Needles Hydrologic Subunit	X-13.C0	1	32
Vidal Hydrologic Subunit	X-15.A0	1	66
Palo Verde Hydrologic Subunit	X-15.D0	3	47
Palen Hydrologic Subunit	X-17.B0	1	60
Hayfield Hydrologic Unit	X-18.00	1	42
Morongo Hydrologic Subunit	X-19.A0	1	34
San Gorgonio Hydrologic Subunit	X-19.C0	3	53
Coachella Hydrologic Subunit	X-19.D0	12	51
Borrego Hydrologic Subunit	X-22.A0	2	33
Mescal Bajada Hydrologic Subunit	X-22.C0	1	51
Imperial Hydrologic Subunit	X-23.A0	5	42
Coyote Wells Hydrologic Subunit	X-23.B0	1	32
Colorado River Basin Drainage Province	X	35	47

There were no reports of weather modification activities in this province during the 1962-63 season.

Santa Ana Drainage Province (Y)

Precipitation was generally uniform throughout this province in terms of the percentage of the 50-year mean, which was 47 percent for the 1962-63 season. Available data indicate a minimum index of 30 percent at the Lake Mathews Hydrologic Subunit, with a maximum index of 55 percent being recorded in the San Bernardino Mountain Hydrologic Subunit. The average indexes of precipitation for stations within the Santa Ana Drainage Province are shown in Table 7, with the location of the units shown on Plate 8, "Location of Wells at Which Water Level Fluctuations are Shown, Santa Ana Drainage Province (Y)". Measured seasonal precipitation at the U. S. Weather Bureau Stations in Santa Ana and San Bernardino amounted to 5.89 and 8.31 inches, respectively, or 42 and 48 percent of the mean.

TABLE 7

AVERAGES OF INDEXES OF PRECIPITATION FOR STATIONS IN HYDROLOGIC UNITS IN SANTA ANA DRAINAGE PROVINCE FOR THE 1962-63 SEASON

Hydrologic unit or subunit	Code	Number of stations	Average index
Lower Santa Ana Hydrologic Subunit	Y-01.A0	27	49
Middle Santa Ana Hydrologic Subunit	Y-01.B0	24	46
Lake Mathews Hydrologic Subunit	Y-01.C0	3	30
Colton-Rialto Hydrologic Subunit	Y-01.D0	10	47
Upper Santa Ana Hydrologic Subunit	Y-01.E0	9	50
San Timoteo Hydrologic Subunit	Y-01.F0	1	45
San Bernardino Mountain Hydrologic Subunit	Y-01.G0	1	55
Perris Hydrologic Subunit	Y-02.A0	1	48
San Jacinto Hydrologic Subunit	Y-02.B0	3	49
Elsinore Hydrologic Subunit	Y-02.C0	1	47
Santa Ana Drainage Province	Y	80	47

Weather modification operations were conducted by the San Bernardino Valley Municipal Water District in the Santa Ana River watershed during the 1962-63 season. A total of 1,349 hours of operation was logged, using ground-based silver iodide smoke generators.

San Diego Drainage Province (Z)

Precipitation index in the San Diego Drainage Province was below normal for the fifth year in a row and the fifteenth since the present drought period began in 1944. The precipitation index for this province for the 1962-63 season was 45 percent. It will be noted from data presented in Table 8 that the areal average precipitation indexes ranged from a low of 28 percent in the Point Loma Hydrologic Subunit in the southern end of the province to a high of 63 percent in the Laguna Hydrologic Subunit situated on the coast in the northern extremities. The location of these units is shown on Plate 9, "Locations of Wells at Which Water Level Fluctuations are Shown, San Diego Drainage Province (Z)". Measured seasonal precipitation at the City of San Diego was only 3.98 inches, or 38 percent of the mean. The precipitation at San Diego during February 1963 was the smallest ever recorded during February for the 113 years of historical records. February is normally in the middle of the rainy season.

Weather modification operations were conducted by the Vista Irrigation District in the watershed of the San Luis Rey River above Lake Henshaw, where ground-based silver iodide smoke generators were operated for a total of 245 hours during the season.

TABLE 8

AVERAGES OF INDEXES OF PRECIPITATION FOR STATIONS IN HYDROLOGIC UNITS IN SAN DIEGO DRAINAGE PROVINCE FOR THE 1962-63 SEASON

Hydrologic units or subunits	Code	Number of stations	Average index
Laguna Hydrologic Subunit	Z-01.A0	2	63
San Juan Hydrologic Subunit	Z-01.B0	4	39
San Clemente Hydrologic Subunit	Z-01.C0	1	48
Ysidora Hydrologic Subunit	Z-02.A0	1	48
Anza Hydrologic Subunit	Z-02.G0	1	58
Bonsall Hydrologic Subunit	Z-03.A0	1	42
Monserate Hydrologic Subunit	Z-03.B0	1	47
Warner Hydrologic Subunit	Z-03.C0	2	42
Loma Alta Hydrologic Subunit	Z-04.A0	1	53
San Marcos Hydrologic Subunit	Z-04.E0	1	43
Escondido Hydrologic Subunit	Z-04.F0	1	43
San Dieguito Hydrologic Subunit	Z-05.A0	2	42
Santa Maria Valley Hydrologic Subunit	Z-05.D0	1	53
Santa Ysabel Hydrologic Subunit	Z-05.E0	2	48
Soledad Hydrologic Subunit	Z-06.A0	1	41
Poway Hydrologic Subunit	Z-06.B0	1	50
Lower San Diego Hydrologic Subunit	Z-07.A0	4	49
Cuyamaca Hydrologic Subunit	Z-07.D0	3	42
Point Loma Hydrologic Subunit	Z-08.A0	1	28
San Diego Mesa Hydrologic Subunit	Z-08.B0	2	44
Paradise Hydrologic Subunit	Z-08.C0	1	36
Lower Sweetwater Hydrologic Subunit	Z-09.A0	4	41
Middle Sweetwater Hydrologic Subunit	Z-09.B0	1	57
Upper Sweetwater Hydrologic Subunit	Z-09.C0	1	44
Otay Hydrologic Subunit	Z-10.B0	1	30
Potrero Hydrologic Subunit	Z-11.B0	1	48
Campo Hydrologic Subunit	Z-11.H0	1	36
San Diego Drainage Province	Z	43	45

Data Collection Activities

The data collection activities of the Department of Water Resources in the field of climatology are composed of operation of stations in relation to the State Water Facilities. In this regard, the Department operates and maintains climatological stations in the vicinity of proposed reservoirs in Southern California and has enlisted the

cooperation of local agencies in assisting the Department in these efforts. The Department also collects and compiles data obtained by federal and local agencies, constituting by far the major part of the data. In addition, the Department of Water Resources has purchased meteorological equipment which is on loan to local governmental agencies for the collection of meteorological data by local personnel, providing for the completion of networks for climatological data collection.

CHAPTER IV. SURFACE WATER FLOW

Runoff in Southern California was generally far below normal during the 1962-63 water year, with the exception of the Owens River where 94 percent of the mean runoff below Long Valley was recorded. This situation in the Sierras was due, in part, to the late precipitation of the previous season and near normal precipitation for the current season in the Long Valley-Mono Lake area. Of particular concern is the San Diego Drainage Province where runoff in percent of the long-term mean approached the all-time low of the 1960-61 season.

This chapter discusses not only runoff but also discharge of surface water to the ocean, storage in surface reservoirs, Colorado River diversions, other imported water, and sewage discharge to the ocean. It concludes with details on the data collection activities of the Department.

Runoff

The estimated unimpaired runoff (runoff unaffected by the works of man) for selected stations representative of conditions in Southern California is presented in Table 9, together with a comparison of the mean for the 53-year period, 1894-95 through 1946-47. Estimated or measured maximum and minimum flows for each station during the period of record are also indicated.

Typical of most streams in coastal Southern California was the Arroyo Seco near Pasadena where the measured unimpaired runoff was 25 percent of normal. The measured flow of the Colorado River at Lee's Ferry, Arizona, uncorrected for upstream storage or diversion, was 6,268,000 acre-feet, or 53 percent of the average for the 34-year period 1922-23 through

TABLE 9

ESTIMATED 1962-63 SEASONAL UNIMPAIRED RUNOFF AT SELECTED STATIONS IN SOUTHERN CALIFORNIA

In acre-feet

Station	Period of record	1962-63	53-year mean[a]	Percent of mean	Maximum[b]		Minimum[b]	
					Season	Quantity	Season	Quantity
Central Coastal Drainage Province								
Arroyo Grande at Arroyo Grande	1939 to date	5,700[c]	23,900	24	1906-07	76,200	1930-31	800
Huasna River near Arroyo Grande	1959 to date	900	17,200[d]	5	1906-07	64,730[d]	[e]	0[d]
Los Angeles Drainage Province								
Sespe Creek near Fillmore	1911-13							
	1927 to date	15,500	93,900	17	1940-41	376,000	1950-51	3,520
Arroyo Seco near Pasadena	1910 to date	1,800	7,300	25	1921-22	25,400	1898-99	160
Santa Anita Creek near Sierra Madre	1916 to date	1,700	4,920	34	1942-43	16,600	1898-99	210
San Gabriel River near Azusa	1894 to date	24,600	122,000	20	1921-22	419,000	1960-61	1,250
Lahontan Drainage Province								
Owens River below Long Valley	1916 to date	157,800	168,500	94	1906-07	292,000	1930-31	73,010
Rock Creek near Valyermo	1923-37							
	1938 to date	3,400	15,000	22	1921-22	39,000	1950-51	1,380
Deep Creek near Hesperia	1904-22							
	1929 to date	5,600	47,100[f]	12	1921-22	177,000[g]	1960-61	4,240[g]
Colorado River Basin Drainage Province								
Colorado River at Lee's Ferry	1911 to date	6,268,000	11,800,000[ch]	53	1916-17	21,860,000[cg]	1933-34	4,377,000[cg]
Colorado River at Hoover Dam	1933 to date	8,810,000	11,168,000[cj]	79	1941-42	17,880,000[cg]	1933-34	5,058,000[cg]

ESTIMATED 1962-63 SEASONAL UNIMPAIRED RUNOFF AT
SELECTED STATIONS IN SOUTHERN CALIFORNIA
(continued)

In acre-feet

Station	Period of record	1962-63	53-year mean[a]	Percent of mean	Maximum[b]		Minimum[b]	
					Season	Quantity	Season	Quantity
Colorado River Basin Drainage Province (continued)								
Colorado River at Yuma	1878 to date	1,134,000	5,646,000[cj]	20	1908-09	26,070,000[cg]	1960-61	707,270[cg]
Palm Canyon Creek near Palm Springs	1930-41	40	3,580[k]	1	1936-37	18,980[g]	1955-56	0.2[g]
Santa Ana Drainage Province								
Cucamonga Creek near Upland	1928 to date	1,560	6,190	25	1921-22	20,900	1898-99	930
Santa Ana River near Mentone	1896 to date	17,850	70,600	25	1915-16	280,000	1950-51	13,090
San Diego Drainage Province								
Murrieta Creek at Temecula	1930 to date	1,480	8,670	17	1915-16	60,300	1960-61	320
Santa Ysabel Creek at Sutherland Dam	1936 to date	310	15,200	2	1915-16	95,200	1960-61	130
Cottonwood Creek at Morena Dam	1911 to date	140	12,400	1	1915-16	75,300	1960-61	70

a. Mean for period 1894-95 through 1946-47, except as noted.
b. Indicated maxima and minima are recorded or estimated values for period 1894-95 to date except as noted.
c. Measured runoff, unadjusted for upstream development.
d. Huasna River, Arroyo Grande 53-year mean computed from Santa Maria Station.
e. Zero flow reported for eleven seasons.
f. Average for period 1920-21 through 1949-50.
g. Indicated maxima and minima are recorded or estimated values for a given period of record.
h. Average for period 1922-23 through 1955-56.
j. Average for period 1936-37 through 1955-56.
k. Average for period 1930-31 through 1940-41 and 1947-48 through 1957-58.

1955-56. This was approximately 8,000,000 acre-feet less than the previous year, a portion of which can be accounted for by the retention of water behind Glen Canyon Dam in Lake Powell which started filling in January 1963 and, as of October 1, 1963, contained 2,535,000 acre-feet.

Historical unimpaired runoff and the accumulated deviation from the mean seasonal unimpaired seasonal runoff for four selected streams for the period 1894 to the present are delineated on Plate 10, "Representative Runoff Characteristics in Southern California".

Because most runoff of water from the forested watersheds in Southern California is trapped behind dams for later release to spreading grounds, the discharge to the ocean is held at a minimum and is composed primarily of runoff from urban areas on the coastal plains. Runoff from these areas is not economically susceptible to interception. Waste from industries is also discharged to the Pacific Ocean.

Table 10 presents data for the 1962-63 season on discharge from the larger streams which drain a major portion of coastal Southern California. For comparison, flow data for the preceding year are also included in the table. This discharge is in general directly responsive to precipitation. The discharge during the 1962-63 season was no exception to the general trend since 1945 and is a further manifestation of the below-normal precipitation.

Storage in Surface Reservoirs

The amount of water in storage in selected reservoirs as of October 1, 1963, in or supplying water to Southern California is presented in Table 11. So that a comparison can be made, the storage as of October 1 of the previous year is also presented.

TABLE 10

ESTIMATED SEASONAL DISCHARGE TO THE PACIFIC OCEAN
AND TIDAL ESTUARIES FROM SELECTED STREAMS
IN SOUTHERN CALIFORNIA DURING
1961-62 AND 1962-63

In acre-feet

Drainage province and stream	1961-62	1962-63
Central Coastal		
Santa Maria River	24,280	0
Santa Ynez River	70,990	5,090
Los Angeles		
Ventura River	59,100	2,600
Santa Clara River	224,580	6,210
Ballona Creek	50,120	21,480
Dominguez Channel	32,220	18,980
Los Angeles River	177,500	54,690
Los Cerritos Channel	7,490	4,610
San Gabriel River*	45,600	13,130
Santa Ana		
Santa Ana River	4,040	1,230
Santa Ana Delhi Drain	No record	No record
San Diego		
Peters Canyon Drain	1,910	1,010
Aliso Creek	180	60
Trabuco Creek	910	60
San Juan Creek	6,000	400
Santa Margarita River	0	0
San Luis Rey River	0	0
TOTALS	704,920	129,550

*Includes discharge from Coyote Creek.

In coastal Southern California the amount of local water stored in surface reservoirs with individual capacities of 10,000 acre-feet or more amounted to approximately 280,000 acre-feet as of October 1, 1963,

TABLE 11

WATER IN STORAGE IN SELECTED SURFACE RESERVOIRS IN OR SUPPLYING WATER TO SOUTHERN CALIFORNIA ON OCTOBER 1, 1962 AND OCTOBER 1, 1963

Drainage province and stream	Reservoir	Capacity, in acre-feet	Water in storage, in acre-feet		Water in storage, in percent of capacity	
			October 1, 1962	October 1, 1963	October 1, 1962	October 1, 1963
Central Coastal						
Old Creek	Whale Rock	40,000	7,157	11,690	17.9	29.2
Santa Ynez River	Gibraltar	14,780	9,915	8,826	67.1	59.7
	Cachuma	205,800	190,387	171,736	92.5	83.4
Los Angeles						
Coyote Creek	Casitas	248,000	49,401	48,496	19.4	19.6
Piru Creek	Lake Piru	100,000	25,690	12,648	25.7	12.6
Bouquet Creek	Bouquet Canyon[a]	36,510	25,665	27,514	70.3	75.4
Lahontan						
Rush Creek	Grant Lake[a]	47,530	22,064	46,544	46.4	97.9
Owens River	Long Valley[a] (Lake Crowley)	183,470	117,366	170,595	64.0	93.0
Rose Valley	Haiwee (South)[a]	58,530	34,924	33,675	59.7	57.5
Colorado River Basin						
Colorado River	Lake Mead	27,207,000	23,624,000	17,371,000	86.8	63.8
	Lake Mojave	1,810,000	1,349,000	1,406,400	74.5	77.7
	Lake Havasu	619,000	566,700	540,900	91.6	87.4

WATER IN STORAGE IN SELECTED SURFACE RESERVOIRS IN
OR SUPPLYING WATER TO SOUTHERN CALIFORNIA
ON OCTOBER 1, 1962 AND OCTOBER 1, 1963
(continued)

Drainage province and stream	Reservoir	Capacity, in acre-feet	Water in storage, in acre-feet		Water in storage, in percent of capacity	
			October 1, 1962	October 1, 1963	October 1, 1962	October 1, 1963
Santa Ana						
Bear Creek	Bear Valley	72,170	7,100	2,810	9.8	3.9
San Jacinto River	Lake Hemet	13,400	647	518	4.8	3.9
	Railroad Canyon	14,700	515	1,910	3.5	13.0
Cajalco Creek	Lake Mathews	182,000	103,022	170,779	56.6	93.8
Santiago Creek	Santiago	25,000	3,790	2,870	15.2	11.5
San Diego						
Temecula Creek	Vail	49,500	1,646	1,585	3.3	3.2
San Luis Rey River	Lake Henshaw	194,320	5,896	4,990	3.0	2.6
Santa Ysabel Creek	Sutherland	29,680	3,238	2,948	10.9	9.9
San Dieguito River	Lake Hodges	33,550	3,918[b]	3,032	11.7	9.0
San Vicente Creek	San Vicente Lake	90,230	50,068[b]	57,856	55.5	64.1
Boulder Creek	Cuyamaca	11,600	0	0.2	0	--
San Diego River	El Capitan Lake	112,810	9,752	8,336	8.6	7.4
Sweetwater River	Lake Loveland	25,250	1,589	1,417	6.3	5.6
	Sweetwater (Main)	27,150	2,567	2,502	9.5	9.2
Cottonwood Creek	Morena Lake	50,210	526	342	1.0	0.7
Otay River	Barrett Lake	44,750	1,495	1,246	3.3	2.8
	Lower Otay Lake	56,520	3,734[c]	3,185	6.6	5.6

a. Component of the aqueduct system of the City of Los Angeles.
b. Includes Colorado River water imported via Colorado River Aqueduct.
c. Includes Colorado River water imported via Colorado River Aqueduct and San Diego Aqueduct.

or 23 percent of total capacity. This is approximately 35,000 acre-feet less than that in storage on October 1, 1962. Reservoirs storing either imported water or a mixture of imported and local waters, including the Owens Aqueduct system, contained 518,500 acre-feet of water, or 70 percent of capacity, on October 1, 1963, compared to 370,000 in storage on October 1, 1962. This increase is due both to the enlargement of Lake Mathews where an increase in storage of approximately 80,000 acre-feet was indicated and an increase in the amount of storage of 53,000 acre-feet in Lake Crowley on the Owens River.

In San Diego County, the total water in storage as of October 1, 1963, amounted to 87,400 acre-feet, or 12 percent of total storage capacity. This was an increase of only 3,000 acre-feet of water despite an importation and storage of 228,800 acre-feet of Colorado River water during the 1962-63 water year.

Those reservoirs in the Owens Valley belonging to the City of Los Angeles Department of Water and Power contained a total of 251,000 acre-feet of water on October 1, 1963, or 87 percent of capacity. This compares to 174,000 acre-feet in storage on October 1 of the previous year.

Waters stored in the major reservoirs of the lower Colorado River, including Lake Powell, amounted to 21,853,000 acre-feet as of October 1, 1963. This was 14 percent less than the amount of water stored in these reservoirs on October 1, 1962.

Water Imported to Coastal Southern California

Water imported to Southern California by both the City of Los Angeles Department of Water and Power and The Metropolitan Water District of Southern California during the 1962-63 season totaled

1,365 764 acre-feet, which represents an increase of 20 868 acre-feet over that imported during the previous year. Plate 11, "Historical Importations of Water to Coastal Southern California", graphically presents these importations.

Deliveries of water through the Colorado River Aqueduct as measured at the Hayfield Pumping Plant, which is located approximately 125 miles west of the intake at Lake Havasu, were 1,054,222 acre-feet for the 1962-63 water year, an increase of 4 percent from the 1961-62 season. Deliveries of water to member agencies of The Metropolitan Water District of Southern California totaled 964,540 acre-feet during the water year, a decrease of about 3 percent over the previous year. Data for the 1961-62 and 1962-63 water year deliveries of Colorado River water to each of the coastal counties are presented in Table 12. The difference in the values for the volume of water measured at the Hayfield Pumping Plant and the sum

TABLE 12

COLORADO RIVER WATER IMPORTED TO COUNTIES
IN COASTAL SOUTHERN CALIFORNIA
DURING 1961-62 AND 1962-63 WATER YEAR

County	Seasonal import, in acre-feet		Percent change
	1961-62	1962-63	
Los Angeles	464,100	379,684	-18
San Diego	187,630	228,839	+22
Orange	291,020	294,687	+ 1
Riverside	41,140	52,602	+28
San Bernardino	6,520	8,728	+34
TOTALS	990,410	964,540	- 3

of the deliveries to the various counties shown in Table 12 is accounted for primarily by change of storage in Lake Mathews. Distribution system losses are also contributing factors.

The Department of Water and Power of the City of Los Angeles imported a total of 311,542 acre-feet of water through its aqueduct system from Owens Valley. The aqueduct was operated at full capacity during the 1962-63 water year except for short periods of shutdown for maintenance.

Net diversions of water from the Colorado River by principal water agencies in California during the 1963 calendar year amounted to 5,058,646 acre-feet. This is a decrease of 2,834 acre-feet from the volume diverted during the 1962 year. Table 13 presents quantities of water diverted from the Colorado River for use in California by each principal

TABLE 13

QUANTITIES OF WATER DIVERTED FROM
THE COLORADO RIVER FOR USE IN CALIFORNIA
DURING 1962 AND 1963

Agency	Diversion, in acre-feet		Percent change
	1962	1963	
The Metropolitan Water District of Southern California	1,063,060	1,046,190	- 2
Palo Verde Irrigation District	381,180	367,026	- 4
Imperial Irrigation District	3,006,130	3,062,490	+ 2
Coachella Valley County Water District	564,740	537,640	- 5
Yuma Project (Reservation Division)	46,370	45,300	- 2
TOTALS	5,061,480	5,058,646	0

agency during the 1962 and the 1963 calendar years. A historical record of net diversions of Colorado River water to California from calendar years 1935 to 1963 is shown graphically on Plate 12, "Net Diversions of Water to California from the Colorado River".

Sewage Discharge to the Pacific Ocean and Tidal Estuaries

Sewage effluent discharged to the Pacific Ocean and tidal estuaries, through 12 outfalls which dispose of essentially all such effluent along the coast, amounted to approximately 800,000 acre-feet during the 1962-63 fiscal year. This is about 2 percent more than that discharged during the previous year. The amount of effluent discharged through each outfall during the 1962-63 season compared with discharges during the 1961-62 season, is shown on Table 14.

The International Outfall Sewer near Tijuana was abandoned on July 10, 1962, and permanently sealed. The sewage from San Ysidro was diverted to the stabilization pond at San Ysidro on July 10, 1962. The sewage from Tijuana was diverted permanently to sewage disposal projects located entirely in Mexico on March 23, 1962.

Data Collection Activities

The extent of streamflow data collection activities by the Department of Water Resources in Southern California is limited to the construction, operation, and maintenance of stream-gaging stations in the vicinity of the State Water Facilities, located on Piru Creek, Castaic Creek, Elizabeth Lake Canyon Creek, and tributaries to the West Fork of the Mojave River. In addition to measurements collected at these stations, incidental measurements of surface water flow are made by Department of

TABLE 14

SEWAGE DISCHARGE TO THE PACIFIC OCEAN AND TIDAL ESTUARIES FROM MAJOR DISPOSAL FACILITIES IN SOUTHERN CALIFORNIA DURING 1961-62 AND 1962-63

Station	Discharge, in acre-feet		Percent change
	1961-62	1962-63	
City of Santa Barbara	6,570	6,370	- 3
City of Ventura	3,400*	3,070*	-10
City of Oxnard	4,720	5,000	+ 6
City of Los Angeles			
Hyperion	311,630	317,850	+ 2
Terminal Island	7,930	7,820	- 1
County Sanitation Districts of Los Angeles County	312,100	317,200	+ 2
County Sanitation Districts of Orange County	82,260	87,910	+ 7
City of San Diego	54,650	53,850*	- 1
City of Coronado	1,390*	1,390*	0
City of Chula Vista	3,440*	3,560*	+ 3
International Outfall Sewer	2,150	6**	--
TOTALS	790,240	804,026	+ 2

*Estimated
**No sewage discharged after July 10, 1962. Outfall has been permanently sealed and abandoned.

Water Resources personnel from time to time during investigations or emergency situations.

The majority of surface water flow data collection in Southern California is done by the U. S. Geological Survey or local water agencies. A major part of the activities of the Geological Survey in Southern California in the construction, operation, and maintenance of stream-gaging stations for hydrologic data collection is conducted on a cooperative basis between the State of California and the United States, whereby the State of California provides funds on a matching basis to the Geological Survey.

Local agencies in Southern California also obtain streamflow records for operational or hydrologic purposes. Streamflow measurement is published in this series to supplement existing publications of streamflow measurements in Southern California.

CHAPTER V. GROUND WATER SUPPLY CONDITIONS

Ground water levels generally declined in Southern California during the 1962-63 season in continuation of the long-term trend illustrated by the hydrographs on Plates 13A and 13B, "Hydrographs of Ground Water Levels at Selected Wells in Southern California". The decline of water levels in many areas can be attributed to the below-normal precipitation for the season which prevented normal recharge of the ground water supply. Continued overdraft of available ground water supplies was also a factor in many basins.

This chapter deals not only with measurements of ground water levels, but also with the artificial recharge being done in Southern California, and with quality of ground water.

Ground Water Levels

A tabulation of all available ground water level observations for Southern California is given in Appendix C. A brief summary of ground water level changes between the spring of 1962 and the spring of 1963 is presented here for each of the drainage provinces. It should be noted that changes in levels are determined by a simple arithmetic average of available measurements. No attempt has been made to select wells according to the size or importance of the ground water basins involved. Also presented are the observed extremes in depth to ground water and the wells where they occurred.

Central Coastal Drainage Province (T), (Santa Barbara and San Luis Obispo Counties)

Estimated changes in ground water levels for the southern part of the Central Coastal Drainage Province between the spring of 1962 and

the spring of 1963 are given in Table 15. Ground water levels changed 2 feet or less in 20 out of 24 hydrologic areas tabulated. The changes shown that are greater than 2 feet may not be conclusive due to the small number of wells involved.

Los Angeles Drainage Province (U)

Estimated changes of ground water levels for the Los Angeles Drainage Province between the spring of 1962 and the spring of 1963 are given in Table 16. Ground water levels declined in 29 of the 46 hydrologic areas tabulated, 6 remained substantially the same, and 11 increased. The 15-foot rise in the Piru Subarea (U-03.D1) can be attributed to the spreading of local water in the area. Water spreading also accounted for the 7-foot rise shown for the Central Subarea (U-05.A5), except that most of the water spread was imported Colorado River water and that control of pumping was also a factor. The 12-foot rise in the Anaheim Subarea (U-05.F1) was also due mostly to the spreading of imported Colorado River water and control of pumping. The Anaheim Subarea is adjacent to the East Coastal Plain Subarea (Y-01.A1) in the Santa Ana Drainage Province which also showed a rise for the same reasons. Water levels have stabilized in the West Coast Subarea (U-05.A2), reflecting the water injected through a series of injection wells of a sea-water intrusion barrier project. The water level declines shown in a majority of the hydrologic units reflect the subnormal precipitation received during the 1962-63 season throughout this drainage province.

Lahontan Drainage Province (W), Southern Portion

Estimated changes of ground water levels for the southern portion of the Lahontan Drainage Province are given in Table 17.

TABLE 15

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN CENTRAL COASTAL
DRAINAGE PROVINCE DURING 1962-1963

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
T-09.00 Salinas Unit				
T-09.H0 Paso Robles Subunit	40	+ 1	26S/12E-26D01M 278.9	27S/13E-09K01M Flowing
T-10.00 San Luis Obispo Unit				
T-10.A0 Cambria Subunit				
T-10.A3 San Simeon Subarea	1	- 1	27S/ 8E- 9L01M 11.2	27S/ 8E- 6G01M 9.8
T-10.A4 Santa Rosa Subarea	3	0	27S/ 8E-24J01M 24.9	27S/ 8E-26C02M 7.2
T-10.A6 Cayucos Subarea	1	+ 1	28S/ 9E-23E02M 20.0	28S/ 9E-23E02M 16.5
T-10.A7 Old Subarea	1	+ 1	28S/10E-34N03M 17.2	29S/10E- 3C05M 9.8

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN CENTRAL COASTAL
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
T-10.B0 San Luis Obispo Subunit				
T-10.B1 Morro Subarea	5	+ 3	29S/11E-19P01M 46.0	29S/10E-25B02M 7.5
T-10.B2 Chorro Subarea	1	0	29S/11E-32J02M 18.5	29S/11E-32J02M 15.0
T-10.B3 Los Osos Subarea	3	+ 1	30S/11E-7K01M 42.6	30S/10E-13G01M 16.8
T-10.B4 San Luis Obispo Creek Subarea	7	+ 1	31S/13E-19O1HM 22.5	31S/12E-28N01M 7.4
T-10.B6 Pismo Subarea	1	- 4	31S/13E-16N01M 35.5	31S/13E-16N01M 14.5
T-10.C0 Arroyo Grande Subunit				
T-10.C1 Arroyo Grande Subarea	16	- 1	32S/13E-32D03M 85.2	12N/35W-30P01S 5.7

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN CENTRAL COASTAL
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
T-10.C2 Nipomo Mesa Subarea	1	- 9	11N/34W-18D01S 300.0	11N/35W- 7R01S 69.7
T-11.00 Carrizo Plain Unit	4	- 3	30S/18E- 20 1M 39.9	30S/19E-29M02M 9.0
T-12.00 Santa Maria-Cuyama Unit				
T-12.A0 Santa Maria Subunit	26	+ 2	9N/33W-18C01S 517.4	10N/36W-12P01S 9.1
T-12.B0 Sisquoc Subunit	3	- 1	9N/32W- 7N01S 116.5	9N/32W-23K01S 15.2
T-12.C0 Cuyama Valley Subunit	13	- 2	9N/26W- 4J01S 299.1	7N/24W-13Q01S 15.0
T-13.00 San Antonio Unit	1	- 1	8N/32W-35Q01S 155.0	8N/34W-23B01S 16.3
T-14.00 Santa Ynez Unit				
T-14.A0 Lompoc Subunit	50	- 1	7N/34W-12E01S 308.6	7N/32W-22Q06S Flowing

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN CENTRAL COASTAL
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
T-14.B0 Santa Rita Subunit	29	- 1	6N/33W- 9D02S 59.3	6N/34W-12A02S 3.9
T-14.C0 Buellton Subunit	19	- 1	6N/32W- 2Q01S 59.0	6N/31W-17D01S 0.9
T-14.D0 Santa Ynez Subunit	24	0	7N/30W-33M02S 194.6	6N/30W-24E01S 2.1
T-15.00 Santa Barbara Unit				
T-15.C0 South Coast Subunit				
T-15.C1 Goleta Subarea	22	+ 1	4N/27W- 6Q09S 223.3	4N/28W-17R01S 7.7
T-15.C2 Santa Barbara Subarea	2	0	4N/27W- 8E02S 128.5	4N/27W-14Q01S 34.6
T-15.C4 Carpinteria Subarea	17	- 1	4N/25W-26A01S 304.3	4N/25W-30D01S 6.0

TABLE 16

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-02.00 Ventura River Unit				
U-02.A0 Lower Ventura River Subunit	2	+ 5	2N/23W- 5L01S 15.9	2N/23W- 5P01S 8.4
U-02.B0 Upper Ventura River Subunit	72	- 2	4N/23W-21C05S 164.4	4N/24W-13N01S 1.1
U-02.C0 Ojai Subunit				
U-02.C2 Ojai Subarea	50	- 8	4N/22W- 5J06S 272.5	4N/23W-14B02S 10.2
U-03.00 Santa Clara-Calleguas Unit				
U-03.A0 Oxnard Plain Subunit				
U-03.A1 Oxnard Subarea	90	0	2N/22W- 9M01S 237.1	2N/23W-24F01S 6.5

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-03.A2 Pleasant Valley Subarea	35	+ 3	2N/21W-24F01S 388.0	2N/21W-35C01S 37.9
U-03.B0 Santa Paula Subunit				
U-03.B1 Santa Paula Subarea	56	- 2	2N/22W- 2K01S 222.2	2N/22W- 2K04S 2.3
U-03.C0 Sespe Subunit				
U-03.C1 Fillmore Subarea	61	+ 4	4N/20W-31H01S 317.2	3N/20W- 4N02S 0.7
U-03.D0 Piru Subunit				
U-03.D1 Piru Subarea	38	+15	4N/18W-20M01S 192.5	4N/19W-33C01S 11.0
U-03.E0 Upper Santa Clara River Subunit				
U-03.E1 Eastern Subarea	49	- 5	5N/14W-30R01S 284.5	4N/17W-15N01S Flowing

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-03.E5 Acton Subarea	1	0	5N/12W-30K01S 255.6	3N/15W- 1A01S 17.7
U-03.F0 Calleguas-Conejo Subunit				
U-03.F1 West Las Posas Subarea	8	- 1	3N/21W-36P01S 334.3	2N/21W-16J01S 86.8
U-03.F2 East Las Posas Subarea	33	- 2	3N/20W-31K01S 642.4	3N/18W-28N02S 31.0
U-03.F3 Arroyo Santa Rosa Subarea	4	+ 3	2N/19W-21C02S 334.3	2N/19W-19L01S 52.6
U-03.F4 Conejo Valley Subarea	34	- 5	2N/19W-34D01S 349.0	1N/20W-13E01S 5.7
U-03.F5 Tierra Rejada Valley Subarea	8	- 7	2N/19W-15N02S 258.0	2N/19W-14P01S 46.4

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-03.F6 Gillibrand Subarea	2	- 9	3N/18W-24H04S 136.1	3N/18W-24E01S 107.8
U-03.F7 Simi Valley Subarea	49	0	2N/17W-16M02S 478.8	2N/17W- 9M02S 7.0
U-03.F8 Thousand Oaks Subarea	31	- 9	1N/19W- 9G01S 449.5	1N/19W-15E02S 0.4
U-04.00 Malibu Unit				
U-04.A0 Topanga Subunit				
U-04.A1 Topanga Canyon Subarea	3	- 2	1S/16W-32G02S 15.1	1S/16W-29Q01S 9.6
U-04.B0 Malibu Creek Subunit				
U-04.B2 Las Virgenes Canyon Subarea	3	- 6	1N/18W-24J01S 118.3	1N/17W- 8L01S 19.0

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-04.B3 Lindero Canyon Subarea	4	- 2	1N/18W-10D01S 102.5	1N/18W-13D01S 23.9
U-04.B5 Russell Valley Subarea	1	- 1	1N/19W-24M01S 39.8	1N/19W-24M01S 38.9
U-04.B6 Sherwood Subarea	10	- 9	1N/20W-25C01S 323.1	1N/19W-28M01S 5.2
U-04.C0 Point Dume Subunit				
U-04.C5 Ramera Canyon Subarea	6	- 3	2S/18W-05E01S 55.4	2S/18W- 5C03S 6.2
U-04.D0 Camarillo Subunit				
U-04.D3 Nicholas Canyon Subarea	1	0	1S/19W-30P01S 5.1	1S/19W-30P01S 4.3
U-04.D4 Arroyo Sequit Subarea	1	- 7	1S/20W-25E01S 23.0	1S/20W-25E01S 13.2

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-05.00 Los Angeles-San Gabriel River Unit				
U-05.A0 Coastal Plain of Los Angeles County Subunit				
U-05.A2 West Coast Subarea	300	0	4S/13W-15B04S 109.8	5S/13W- 6B02S 0.9
U-05.A3 Santa Monica Subarea	42	- 2	2S/15W-26B01S 152.3	2S/15W-27L01S 0.3
U-05.A4 Hollywood Subarea	3	+ 2	1S/14W-17E03S 332.0	1S/14W-18A01S Flowing
U-05.A5 Central Subarea	438	+ 7	2S/13W-27B07S 464.5	5S/12W-11D01S 1.1
U-05.B0 San Fernando Subunit				
U-05.B1 San Fernando Subarea	153	- 5	2N/15W-15L02S 348.2	2N/16W-27P02S Flowing

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-05.B2 Sylmar Subarea	11	- 5	3N/15W-26G01S 250.7	3N/15W-36C01S 44.6
U-05.B3 Tujunga Subarea	24	- 4	2N/13W-18N01S 374.3	2N/14W-14B01S 5.7
U-05.B4 Verdugo Subarea	9	+ 2	2N/13W-27Q01S 268.9	1N/13W-10Q01S 24.9
U-05.C0 Raymond Subunit				
U-05.C1 Pasadena Subarea	61	- 3	1N/11W- 7N01S 357.0	1N/11W-29K01S 0.3
U-05.C2 Monk Hill Subarea	20	- 7	1N/12W- 8D01S 318.0	2N/12W-33Q01S 31.2
U-05.C3 Santa Anita Subarea	15	+ 1	1N/11W-21C01S 246.1	1N/10W-23E01S 9.8
U-05.D0 San Gabriel Valley Subunit				
U-05.D1 Main San Gabriel Subarea	309	- 3	1N/9W-29L01S 401.0	1S/19W-32G02S 0.5

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LOS ANGELES
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
U-05.D2 Lower Canyon Subarea	2	- 3	1N/10W-29J01S 123.8	1N/10W-26R01S 25.4
U-05.D4 Foothill Subarea	5	- 5	1N/9W-36E02S 158.1	1N/ 9W-35H01S 33.9
U-05.E0 Spadra Subunit				
U-05.E1 Spadra Subarea	9	- 5	1S/ 9W-25B01S 269.5	1S/ 9W-22J01S Flowing
U-05.E2 Pomona Subarea	9	- 2	1S/ 8W- 7G02S 476.1	1S/ 9W-11R01S 73.4
U-05.E3 Live Oak Subarea	18	- 2	1N/ 8W-33Q03S 351.0	1N/ 8W-33A01S 22.6
U-05.F0 Anaheim Subunit				
U-05.F1 Anaheim Subarea	74	+12	3S/10W-27N01S 133.5	3S/ 9W-34L01S 9.6
U-05.F2 La Habra Subarea	7	+ 1	3S/10W- 7Q01S 159.0	3S/10W- 2Q01S 19.8
U-05.F3 Yorba Linda Subarea	2	0	3S/ 9W-23K01S 196.8	3S/ 9W-34C01S 13.1

TABLE 17

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LAHONTAN
DRAINAGE PROVINCE DURING 1962-1963

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
W-26.00 Antelope Unit				
W-26.A0 Antelope Subunit				
W-26.A3 Willow Springs Subarea	1	0	11N/13W-29M01S 340.0	9N/13W- 7Q03S 49.6
W-26.A4 Neenach Subarea	11	- 3	8N/16W- 8G01S 303.5	8N/16W-26G01S 2.8
W-26.A5 Lancaster Subarea	20	- 5	6N/12W- 8R01S 373.0	8N/11W-18L01S 7.1
W-26.A7 Buttes Subarea	3	- 2	6N/10W-20P01S 240.9	5N/12W- 2K02S 6.3
W-26.A8 Rock Creek Subarea	17	- 2	5N/ 9W-27A01S 330.4	5N/11W-13J01S Flowing
W-28.00 Mojave Unit				
W-28.B0 Upper Mojave Subunit	4	- 1	4N/ 5W-22H01S 674.2	8N/ 4W-31R01S 17.9

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN LAHONTAN
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
W-28.C0 Middle Mojave Subunit	2	- 1	8N/ 1W-32F01S 151.9	8N/ 4W-21F02S 10.3
W-28.E0 Lower Mojave Subunit	4	- 3	10N/ 3E-21A01S 110.6	9N/ 2E- 3G02S 8.0

None of this area has drainage outlets to the ocean, and it has many closed basins, some of which are small. The only source of ground water recharge is precipitation, which is quite low over much of the region. Water-bearing sediments which have major significance are located in the Owens (W-03.00), Antelope (W-26.00), and Mojave (W-28.00) Hydrologic Units. The Owens Unit (W-03.00) sediments receives most of its recharge from runoff from snowmelt in high mountainous area.

Colorado River Basin Drainage Province (X)

Changes of ground water levels for the Colorado River Basin Drainage Province between the spring of 1962 and the spring of 1963 are given in Table 18. Because there is a lack of data for considerable parts of this drainage province, the changes presented may not reflect general conditions. Most of the area drains to the closed Salton Sea Basin. Ground water in this drainage province is of less significance from a water supply standpoint than is imported water from the Colorado River Aqueduct.

Santa Ana Drainage Province (Y)

Changes of ground water levels for the Santa Ana Drainage Province between the spring of 1962 and the spring 1963 are given in Table 19. Ground water levels generally fell, due to a deficiency in precipitation and continued overdraft. In the East Coastal Plain Subarea (Y-01.A1), an average rise of 7 feet was due principally to artificial recharge operations, using mostly imported Colorado River water, and to controlling of pumping. This subarea is adjacent to the Anaheim Subarea (Y-01.A1) in the Los Angeles Drainage Province which also showed a rise

TABLE 18

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN COLORADO RIVER BASIN
DRAINAGE PROVINCE DURING 1962-1963

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
X-01.00 Lucerne Unit	2	- 5	4N/ 2W-24K01S 309.5	4N/ 1W-14B01S 0.4
X-08.00 Joshua Tree Unit				
X-08.A0 Warren Subunit	2	- 2	1N/ 6E-31P01S 298.7	1N/ 5E-36K01S 139.5
X-08.B0 Copper Mountain Subunit	4	- 1	1N/ 6E- 4Q01S 445.4	2S/ 8E-21G02S 32.9
X-09.00 Dale Unit				
X-09.A0 Twentynine Palms Subunit	9	- 1	1N/ 8E-11L01S 369.1	1N/ 9E-33J01S 4.4
X-09.B0 Dale Subunit	3	- 1	1N/10E-36P01S 333.6	1N/12E-20D01S 27.8

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN COLORADO RIVER BASIN
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
X-19.00 Whitewater Unit				
X-19.A0 Morongo Subunit	1	- 2	1S/ 4E-15N01S 201.0	1S/ 5E- 4R02S 66.2
X-19.C0 San Gorgonio Subunit				
X-19.C1 Beaumont Subarea	1	- 3	3S/ 1W-12A01S 318.5	3S/ 1W-12C01S 308.2
X-19.C2 San Gorgonio Subarea	5	0	3S/ 1W- 1N01S 335.4	2S/ 1E- 3X01S Flowing
X-19.D0 Coachella Subunit				
X-19.D2 Mission Creek Subarea	4	- 2	2S/ 4E-27R01S 431.9	3S/ 5E-17K01S 29.0
X-19.D4 Sky Valley Subarea	1	- 6	3S/ 6E-28A01S 248.1	4S/ 6E-12K01S 0.4
X-19.D6 Thousand Palms Subarea	3	+ 2	4S/ 6E- 8L01S 260.8	4S/ 6E-14C01S 8.1
X-19.D7 Indio Subarea	23	- 1	3S/ 4E-30C01S 550.1	6S/ 8E- 5R01S Flowing

TABLE 19

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SANTA ANA
DRAINAGE PROVINCE DURING 1962-1963

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Y-01.00 Santa Ana River Unit				
Y-01.A0 Lower Santa Ana River Subunit				
Y-01.A1 East Coastal Plain Subarea	150	+ 7	4S/ 9W-22R01S 312.2	5S/ 9W-27F01S 1.8
Y-01.A3 Santa Ana Narrows Subarea	50	- 1	4S/ 8W- 6D01S 43.3	3S/ 8W-31N013S 0.7
Y-01.B0 Middle Santa Ana River Subunit				
Y-01.B1 Chino Subarea	153	- 3	1S/ 7W- 8N01S 579.4	3S/ 7W-20E02S 1.1
Y-01.B3 Claremont Heights Subarea	30	- 9	1S/ 8W-20B02S 529.0	1N/ 8W-23J01S 36.4
Y-01.B4 Cucamonga Subarea	14	+13	1N/ 7W-29R03S 474.7	1S/ 7W- 4E02S 185.8

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SANTA ANA
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Y-01.B5 Temescal Subarea	53	- 1	3S/ 7W-35C01S 197.0	3S/ 7W-20P01S 0.7
Y-01.B6 Arlington Subarea	12	0	3S/ 5W-17Q01S 75.3	3S/ 6W-24Q01S 5.5
Y-01.B7 Riverside Subarea	50	- 4	1N/ 5W-36R01S 322.0	2S/ 5W-29E02S 6.0
Y-01.C0 Lake Mathews Subunit				
Y-01.C1 Coldwater Subarea	6	-24	5S/ 6W- 3Q01S 245.7	5S/ 6W- 2P01S 122.4
Y-01.C2 Bedford Subarea	5	- 5	4S/ 6W-35G02S 55.4	4S/ 6W-35G02S 36.1
Y-01.C4 Lee Lake Subarea	3	- 7	5S/ 5W- 8P01S 90.8	5S/ 5W- 7C01S 14.8
Y-01.C5 Terra Cotta Subarea	4	+ 5	5S/ 4W-31R01S 40.6	5S/ 5W-36J01S 12.2
Y-01.D0 Colton-Rialto Subunit				
Y-01.D2 Lower Lytle Subarea	3	+ 8	1N/ 5W-22C02S 347.1	1N/ 5W- 6F01S 71.9

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SANTA ANA
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Y-01.D3 Upper Colton-Rialto Subarea	1	+15	1N/5W-17K01S 61.4	1N/ 5W-17K01S 53.2
Y-01.D4 Colton-Rialto Subarea	20	- 3	1N/ 5W-29A01S 475.6	1S/ 4W-21K03S 36.2
Y-01.D5 Reche Subarea	1	-11	2S/ 4W-12P02S 65.4	2S/3W-20D01S 54.1
Y-01.E0 Upper Santa Ana Subunit				
Y-01.E2 Bunker Hill Subarea	189	-15	1N/ 3W-28P01S 448.1	1N/ 3W-19E01S 0.2
Y-01.E3 Redlands Subarea	7	-14	1S/ 3W-33D01S 359.9	1S/ 3W-33D01S 156.6
Y-01.E4 Mentone Subarea	5	- 2	1S/ 2W-18R01S 246.1	1S/ 2W-21D01S 69.0
Y-01.E5 Reservoir Subarea	6	+ 2	1S/ 2W-29N01S 358.7	1S/ 3W-35G05S 130.2

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SANTA ANA
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Y-01.E7 Santa Ana Canyon Subarea	2	-21	1S/ 2W- 8C01S 71.2	1S/ 2W- 8C02S 68.8
Y-01.E8 Mill Creek Subarea	5	- 2	1S/ 2W- 9Q01S 173.3	1S/ 1W- 8G01S 13.0
Y-01.E9 Sycamore Subarea	12	- 5	1N/ 5W-15Q02S 426.4	1N/ 5W-23A01S 115.0
Y-01.F0 San Timoteo Subunit				
Y-01.F1 Yucaipa Subarea	1	- 3	2S/ 2W- 3E01S 244.5	2S/ 3W- 3N01S 72.3
Y-01.F2 San Timoteo Subarea	10	- 3	2S/ 1W-34M01S 375.8	2S/ 2W-20K01S 35.4
Y-01.F9 Nobie Creek Subarea	7	- 4	2S/ 1W- 2K02S 155.9	2S/ 1W- 2J01S 15.4
Y-02.00 San Jacinto Valley Unit.				
Y-02.A0 Perris Subunit				

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SANTA ANA
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Y-02.A1 Perris Valley Subarea	6	0	2S/ 4W-35A01S 358.3	5S/ 3W-13N01S 54.3
Y-02.A2 Menifee Subarea	2	- 6	5S/ 3W-29B01S 174.7	6S/ 3W-14N01S 13.9
Y-02.A3 Winchester Subarea	3	- 3	5S/ 2W-35C01S 99.4	5S/ 3W-25K01S 36.3
Y-02.A4 Lakeview Subarea	2	+ 2	4S/ 2W- 3P01S 121.0	4S/ 2W-19J01S 22.2
Y-02.A5 Hemet Subarea	4	- 1	5S/ 1E-20G03S 307.5	5S/ 2W-12Q01S 64.2
Y-02.B0 San Jacinto Subunit				
Y-02.B1 San Jacinto Subarea	17	- 1	3S/ 1W-03K02S 386.8	3S/ 2W-21C01S 9.2
Y-02.C0 Elsinore Subunit				
Y-02.C1 Elsinore Subarea	45	- 2	6S/ 5W- 3L02S 293.2	6S/ 4W-28L01S 10.3

for the same reasons. Other rises shown may not reflect actual conditions due to rapidly fluctuating water levels and timing of measurements.

San Diego Drainage Province (Z)

Changes of ground water levels for the San Diego Drainage Province between the spring of 1962 and the spring of 1963 are given in Table 20. Ground water levels generally fell. Areas showing rises may not reflect actual conditions due to rapidly fluctuating water levels and timing of measurements. Deposits of water-bearing sediments in this drainage province are relatively small in capacity. Some have been observed to have been pumped dry in a single season. During this season, as in previous seasons, the San Diego Drainage Province has been drier than most of the rest of Southern California, with the result that its meager ground water basins have suffered relatively more, and increased reliance is put on imported Colorado River water.

Artificial Recharge

The replenishment of ground water basins by artificial recharge as a means of conserving surface runoff and regulating imported water is widely practiced in Southern California. Approximately 362,000 acre-feet of local and imported water were reported as being spread or injected at 40 ground water recharge projects during the 1962-63 water year. Of these, about 280,000 acre-feet, or 77 percent, consisted of imported Colorado River water. Total water spread was approximately 71 percent of the total amount spread during the 1961-62 water year. Essentially all the imported supply was spread in two areas: Montebello Forebay, which is located in the Central Subarea of the Los Angeles-San Gabriel River Unit and the

TABLE 20

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SAN DIEGO
DRAINAGE PROVINCE DURING 1962-1963

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Z-01.00 San Juan Unit				
Z-01.A0 Laguna Subunit				
Z-01.A3 Aliso Subarea	12	+ 3	6S/ 8W-26F04S 74.0	6S/ 8W-23R01S 9.0
Z-01.B0 San Juan Subunit	49	- 5	8S/ 8W-11H01S 62.6	8S/ 8W-13D01S 9.2
Z-02.00 Santa Margarita Unit				
Z-02.C0 Murrieta Subunit				
Z-02.C1 Wildomar Subarea	6	+ 1	6S/ 4W-27M01S 145.8	6S/ 4W-26M01S 40.3
Z-02.C2 Murrieta Subarea	3	- 2	7S/ 3W-17P05S 55.2	8S/ 3W-13K01S 14.4
Z-03.00 San Luis Rey Unit				
Z-03.A0 Bonsall Subunit				

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SAN DIEGO
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Z-03.A1 Mission Subarea	10	- 2	11S/ 4W- 9E01S 74.3	11S/ 5W-13N02S 20.1
Z-03.A2 Bonsall Subarea	13	- 2	10S/ 3W-15E01S 45.0	10S/ 3W-20B01S 10.9
Z-03.C0 Warner Subunit				
Z-03.C1 Warner Subarea	24	+ 3	10S/ 3E-33F01S 207.7	10S/ 2E-25E01S 28.5
Z-05.00 San Dieguito Unit				
Z-05.A0 San Dieguito Subunit				
Z-05.A1 San Dieguito Subarea	38	- 4	13S/ 3W-28N02S 90.0	14S/ 3W- 7C02S 0.6
Z-05.B0 Hodges Subunit				
Z-05.B1 Hodges Subarea	17	- 1	13S/ 2W- 3K01S 104.0	13S/ 2W- 2D03S 5.5
Z-05.B2 Green Subarea	1	- 2	13S/ 1W-31K01S 38.7	13S/ 1W-31K01S 37.8

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SAN DIEGO
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Z-05.B3 Felicita Subarea	7	0	12S/ 2W-28P01S 107.8	12S/ 2W-34B01S 15.5
Z-05.B4 Bear Subarea	9	+ 1	12S/ 2W-24M03S 62.0	12S/ 2W-24R01S 0.2
Z-05.C0 San Pasqual Subunit				
Z-05.C1 Highland Subarea	2	- 7	13S/ 1W- 5N02S 49.9	13S/ 1W 5L01S 31.6
Z-05.C2 San Pasqual Subarea	39	- 6	12S/ 1W-35B02S 73.8	13S/ 1W- 4A01S 11.2
Z-05.D0 Santa Maria Valley Subunit				
Z-05.D1 Ramona Subarea	20	- 2	13S/ 1E-23K01S 69.1	13S/ 1W-24K01S 9.7
Z-05.D3 Wash Hollow Subarea	1	- 3	13S/ 2E-15E01S 26.3	13S/ 2E-15E01S 23.4
Z-05.D4 Upper Hatfield Subarea	1	-1	13S/ 2E- 9H01S 13.9	13S/ 2E- 9H01S 13.4

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SAN DIEGO
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average change in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Z-05.D5 Ballena Subarea	2	- 2	13S/ 2E-10K01S 24.1	13S/ 2E-11C01S 15.1
Z-05.D6 East Santa Teresa Subarea	1	- 3	13S/ 2E 3E01S 30.1	13S/ 2E- 3E01S 29.4
Z-05.E0 Santa Ysabel Subunit				
Z-05.E1 Boden Subarea	2	- 1	12S/ 1E-34Q01S 70.1	13S/ 1E- 3P01S 37.9
Z-05.E2 Pamo Subarea	7	- 2	12S/ 1E-11L02S 21.2	12S/ 3E-21N01S 5.2
Z-07.00 San Diego Unit				
Z-07.A0 Lower San Diego Subunit				
Z-07.A2 Santee Subarea	6	+ 2	13S/ 1E-17H02S 57.8	15S/ 1E-20B04S 5.0
Z-07.A5 El Monte Subarea	9	- 1	15S/ 1E- 9Q01S 58.7	15S/ 1E- 9R01S 52.2

AVERAGE CHANGES IN GROUND WATER ELEVATIONS
IN HYDROLOGIC UNITS IN SAN DIEGO
DRAINAGE PROVINCE DURING 1962-1963
(continued)

Hydrologic unit, subunit, and subarea	Number of wells considered in analysis	Average changes in ground water level during the year, in feet	Location and observed extremes of depth to ground water during 1962-63, in feet	
			Maximum	Minimum
Z-07.D0 Cuyamaca Subunit				
Z-07.D2 Spencer Subarea	1	- 1	13S/ 4E- 6A01S 96.0	13S/ 4E- 6A01S 96.0
Z-09.00 Sweetwater Unit				
Z-09.A0 Lower Sweetwater Subunit				
Z-09.A2 Sweetwater Subarea	13	- 1	17S/ 1W-20E01S 12.4	17S/ 2W-25P02S 2.9
Z-09.B0 Middle Sweetwater Subunit				
Z-09.B1 Jamacha Subarea	7	- 3	16S/ 1E-31C03S 22.1	17S/ 1W- 1D01S 5.0

Santa Ana Forebay, which is located in the East Coastal Plain Subarea of the Santa Ana River Unit. In the Montebello area, 12,400 acre-feet of reclaimed water were also spread. This water was produced by the Water Reclamation Plant of the County Sanitation Districts of Los Angeles County at Whittier Narrows. The Department's Bulletin No. 80 series of reports describes the reclamation of water from sewage and industrial waters in more detail.

These artificial recharge activities played an important role in increasing the amounts of water stored underground and in retarding the decline of water levels. The measured or estimated amounts of artificial recharge to the underground reservoirs at the various projects during the 1962-63 water year are shown in Table 21.

TABLE 21

SUMMARY OF PRINCIPAL GROUND WATER RECHARGE ACTIVITIES
IN SOUTHERN CALIFORNIA DURING 1962-63 WATER YEAR

Hydrologic unit	Areal designation code number	Agency conducting spreading operation[a]	Number of projects operated	Reported or estimated amount spread, in acre-feet
Santa Clara Calleguas Unit	U-03.00			
Oxnard Plain Subunit	U-03.A0			
Oxnard Subarea	U-03.A1	UWCD	2	16,276
Piru Subunit	U-03.D0			
Piru Subarea	U-03.D1	UWCD	1	1,394
Los Angeles-San Gabriel River Unit	U-05.00			
Coastal Plain of Los Angeles County Subunit	U-05.A0			
West Coast Subarea	U-05.A2	LACFCD	2	5,554[b]
Central Subarea	U-05.A5	LACFCD	3	84,600[c]
San Fernando Subunit	U-05.B0			
San Fernando Subarea	U-05.B1	LACFCD	3	1,058
		LADW&P	1	10,279
Tujunga Subarea	U-05.B3	LACFCD	1	52
Raymond Subunit	U-05.C0			
Pasadena Subarea	U-05.C1	LACFCD	1	7
Monk Hill Subarea	U-05.C2	LACFCD	1	249
Santa Anita Subarea	U-05.C3	LACFCD	1	449
		CSMWD	1	919
San Gabriel Valley Subunit	U-05.D0			
Main San Gabriel Subarea	U-05.D1	LACFCD	12	7,747
Upper Canyon Subarea	U-05.D3	SGRSC	1	16,966
		DWC	1	6,394
Spadra Subunit	U-05.E0			
Live Oak Subarea	U-05.E3	LACFCD	1	0
Anaheim Subunit	U-05.F0			
Anaheim Subarea	U-05.F1	AUWC	2	4,804[d]
		OCFCD	1	66,054[e]
		OCWD	1	21,037[f]
Yorba Linda Subarea	U-05.F3	AUWC	1	1,905
Santa Ana River Unit	Y-01.00			
Lower Santa Ana River Subunit	Y-01.A0			
East Coastal Plain Subarea	Y-01.A1	OCWD	4	106,605[f]
		AUWC	1	2,781[g]
Santa Ana Narrows Subarea	Y-01.A3	SAVIC	1	1,444

SUMMARY OF PRINCIPAL GROUND WATER RECHARGE ACTIVITIES
IN SOUTHERN CALIFORNIA DURING 1962-63 WATER YEAR
(continued)

Hydrologic unit	Areal designation code number	Agency conducting spreading operation[d]	Number of projects operated	Reported or estimated amount spread, in acre-feet
Middle Santa Ana River Subunit	Y-01.B0			
Chino Subarea	Y-01.B1	SBCFCD	11	19[h]
		EWC	2	30
Claremont Heights Subarea	Y-01.B3	PVPA	2	0
		CPWD	1	73
Cucamonga Subarea	Y-01.B4	SAWC.	1	659
		SBCFCD	4	40[i]
Temescal Subarea	Y-01.B5	RCFC&WCD	1	180
Lake Mathews Subunit	Y-01.C0			
Coldwater Subarea	Y-01.C1	TWC	2	1,656[j]
Lee Lake Subarea	Y-01.C4	TWC	2	0
Colton-Rialto Subunit	Y-01.D0			
Colton-Rialto Subarea	Y-01.D4	SBCFCD	2	n.a.
Reche Subarea	Y-01.D5	SBCFCD	1	n.a.
Upper Santa Ana Subunit	Y-01.E0			
Cajon Subarea	Y-01.E1	SBCFCD	1	n.a.
Bunker Hill Subarea	Y-01.E2	SBCFCD	6	1,064[k]
		SBVWCD	1	502
Mentone Subarea	Y-01.E4	SBVWCD	1	171
Santa Ana Canyon Subarea	Y-01.E7	SBVWCD	1	0
Sycamore Subarea	Y-01.E9	FUWC	1	634
San Timoteo Subunit	Y-01.F0			
Yucaipa Subarea	Y-01.F1	SBCFCD	1	n.a.
Oak Glen Subarea	Y-01.F6	SBCFCD	1	n.a.
Nobie Creek Subarea	Y-01.F9	RCFC&WCD	1	3
San Jacinto Valley Unit	Y-02.00			
San Jacinto Subunit	Y-02.B0			
San Jacinto Subarea	Y-02.B1	RCFC&WCD	1	2
TOTAL LOCAL AND IMPORTED WATER REPORTED SPREAD				361,607
TOTAL IMPORTED WATER REPORTED SPREAD				279,801
TOTAL LOCAL WATER REPORTED SPREAD				81,806

a. Abbreviations of agencies conducting spreading operations are presented in alphabetical order: AUWC-Anaheim Union Water Company; CPWD-City of Pomona Water Department; CSMWD-City of Sierra Madre Water Department; DMWC-Duarte

SUMMARY OF PRINCIPAL GROUND WATER RECHARGE ACTIVITIES
IN SOUTHERN CALIFORNIA DURING 1962-63 WATER YEAR
(continued)

Mutual Water Company; ESWC-East Side Water Committee EWC-Etiwanda Water Company; FUWC-Fontana Union Water Company; GIC-Glendora Irrigation Company; LACFCD-Los Angeles County Flood Control District; LADW&P-Los Angeles Department of Water and Power; OCFCD-Orange County Flood Control District; OCWD-Orange County Water District; PVPA-Pomona Valley Protective Associatic RCFC&WCD-Riverside County Flood Control and Water Conservation District; SAVIC-Santa Ana Valley Irrigation Company; SAWC-San Antonio Water Company; SBCFCD-San Bernardino County Flood Control District; SBVWCD-San Bernardino Valley Water Conservation District; SGRSC-San Gabriel River Spreading Corporation; TWC-Temescal Water Company; UWCD-United Water Conservation District; VCFCD-Ventura County Flood Control District.

b. Includes 4,148 acre-feet of softened Colorado River water.
c. Includes 74,690 acre-feet of unsoftened Colorado River water.
d. Includes 3,851 acre-feet of unsoftened Colorado River water.
e. Includes 65,575 acre-feet of unsoftened Colorado River water.
f. Total quantity is unsoftened Colorado River water.
g. Includes 2,299 acre-feet of unsoftened Colorado River water.
h. Eighth Street project reporting, ten others not available.
i. Red Hill and 15th Street projects reporting, two others not available.
j. Includes 1,596 acre-feet of unsoftened Colorado River water.
k. Waterman Canyon, Twin Creek, and Rialto Baseline projects reporting, 3 others not available.

CHAPTER VI. MISCELLANEOUS ACTIVITIES AFFECTING WATER SUPPLY CONDITIONS

The formation of water districts and construction activities relating to water often affect the water supply conditions in Southern California; for this reason a brief outline of the more important activities that occurred during the 1962-63 water year is presented below.

Construction of Dams

Five dams with impounding capacities greater than 100 acre-feet were completed during the water year. These were Chet Harritt Dam at Lakeside, San Diego County; Encino Dam at Encino, Los Angeles County; Palisades Dam at Capistrano Beach, Orange County; Squires Dam at Agua Hedionda, San Diego County; and Villa Park Dam on Santiago Creek, Orange County. Two additional projects under construction, Alta Loma Dam on Alta Loma Channel, San Bernardino County, and San Joaquin Reservoir Dam on a tributary of Bonita Creek between Big Canyon and Coyote Canyon, Orange County, were incomplete as of September 30, 1963. Table 22 gives the beginning date of construction of the above-mentioned dams, their purpose, capacity in acre-feet, and the agency responsible for the construction.

Water Supply Projects

During the 1962-63 water year The Metropolitan Water District of Southern California was constructing the Robert B. Diemer Filtration Plant near Yorba Linda with an initial capacity of 200 million gallons per day. The plant began operation in December 1963. Preliminary plans were to complete the plant to its ultimate capacity of 400 million gallons per day of softened and filtered water. The District was also preparing

TABLE 22

DAM PROJECTS COMPLETED OR UNDER CONSTRUCTION IN SOUTHERN CALIFORNIA DURING THE 1962-63 WATER YEAR*

Dam project	Construction		Agency responsible for construction	Purpose	Location	Reservoir capacity, in acre-feet
	Started	Completed				
Alta Loma	June 1961	Incomplete	San Bernardino County Flood Control District	Flood control	Alta Loma Channel, San Bernardino County	108
Chet Harritt	April 1961	October 1962	Helix Irrigation District	Terminal storage	Lakeside, San Diego County	10,500
Encino	October 1960	October 1962	Los Angeles Department of Water and Power	Terminal storage	Encino, Los Angeles County	10,300
Palisades	July 1962	August 1963	Tri Cities Municipal Water District	Terminal storage	Capistrano Beach, Orange County	147
San Joaquin	January 1963	Incomplete	Irvine Ranch Water District	Terminal storage	Tributary Bonita Creek, Orange County	3,036
Squires	January 1962	March 1963	Carlsbad Municipal Water District	Terminal storage	Agua Hedionda, San Diego County	600
Villa Park	May 1961	January 1963	Orange County Flood Control District	Flood control and conservation	Santiago Creek, Orange County	15,600

*Greater than 100 acre-feet capacity.

the plans and specifications for the expansion of the softening facilities at the F. B. Weymouth Plant at La Verne. The additional softener units will make it possible for the plant to produce 400 million gallons per day of finished water having an average hardness of 125 parts per million.

Water District Formation Activities

During the 1962-63 fiscal year, The Metropolitan Water District of Southern California annexed five areas. The Upper San Gabriel Valley Municipal Water District was annexed to the Metropolitan Water District, and in Orange County two small areas were concurrently annexed to Coastal Municipal Water District and to Metropolitan. In Riverside County four small areas were concurrently annexed to Eastern Municipal Water District and to Metropolitan. In San Diego County the City of Del Mar was concurrently annexed to San Diego County Water Authority and to the Metropolitan Water District. Also in San Diego County a small fringe area was concurrently annexed to Olivenhain Municipal Water District, to the County Water Authority, and to the Metropolitan Water District. In Ventura County, two small areas were concurrently annexed to Calleguas Municipal Water District and to the Metropolitan Water District.

In addition to the above-noted annexations to major water agencies, the following water districts were formed in Southern California during the 1962-63 fiscal year:

Los Angeles County:	County Water Works District No. 35
	County Water Works District No. 36
	Upper Santa Clara Valley Water Agency
Orange County:	Santiago County Water District

Riverside County:	Murieta County Water District
	Calimesa County Water District
San Bernardino County:	Palm Wells County Water District
	Star Vista County Water District
	Yucca Valley County Water District
	Crestline-Lake Arrowhead Water Agency
	Joshua Basin County Water District
Ventura County:	Camarillo County Water District
San Luis Obispo County:	Mooro Del Mar County Water District
San Diego County:	Del Luz Heights Municipal Water District
	Catwood in the Pines County Water District
	Yuima Municipal Water District
	Mootmai Municipal Water District

ATTACHMENT 1

NAMES AND AREAL CODE NUMBERS

CENTRAL COASTAL DRAINAGE PROVINCE (T)

ATTACHMENT 1

NAMES AND AREAL CODE NUMBERS
CENTRAL COASTAL DRAINAGE PROVINCE*

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
T-09.00**	Salinas Hydrologic Unit	3- 4.00	Salinas Valley
T-09.H0	Paso Robles Hydrologic Subunit	3- 4.06	Paso Robles Basin
T-09.I0	Pozo Hydrologic Subunit	3- 4.07	Pozo Basin
T-10.00	San Luis Obispo Hydrologic Unit	-	-
T-10.A0	Cambria Hydrologic Subunit	3-21.00	Cambria Group
T-10.A1	San Carpoforo Hydrologic Subarea	3-21.01	San Carpojo Basin
T-10.A2	Arroyo de La Cruz Hydrologic Subarea	3-21.02	Arroyo de La Cruz Basin
T-10.A3	San Simeon Hydrologic Subarea	3-21.03	San Simeon Basin
T-10.A4	Santa Rosa Hydrologic Subarea	3-21.04	Santa Rosa Basin
T-10.A5	Villa Hydrologic Subarea	3-21.05	Villa Basin
T-10.A6	Cayucos Hydrologic Subarea	3-21.06	Cayucos Basin
T-10.A7	Old Hydrologic Subarea	3-21.07	Old Basin
T-10.A8	Toro Hydrologic Subarea	3-21.08	Toro Basin
T-10.B0	San Luis Obispo Hydrologic Subunit	3- 8.00	San Luis Obispo Group
T-10.B1	Morro Hydrologic Subarea	3- 8.01	Morro Basin

*Boundaries of hydrologic areas are shown on Plates 1 and 7.
**Since the Central Coastal Drainage Province extends into both Northern and Southern California, code numbers T-01.00 through T-08.00 were not utilized in anticipation of their possible use for hydrologic units in the northern portion of the province.

NAMES AND AREAL CODE NUMBERS
CENTRAL COASTAL DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
T-10.B2	Chorro Hydrologic Subarea	3- 8.02	Chorro Basin
T-10.B3	Los Osos Hydrologic Subarea	3- 8.03	Los Osos Basin
T-10.B4	San Luis Obispo Creek Hydrologic Subarea	3- 8.04	San Luis Obispo Basin
T-10.B5	Point San Luis Hydrologic Subarea	-	-
T-10.B6	Pismo Hydrologic Subarea	3- 8.05	Pismo Beach
T-10.C0	Arroyo Grande Hydrologic Subunit	3-11.00	Arroyo Grande Group
T-10.C1	Arroyo Grande Hydrologic Subarea	3-11.01	Arroyo Grande Basin
T-10.C2	Nipomo Mesa Hydrologic Subarea	3-11.02	Nipomo Mesa Basin
T-11.00	Carrizo Plain Hydrologic Unit	3-19.00	Carrizo Plain
T-12.00	Santa Maria-Cuyama Hydrologic Unit	-	-
T-12.A0	Santa Maria Hydrologic Subunit	3-12.00	Santa Maria River Valley
T-12.B0	Sisquoc Hydrologic Subunit	-	-
T-12.C0	Cuyama Valley Hydrologic Subunit	3-13.00	Cuyama River Valley
T-13.00	San Antonio Hydrologic Unit	3-14.00	San Antonio Creek Valley
T-14.00	Santa Ynez Hydrologic Unit	3-15.00	Santa Ynez River Valley

NAMES AND AREAL CODE NUMBERS
CENTRAL COASTAL DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
T-14.A0	Lompoc Hydrologic Subunit	3-15.01	Lompoc Subarea
T-14.B0	Santa Rita Hydrologic Subunit	3-15.02	Santa Rita Subarea
T-14.C0	Buellton Hydrologic Subunit	3-15.03	Buellton Subarea
T-14.D0	Santa Ynez Hydrologic Subunit	3-15.04	Santa Ynez Subarea
T-14.E0	Headwater Hydrologic Subunit	3-15.05	Headwater Subarea
T-15.00	Santa Barbara Hydrologic Unit	-	-
T-15.A0	Arguello Hydrologic Subunit	3-22.00	Santa Barbara County Coastal Group
T-15.C0	South Coast Hydrologic Subunit	3-16.00	South Coast Basins (Santa Barbara County)
T-15.C1	Goleta Hydrologic Subarea	3-16.01	Goleta Basin
T-15.C2	Santa Barbara Hydrologic	3-16.02	Santa Barbara Basin
T-15.C3	Montecito Hydrologic Subarea	3-16.03	Montecito Subarea
T-15.C4	Carpinteria Hydrologic Subarea	3-16.04	Carpinteria Basin
T-16.00	Santa Barbara Channel Islands Hydrologic Unit	-	-
T-16.A0	San Miguel Island Hydrologic Subunit	-	-
T-16.B0	Santa Rosa Island Hydrologic Subunit	-	-
T-16.C0	Santa Cruz Island Hydrologic Subunit	-	-

ATTACHMENT 2

NAMES AND AREAL CODE NUMBERS

LOS ANGELES DRAINAGE PROVINCE (U)

ATTACHMENT 2

NAMES AND AREAL CODE NUMBERS

LOS ANGELES DRAINAGE PROVINCE (U)

ATTACHMENT 2

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE*

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-01.00	Rincon Creek Hydrologic Unit	-	-
U-02.00	Ventura River Hydrologic Unit	-	-
U-02.A0	Lower Ventura River Hydrologic Subunit	4- 3.01	Lower Ventura River Basin
U-02.B0	Upper Ventura River Hydrologic Subunit	4- 3.02	Upper Ventura River Basin
U-02.C0	Ojai Hydrologic Subunit	-	-
U-02.C1	Upper Ojai Hydrologic Subarea	4- 1.00	Upper Ojai Valley (Now only a portion of this area is utilized; the remainder is Sisar Hydrologic Subarea, U-03.B2)
U-02.C2	Ojai Hydrologic Subarea	4- 2.00	Ojai Valley
U-03.00	Santa Clara-Calleguas Hydrologic Unit	-	-
U-03.A0	Oxnard Plain Hydrologic Subunit	-	-
U-03.A1	Oxnard Hydrologic Subarea	4- 4.03 4- 4.02 4- 4.01	Mound Pressure Area Oxnard Plain Forebay Area Oxnard Plain Pressure Area
U-03.A2	Pleasant Valley Hydrologic Subarea	4- 6.00	Pleasant Valley
U-03.B0	Santa Paula Hydrologic Subunit	-	-
U-03.B1	Santa Paula Hydrologic Subarea	4- 4.04	Santa Paula Basin

*Boundaries of hydrologic areas are shown on Plates 1 and 8.

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-03.B2	Sisar Hydrologic Subarea	4- 1.00	Upper Ojai Valley (Now only a portion of this area is utilized; the remainder is Upper Ojai Hydrological Subarea, U-02.C1)
U-03.C0	Sespe Hydrologic Subunit	-	-
U-03.C1	Fillmore Hydrologic Subarea	4- 4.05	Fillmore Basin
U-03.C2	Sespe Hydrologic Subarea	-	-
U-03.D0	Piru Hydrologic Subunit	-	-
U-03.D1	Piru Hydrologic Subarea	4- 4.06	Piru Basin
U-03.D2	Upper Piru Hydrologic Subarea	-	-
U-03.D3	Hungry Valley Hydrologic Subarea	-	-
U-03.D4	Stauffer Hydrologic Subarea	-	-
U-03.E0	Upper Santa Clara River Hydrologic Subunit	-	-
U-03.E1	Eastern Hydrologic Subarea	4- 4.07	Eastern Basin
U-03.E2	Bouquet Hydrologic Subarea	-	-
U-03.E3	Mint Canyon Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-03.E4	Sierra Pelona Hydrologic Subarea	4- 5.00	Acton Valley (Now only a portion of this area is utilized; the remainder is Acton Hydrologic Subarea, U-03.E5)
U-03.E5	Acton Hydrologic Subarea	4- 5.00	Acton Valley (Now only a portion of this area is utilized; the remainder is Sierra Pelona Hydrologic Subarea, U-03.E4)
U-03.F0	Calleguas-Conejo Hydrologic Subunit	-	-
U-03.F1	West Las Posas Hydrologic Subarea	4- 8.01	West Las Posas Basin
U-03.F2	East Las Posas Hydrologic Subarea	4- 8.02	East Las Posas Basin
U-03.F3	Arroyo Santa Rosa Hydrologic Subarea	4- 7.00	Arroyo Santa Rosa Valley
U-03.F4	Conejo Valley Hydrologic Subarea	4-10.00	Conejo Valley (Now only a portion of this area is utilized; the remainder is Thousand Oaks Hydrologic Subarea, U-03.F8)
U-03.F5	Tierra Rejada Valley Hydrologic Subarea	4-15.00	Tierra Rejada Valley
U-03.F6	Gillibrand Hydrologic Subarea	-	-
U-03.F7	Simi Valley Hydrologic Subarea	4- 9.00	Simi Valley

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-03.F8	Thousand Oaks Hydrologic Subarea	4-10.00	Conejo Valley (Now onl a portion of this area is utilized; the remainder is Conejo Vall Hydrologic Subarea, (U-03.F4)
U-04.00	Malibu Hydrologic Unit	4-16.00	Malibu Coastal Group
U-04.A0	Topanga Hydrologic Subunit	-	-
U-04.A1	Topanga Canyon Hydrologic Subarea	-	-
U-04.A2	Tuna Canyon Hydrologic Subarea	-	-
U-04.A3	Pena Canyon Hydrologic Subarea	-	-
U-04.A4	Piedra Gorda Canyon Hydrologic Subarea	4-16.20	Piedra Gorda Canyon Basin
U-04.A5	Las Flores Canyon Hydrologic Subarea	4-16.19	Las Flores Canyon Basin
U-04.A6	Carbon Canyon Hydrologic Subarea	-	-
U-04.B0	Malibu Creek Hydrologic Subunit	-	-
U-04.B1	Malibu Creek Hydrologic Subarea	4-16.16	Malibu Creek Basin
U-04.B2	Las Virgenes Canyon Hydrologic Subarea	4-16.25	Las Virgenes Canyon Basin
U-04.B3	Lindero Canyon Hydrologic Subarea	-	-
U-04.B4	Triunfo Canyon Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-04.B5	Russell Valley Hydrologic Subarea	4-16.02	Russell Basin
U-04.B6	Sherwood Hydrologic Subarea	4-16.01	Hidden Valley Basin
U-04.C0	Point Dume Hydrologic Subunit	-	-
U-04.C1	Corral Canyon Hydrologic Subarea	-	-
U-04.C2	Solstice Canyon Hydrologic Subarea	4-16.14	Solstice Canyon Basin
U-04.C3	Latigo Canyon Hydrologic Subarea	-	-
U-04.C4	Escondido Canyon Hydrologic Subarea	-	-
U-04.C5	Ramera Canyon Hydrologic Subarea	4-16.11	Ramera Canyon Basin
U-04.C6	Zuma Canyon Hydrologic Subarea	4-16.10	Zuma Canyon Basin
U-04.C7	Trancas Canyon Hydrologic Subarea	4-16.09	Trancas Canyon Basin
U-04.D0	Camarillo Hydrologic Subunit	-	-
U-04.D1	Encinal Canyon Hydrologic Subarea	-	-
U-04.D2	Los Alisos Canyon Hydrologic Subarea	-	-
U-04.D3	Nicholas Canyon Hydrologic Subarea	-	-
U-04.D4	Arroyo Sequit Hydrologic Subarea	4-16.05	Arroyo Sequit Canyon Basin

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-04.D5	Little Sycamore Canyon Hydrologic Subarea	-	-
U-04.D6	Deer Canyon Hydrologic Subarea	-	-
U-04.D7	Big Sycamore Canyon Hydrologic Subarea	-	-
U-04.D8	La Jolla Valley Hydrologic Subarea	-	-
U-05.00	Los Angeles-San Gabriel River Hydrologic Unit	-	-
U-05.A0	Coastal Plain of Los Angeles County Hydrologic Subunit	-	-
U-05.A1	Palos Verdes Hydrologic Subarea	-	-
U-05.A2	West Coast Hydrologic Subarea	4-11.02	West Coast Basin
U-05.A3	Santa Monica Hydrologic Subarea	4-11.01	West Coast Basin Nor
U-05.A4	Hollywood Hydrologic Subarea	4-11.06	Hollywood Basin
U-05.A5	Central Hydrologic Subarea	4-11.03	Central Coastal Plai Pressure Area
		4-11.04	Los Angeles Forebay
		4-11.05	Montebello Forebay A
		4-11.08	La Habra Basin
		4-11.07	Los Angeles Narrows (A portion of this b is part of Central logic Subarea, U-05 and the remainder i of San Fernando Hyd Subarea, U-05.B1)

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-05.B0	San Fernando Hydrologic Subunit	-	-
U-05.B1	San Fernando Hydrologic Subarea	4-12.01 4-12.02 4-11.07	San Fernando Basin Bull Canyon Basin Los Angeles Narrows Basin (A portion of this basin is part of San Fernando Hydrologic Subarea, U-05.B1, and the remainder is part of Central Hydrologic Subarea, U-05.A5)
U-05.B2	Sylmar Hydrologic Subarea	4-12.04 4-12.03	Pacoima Basin Sylmar Basin
U-05.B3	Tujunga Hydrologic Subarea	4-12.06 4-12.05	Little Tujunga Basin Tujunga Basin
U-05.B4	Verdugo Hydrologic Subarea	4-12.07	Verdugo Basin
U-05.B5	Eagle Rock Hydrologic Subarea	-	-
U-05.C0	Raymond Hydrologic Subunit	-	-
U-05.C1	Pasadena Hydrologic Subarea	4-13.03	Pasadena Subarea
U-05.C2	Monk Hill Hydrologic Subarea	4-13.02	Monk Hill Basin
U-05.C3	Santa Anita Hydrologic Subarea	4-13.04	Santa Anita Subarea
U-05.D0	Santa Gabriel Valley Hydrologic Subunit	-	-
U-05.D1	Main San Gabriel Hydrologic Subarea	4-13.01 4-13.07 4-13.08 4-13.09 4-13.12	Main San Gabriel Basin Glendora Basin Way Hill Basin San Dimas Basin Puente Basin

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-05.D2	Lower Canyon Hydrologic Subarea	4-13.06	Lower Canyon Basin
U-05.D3	Upper Canyon Hydrologic Subarea	4-13.05	Upper Canyon Basin
U-05.D4	Foothill Hydrologic Subarea	4-13.10	Foothill Basin
U-05.E0	Spadra Hydrologic Subunit	-	-
U-05.E1	Spadra Hydrologic Subarea	4-13.11	Spadra Basin
U-05.E2	Pomona Hydrologic Subarea	4-14.02	Pomona Basin (Now only a portion of this area is utilized; the remainder is Harrison Hydrologic Subarea, Y-01.B2)
U-05.E3	Live Oak Hydrologic Subarea	4-14.03 4-14.04	Live Oak Basin Claremont Heights Basin (Now only a portion of this area is utilized; the remainder is part of Claremont Heights Hydrologic Subarea, Y-01.B3)
U-05.F0	Anaheim Hydrologic Subunit	-	-
U-05.F1	Anaheim Hydrologic Subarea	8- 1.01	East Coastal Plain Pressure Area (Now only a portion of this area is utilized; the remainder is East Coastal Plain Hydrologic Subarea, Y-01.A1)
		8- 1.02	Santa Ana Forebay Area (Now only a portion of this area is utilized; the remainder is East Coastal Plain Hydrologic Subarea, Y-01.A1)

NAMES AND AREAL CODE NUMBERS
LOS ANGELES DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
U-05.F2	La Habra Hydrologic Subarea	8- 1.04	La Habra Basin
U-05.F3	Yorba Linda Hydrologic Subarea	8- 1.05	Yorba Linda Basin
U-06.00	San Pedro Channel Islands Hydrologic Unit	-	-
U-06.A0	Anacapa Island Hydrologic Subunit	-	-
U-06.B0	San Nicolas Island Hydrologic Subunit	-	-
U-06.C0	Santa Barbara Island Hydrologic Subunit	-	-
U-06.D0	Santa Catalina Island Hydrologic Subunit	-	-
U-06.E0	San Clemente Island Hydrologic Subunit	-	-

ATTACHMENT 3

NAMES AND AREAL CODE NUMBERS

LAHONTAN DRAINAGE PROVINCE (W)

ATTACHMENT 3

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE*

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-01.00	Mono Hydrologic Unit	6- 9.00	Mono Valley
W-02.00	Adobe Hydrologic Unit	6-10.00	Adobe Lake Valley
W-03.00	Owens Hydrologic Unit	-	-
W-03.AO	Long Hydrologic Subunit	6-11.00	Long Valley
W-03.BO	Upper Owens Hydrologic Subunit	6-12.00	Owens Valley (Now only a portion of this area is utilized; the remainder is Lower Owens Hydrologic Subunit, W-03.CO)
W-03.CO	Lower Owens Hydrologic Subunit	6-12.00	Owens Valley (Now only a portion of this area is utilized; the remainder is Upper Owens Hydrologic Subunit, W-03.BO)
W-03.DO	Centennial Hydrologic Subunit	6-13.00	Black Springs Valley
W-04.00	Fish Lake Hydrologic Unit	6-14.00	Fish Lake Valley
W-05.00	Deep Springs Hydrologic Unit	6-15.00	Deep Springs Valley
W-06.00	Eureka Hydrologic Unit	6-16.00	Eureka Valley
W-06.AO	Marble Bath Hydrologic Subunit	-	-
W-06.BO	Eureka Hydrologic Subunit	-	-

*Boundaries of hydrologic areas are shown on Plates 1 and 9.

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-07.00	Saline Hydrologic Unit	6-17.00	Saline Valley (Now only a portion of this area is utilized; the remainder is Race Track Hydrologic Unit, W-08.00)
W-07.A0	Saline Hydrologic Subunit	-	-
W-07.B0	Cameo Hydrologic Subunit	-	-
W-08.00	Race Track Hydrologic Unit	6-17.00	Saline Valley (Now only a portion of this area is utilized; the remainder is Saline Hydrologic Unit, W-07.00)
W-08.A0	Race Track Hydrologic Subunit	-	-
W-08.B0	Hidden Valley Hydrologic Subunit	-	-
W-08.C0	Ulida Hydrologic Subunit	-	-
W-08.D0	Sand Flat Hydrologic Subunit	-	-
W-09.00	Amargosa Hydrologic Unit	-	-
W-09.A0	Death Valley Hydrologic Subunit	-	-
W-09.A1	Death Valley Hydrologic Subarea	6-18.00	Death Valley
W-09.A2	Harrisburgh Hydrologic Subarea	-	-
W-09.A3	Wingate Wash Hydrologic Subarea	6-19.00	Wingate Valley

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-09.B0	Valjean Hydrologic Subunit	-	-
W-09.B1	Avawatz Hydrologic Subarea	6-26.00	Avawatz Valley
W-09.B2	Red Pass Hydrologic Subarea	6-24.00	Red Pass Valley
W-09.B3	Valjean Hydrologic Subarea	6-21.00 6-23.00	Lower Kingston Valley Riggs Valley
W-09.B4	Shadow Hydrologic Subarea	6-22.00	Upper Kingston Valley
W-09.C0	Furnace Creek Hydrologic Subunit	-	-
W-09.C1	Furnace Creek Hydrologic Subarea	-	-
W-09.C2	Greenwater Hydrologic Subarea	-	-
W-09.D0	Amargosa Hydrologic Subunit	6-20.00	Middle Amargosa Valley
W-09.D1	Calico Hydrologic Subarea	-	-
W-09.D2	Amargosa Hydrologic Subarea	-	-
W-09.D3	Chicago Hydrologic Subarea	-	-
W-09.D4	California Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-10.00	Pahrump Hydrologic Unit	6-28.00	Pahrump Valley
W-11.00	Mesquite Hydrologic Unit	6-29.00	Mesquite Valley
W-12.00	Ivanpah Hydrologic Unit	6-30.00	Ivanpah Valley
W-13.00	Owlshead Hydrologic Unit	-	-
W-13.A0	Lost Lake Hydrologic Subunit	-	-
W-13.B0	Owlshead Hydrologic Subunit	-	-
W-14.00	Leach Hydrologic Unit	6-27.00	Leach Valley
W-15.00	Nelson Hydrologic Unit	-	-
W-15.A0	McLean Hydrologic Subunit	-	-
W-15.B0	Nelson Hydrologic Subunit	-	-
W-16.00	Bicycle Hydrologic Unit	6-25.00 6-37.00	Bicycle Valley Coyote Lake Valley (Now only a portion of this area is utilized; the remainder is included in Coyote Hydrologic Unit, W-18.00)
W-17.00	Goldstone Hydrologic Unit	6-48.00	Goldstone Valley
W-18.00	Coyote Hydrologic Unit	6-37.00	Coyote Lake Valley (Now only a portion of this area is utilized; the remainder is included in Bicycle Hydrologic Unit, W-16.00)

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-19.00	Superior Hydrologic Unit	6-49.00	Superior Valley
W-20.00	Panamint Hydrologic Unit	-	-
W-20.A0	Wingate Pass Hydrologic Subunit	-	-
W-20.B0	Wild Rose Hydrologic Subunit	-	-
W-20.B1	White Sage Hydrologic Subarea	-	-
W-20.B2	Wild Rose Hydrologic Subarea	-	-
W-20.C0	Lee Flat Hydrologic Subunit	-	-
W-20.D0	Santa Rosa Flat Hydrologic Subunit	-	-
W-20.D1	Santa Rosa Flat Hydrologic Subarea	-	-
W-20.D2	Rainbow Hydrologic Subarea	-	-
W-20.D3	Silver Dollar Hydrologic Subarea	-	-
W-20.E0	Darwin Hydrologic Subunit	6-57.00	Darwin Valley
W-20.F0	Panamint Hydrologic Subunit	6-58.00	Panamint Valley
W-20.G0	Brown Hydrologic Subunit	-	-

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-20.HO	Robbers Hydrologic Subunit	6-51.00	Pilot Knob Valley (Now only a portion of this area is utilized; the remainder is Pilot Knob Hydrologic Subunit, W-21.CO)
W-21.00	Searles Hydrologic Unit	-	-
W-21.AO	Searles Hydrologic Subunit	6-52.00	Searles Valley
W-21.BO	Salt Wells Hydrologic Subunit	6-53.00	Salt Wells Valley
W-21.CO	Pilot Knob Hydrologic Subunit	6-51.00	Pilot Knob Valley (Now only a portion of this area is utilized; the remainder is Robbers Hydrologic Subunit, W-20.HO)
W-22.00	Coso Hydrologic Unit	6-55.00	Coso Valley
W-22.AO	Wild Horse Hydrologic Subunit	-	-
W-22.BO	Coso Hydrologic Subunit	-	-
W-23.00	Upper Cactus Hydrologic Unit	-	-
W-24.00	Indian Wells Hydrologic Unit	-	-
W-24.AO	Rose Hydrologic Subunit	6-56.00	Rose Valley
W-24.BO	Indian Wells Hydrologic Subunit	6-54.00	Indian Wells Valley
W-25.00	Fremont Hydrologic Unit	-	-

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-25.A0	Dove Springs Hydrologic Subunit	-	-
W-25.B0	Kelso-Landis Hydrologic Subunit	-	-
W-25.C0	East Tehachapi Hydrologic Subunit	6-45.00	Tehachapi Valley East
W-25.D0	Koehn Hydrologic Subunit	6-46.00	Fremont Valley
W-26.00	Antelope Hydrologic Unit	6-44.00	Antelope Valley
W-26.A0	Antelope Hydrologic Subunit	-	-
W-26.A1	Chafee Hydrologic Subarea	6-44.04	Chafee Basin
W-26.A2	Gloster Hydrologic Subarea	6-44.03	Gloster Basin
W-26.A3	Willow Springs Hydrologic Subarea	6-44.02	Willow Springs Basin
W-26.A4	Neenach Hydrologic Subarea	6-44.01	Neenach Basin
W-26.A5	Lancaster Hydrologic Subarea	6-44.05	Lancaster Basin
W-26.A6	North Muroc Hydrologic Subarea	6-44.08	North Muroc Basin
W-26.A7	Buttes Hydrologic Subarea	6-44.06	Buttes Basin
W-26.A8	Rock Creek Hydrologic Subarea	6-44.07	Rock Creek Basin

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-27.00	Cuddeback Hydrologic Unit	6-50.00	Cuddeback Valley
W-28.00	Mojave Hydrologic Unit	-	-
W-28.A0	El Mirage Hydrologic Subunit	6-43.00	El Mirage Valley
W-28.B0	Upper Mojave Hydrologic Subunit	6-42.00	Upper Mojave River Valley
W-28.C0	Middle Mojave Hydrologic Subunit	6-41.00	Middle Mojave River Valley
W-28.D0	Harper Hydrologic Subunit	-	-
W-28.D1	Grass Valley Hydrologic Subarea	-	-
W-28.D2	Harper Hydrologic Subarea	6-47.00	Harper Valley
W-28.E0	Lower Mojave Hydrologic Subunit	6-40.00	Lower Mojave River Valley
W-28.F0	Troy Hydrologic Subunit	-	-
W-28.F1	Kane Wash Hydrologic Subarea	-	-
W-28.F2	Troy Hydrologic Subarea	6-39.00	Troy Valley
W-28.G0	Afton Hydrologic Subunit	-	-
W-28.G1	Caves Hydrologic Subarea	6-38.00	Caves Canyon Valley

NAMES AND AREAL CODE NUMBERS
LAHONTAN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
W-28.G2	Cronese Hydrologic Subarea	6-35.00	Cronese Valley
W-28.G3	Langford Hydrologic Subarea	6-36.00	Langford Valley
W-28.H0	Baker Hydrologic Subunit	-	-
W-28.H1	Silver Lake Hydrologic Subarea	6-34.00	Silver Lake Valley
W-28.H2	Soda Lake Hydrologic Subarea	6-33.00	Soda Lake Valley
W-28.I0	Kelso Hydrologic Subunit	6-31.00	Kelso Valley
W-29.00	Broadwell Hydrologic Unit	6-32.00	Broadwell Valley

ATTACHMENT 4

NAMES AND AREAL CODE NUMBERS

COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

ATTACHMENT 4

NAMES AND AREAL CODE NUMBERS
COLORADO RIVER BASIN DRAINAGE PROVINCE*

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
X-01.00	Lucerne Hydrologic Unit	7-19.00	Lucerne Valley
X-02.00	Johnson Hydrologic Unit	7-18.00	Johnson Valley
X-03.00	Bessemer Hydrologic Unit	7-15.00	Bessemer Valley
X-04.00	Means Hydrologic Unit	7-17.00	Means Valley
X-05.00	Emerson Hydrologic Unit	7-16.00	Ames Valley
X-06.00	Lavic Hydrologic Unit	7-14.00	Lavic Valley
X-07.00	Deadman Hydrologic Unit	7-13.00	Deadman Valley
X-08.00	Joshua Tree Hydrologic Unit	-	-
X-08.A0	Warren Hydrologic Subunit	7-12.00	Warren Valley
X-08.B0	Copper Mountain Hydrologic Subunit	7-11.00	Copper Mountain Valley
X-09.00	Dale Hydrologic Unit	-	-
X-09.A0	Twentynine Palms Hydrologic Subunit	7-10.00	Twentynine Palms Valley
X-09.B0	Dale Hydrologic Subunit	7- 9.00	Dale Valley
X-10.00	Bristol Hydrologic Unit	-	-
X-10.A0	Bristol Hydrologic Subunit	7- 8.00	Bristol Valley
X-10.B0	Fenner Hydrologic Subunit	7- 2.00	Fenner Valley
X-11.00	Cadiz Hydrologic Unit	7- 7.00	Cadiz Valley

*Boundaries of hydrologic areas are shown on Plates 1 and 10.

NAMES AND AREAL CODE NUMBERS
COLORADO RIVER BASIN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
X-12.00	Ward Hydrologic Unit	7- 3.00	Ward Valley
X-13.00	Piute Hydrologic Unit	-	-
X-13.A0	Lanfair Hydrologic Subunit	7- 1.00	Lanfair Valley
X-13.B0	Piute Hydrologic Subunit	7-45.00	Piute Valley
X-13.C0	Needles Hydrologic Subunit	7-44.00	Needles Valley
X-14.00	Chemehuevis Hydrologic Unit	7-43.00	Chemehuevis Valley
X-15.00	Colorado Hydrologic Unit	-	-
X-15.A0	Vidal Hydrologic Subunit	7-42.00 7-41.00	Vidal Valley Calzona Valley
X-15.B0	Big Wash Hydrologic Subunit	-	-
X-15.C0	Quien Sabe Hydrologic Subunit	7-40.00	Quien Sabe Point Valley
X-15.D0	Palo Verde Hydrologic Subunit	7-39.00 7-38.00	Palo Verde Mesa Valley Palo Verde Valley
X-15.E0	Arroyo Seco Hydrologic Subunit	7-37.00	Arroyo Seco Valley
X-16.00	Rice Hydrologic Unit	7- 4.00	Rice Valley
X-17.00	Chuckwalla Hydrologic Unit	-	-
X-17.A0	Ford Hydrologic Subunit	7- 5.00	Chuckwalla Valley (Now only a portion of this area is utilized; the remainder is Palen Hydrologic Subunit, X-17.B0)

NAMES AND AREAL CODE NUMBERS
COLORADO RIVER BASIN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
X-17.B0	Palen Hydrologic Subunit	7- 5.00	Chuckwalla Valley (Now only a portion of this area is utilized; the remainder is Ford Hydrologic Subunit, X-17.A0)
X-17.C0	Pinto Hydrologic Subunit	7- 6.00	Pinto Valley (Now only a portion of this area is utilized; the remainder is Pleasant Hydrologic Subunit, X-17.D0)
X-17.D0	Pleasant Hydrologic Subunit	7- 6.00	Pinto Valley (Now only a portion of this area is utilized; the remainder is Pinto Hydrologic Subunit, X-17.C0)
X-18.00	Hayfield Hydrologic Unit	7-31.00	Orcopia Valley (Now only a portion of this area is utilized; the remainder is Shavers Hydrologic Subunit, X-19.B0)
X-19.00	Whitewater Hydrologic Unit	-	-
X-19.A0	Morongo Hydrologic Subunit	7-20.00	Morongo Valley
X-19.B0	Shavers Hydrologic Subunit	7-31.00	Orcopia Valley (Now only a portion of this area is utilized; the remainder is Hayfield Hydrologic Unit, X-18.00)
X-19.C0	San Gorgonio Hydrologic Subunit	7-21.00	Coachella Valley (Now only a portion of this area is utilized; the remainder is Coachella Hydrologic Subunit, X-19.D0)

NAMES AND AREAL CODE NUMBERS
COLORADO RIVER BASIN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
X-19.C1	Beaumont Hydrologic Subarea	-	-
X-19.C2	San Gorgonio Hydrologic Subarea	-	-
X-19.D0	Coachella Hydrologic Subunit	7-21.00	Coachella Valley (Now only a portion of this area is utilized; the remainder is San Gorgonio Hydrologic Subunit, X-19.C0)
X-19.D1	Garnet Hill Hydrologic Subarea	-	-
X-19.D2	Mission Creek Hydrologic Subarea	-	-
X-19.D3	Miracle Hill Hydrologic Subarea	-	-
X-19.D4	Sky Valley Hydrologic Subarea	-	-
X-19.D5	Fargo Canyon Hydrologic Subarea	-	-
X-19.D6	Thousand Palms Hydrologic Subarea	-	-
X-19.D7	Indio Hydrologic Subarea	-	-
X-20.00	Clark Hydrologic Unit	7-23.00	Clark Valley
X-21.00	West Salton Sea Hydrologic Unit	7-22.00	West Salton Sea Valley
X-22.00	Anza-Borrego Hydrologic Unit	-	-

NAMES AND AREAL CODE NUMBERS
COLORADO RIVER BASIN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
X-22.A0	Borrego Hydrologic Subunit	-	-
X-22.A1	Terwilliger Hydrologic Subarea	7-26.00	Terwilliger Valley
X-22.A2	Collins Hydrologic Subarea	7-24.00	Borrego Valley (Now only a portion of this area is utilized; the remainder is Borrego Hydrologic Subarea, X-22.A3)
X-22.A3	Borrego Hydrologic Subarea	7-24.00	Borrego Valley (Now only a portion of this area is utilized; the remainder is Collins Hydrologic Subarea, X-22.A2)
X-22.B0	Ocotillo-Lower San Felipe Hydrologic Subunit	7-25.00 7-30.00	Ocotillo Valley Portion of Imperial Valley
X-22.C0	Mescal Bajada Hydrologic Subunit	7-27.00	San Felipe Valley (Now only a portion of this area is utilized; the remainder is San Felipe Hydrologic Subunit, X-22.D0)
X-22.D0	San Felipe Hydrologic Subunit	7-27.00	San Felipe Valley (Now only a portion of this area is utilized; the remainder is Mescal Bajada Hydrologic Subunit, X-22.C0)
X-22.E0	Mason Hydrologic Subunit	-	-
X-22.F0	Vallecito-Carrizo Hydrologic Subunit	-	-

NAMES AND AREAL CODE NUMBERS
COLORADO RIVER BASIN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
X-22.F1	Carrizo Hydrologic Subarea	7-28.00	Vallecito-Carrizo Valle (Now only a portion of this area is utilized; the remainder is Valle-cito Hydrologic Subarea X-22.F2)
X-22.F2	Vallecito Hydrologic Subarea	7-28.00	Vallecito-Carrizo Valle (Now only a portion of this area is utilized; the remainder is Carri: Hydrologic Subarea, X-22.F1)
X-22.F3	Canebrake Hydrologic Subarea	7-46.00	Canebrake Valley
X-22.G0	Jacumba Hydrologic Subunit	-	-
X-22.G1	McCain Hydrologic Subarea	-	-
X-22.G2	Jacumba Hydrologic Subarea	7-47.00	Jacumba Valley
X-23.00	Imperial Hydrologic Unit	-	-
X-23.A0	Imperial Hydrologic Subunit	7-30.00 7-33.00	Portion of Imperial Valley Portion of East Salton Sea Valley
X-23.B0	Coyote Wells Hydrologic Subunit	7-29.00	Coyote Wells Valley
X-24.00	Davies Hydrologic Unit	-	-

NAMES AND AREAL CODE NUMBERS
COLORADO RIVER BASIN DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
X-25.00	East Salton Sea Hydrologic Unit	7-32.00	Chocolate Valley
		7-33.00	Portion of East Salton Sea Valley
X-26.00	Amos-Ogilby Hydrologic Unit	7-34.00	Amos Valley
		7-35.00	Ogilby Valley
X-27.00	Yuma Hydrologic Unit	7-36.00	Yuma Valley

ATTACHMENT 5

NAMES AND AREAL CODE NUMBERS

SANTA ANA DRAINAGE PROVINCE (Y)

ATTACHMENT 5

NAMES AND AREAL CODE NUMBERS
SANTA ANA DRAINAGE PROVINCE*

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Y-01.00	Santa Ana River Hydrologic Unit	-	-
Y-01.A0	Lower Santa Ana River Hydrologic Subunit	-	-
Y-01.A1	East Coastal Plain Hydrologic Subarea	8- 1.01	East Coastal Plain Pressure Area (Now only a portion of this area is utilized; the remainder is Anaheim Hydrologic Subarea, U-05.F1)
		8- 1.02	Santa Ana Forebay Area (Now only a portion of this area is utilized; the remainder is Anaheim Hydrologic Subarea, U-05.F1)
		8- 1.03	Irvine Basin
Y-01.A2	Santiago Hydrologic Subarea	8- 1.07	Santiago Basin
Y-01.A3	Santa Ana Narrows Hydrologic Subarea	8- 1.06	Santa Ana Narrows Basin
Y-01.B0	Middle Santa Ana River Hydrologic Subunit	-	-
Y-01.B1	Chino Hydrologic Subarea	8- 2.01	Chino Basin
		4-14.01	Chino Basin

*Boundaries of hydrologic areas are shown on Plates 1 and 11.

NAMES AND AREAL CODE NUMBERS
SANTA ANA DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Y-01.B2	Harrison Hydrologic Subarea	4-14.02	Pomona Basin (Now only a portion of this area is utilized; the remainder is Pomona Hydrologic Subarea, U-05.E2)
Y-01.B3	Claremont Heights Hydrologic Subarea	8- 2.02 4-14.04	Claremont Heights Basin Claremont Heights Basin (Now only a portion of this area is utilized; the remainder is Live Oak Hydrologic Subarea, U-05.E3)
Y-01.B4	Cucamonga Hydrologic Subarea	8- 2.03	Cucamonga Basin
Y-01.B5	Temescal Hydrologic Subarea	8- 2.17	Temescal Basin
Y-01.B6	Arlington Hydrologic Subarea	8- 2.16	Arlington Basin
Y-01.B7	Riverside Hydrologic Subarea	8- 2.15	Riverside Basin
Y-01.C0	Lake Mathews Hydrologic Subunit	-	-
Y-01.C1	Coldwater Hydrologic Subarea	8- 2.19	Coldwater Basin
Y-01.C2	Bedford Hydrologic Subarea	8- 2.18	Bedford Basin
Y-01.C3	Cajalco Hydrologic Subarea	8- 3.00	Cajalco Valley

NAMES AND AREAL CODE NUMBERS
SANTA ANA DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Y-01.C4	Lee Lake Hydrologic Subarea	8- 2.20	Lee Lake Basin
Y-01.C5	Terra Cotta Hydrologic Subarea	-	-
Y-01.D0	Colton-Rialto Hydrologic Subunit	-	-
Y-01.D1	Upper Lytle Hydrologic Subarea	-	-
Y-01.D2	Lower Lytle Hydrologic Subarea	-	-
Y-01.D3	Upper Colton-Rialto Hydrologic Subarea	8- 2.04	Portion of Rialto Basin
Y-01.D4	Colton-Rialto Hydrologic Subarea	8- 2.05 8- 2.04	Colton Basin Portion of Rialto Basin
Y-01.D5	Reche Hydrologic Subarea	8- 2.14	Reche Canyon Basin
Y-01.E0	Upper Santa Ana Hydrologic Subunit	-	-
Y-01.E1	Cajon Hydrologic Subarea	8- 2.08	Upper Cajon Basin
Y-01.E2	Bunker Hill Hydrologic Subarea	8- 2.09 8- 2.10 8- 2.06	Lower Cajon Basin Devil Canyon Basin Portion of Bunker Hill Basin
Y-01.E3	Redlands Hydrologic Subarea	8- 2.06	Portion of Bunker Hill Basin
Y-01.E4	Mentone Hydrologic Subarea	8- 2.06	Portion of Bunker Hill Basin

NAMES AND AREAL CODE NUMBERS
SANTA ANA DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Y-01.E5	Reservoir Hydrologic Subarea	8- 2.06	Portion of Bunker Hill Basin
Y-01.E6	Crafton Hydrologic Subarea	8- 2.13	Portion of San Timoteo Basin
Y-01.E7	Santa Ana Canyon Hydrologic Subarea	8- 2.06	Portion of Bunker Hill Basin
Y-01.E8	Mill Creek Hydrologic Subarea	8- 2.06	Portion of Bunker Hill Basin
Y-01.E9	Sycamore Hydrologic Subarea	8- 2.07	Lytle Basin
Y-01.F0	San Timoteo Hydrologic Subunit	-	-
Y-01.F1	Yucaipa Hydrologic Subarea	8- 2.13	Portion of San Timoteo Basin
Y-01.F2	San Timoteo Hydrologic Subarea	8- 2.13	Portion of San Timoteo Basin
		8- 2.12	Portion of Beaumont Basi
Y-01.F3	Cherry Valley Hydrologic Subarea	8- 2.11	Portion of Yucaipa Basin
		8- 2.12	Portion of Beaumont Basi
Y-01.F4	Chicken Hill Hydrologic Subarea	8- 2.11	Portion of Yucaipa Basin
Y-01.F5	Gateway Hydrologic Subarea	8- 2.11	Portion of Yucaipa Basin
Y-01.F6	Oak Glen Hydrologic Subarea	8- 2.11	Portion of Yucaipa Basin
Y-01.F7	South Mesa Hydrologic Subarea	8- 2.11	Portion of Yucaipa Basin

NAMES AND AREAL CODE NUMBERS
SANTA ANA DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Y-01.F8	Triple Falls Creek Hydrologic Subarea	8- 2.11	Portion of Yucaipa Basin
Y-01.F9	Nobie Creek Hydrologic Subarea	8- 2.12	Portion of Beaumont Basin
Y-01.G0	San Bernardino Mountain Hydrologic Subunit	-	-
Y-01.G1	Bear Valley Hydrologic Subarea	8- 9.00	Portion of Bear Valley
Y-01.G2	Seven Oaks Hydrologic Subarea	8- 7.00 8- 8.00	Big Meadows Valley Seven Oaks Valley
Y-01.G3	Baldwin Hydrologic Subarea	8- 9.00	Portion of Bear Valley
Y-02.00	San Jacinto Valley Hydrologic Unit	8- 5.00 8- 6.00	San Jacinto Valley Hemet Lake Valley
Y-02.A0	Perris Hydrologic Subunit	-	-
Y-02.A1	Perris Valley Hydrologic Subarea	-	-
Y-02.A2	Menifee Hydrologic Subarea	-	-
Y-02.A3	Winchester Hydrologic Subarea	-	-
Y-02.A4	Lakeview Hydrologic Subarea	-	-
Y-02.A5	Hemet Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SANTA ANA DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Y-02.B0	San Jacinto Hydrologic Subunit	-	-
Y-02.B1	San Jacinto Hydrologic Subarea	-	-
Y-02.B2	Hemet Lake Hydrologic Subarea	8- 6.00	Hemet Lake Valley
Y-02.B3	Bautista Hydrologic Subarea	-	-
Y-02.C0	Elsinore Hydrologic Subunit	8- 4.00	Elsinore Valley
Y-02.C1	Elsinore Hydrologic Subarea	-	-
Y-02.C2	Railroad Hydrologic Subarea	-	-

ATTACHMENT 6

NAMES AND AREAL CODE NUMBERS

SAN DIEGO DRAINAGE PROVINCE (Z)

ATTACHMENT 6

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE*

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-01.00	San Juan Hydrologic Unit	-	-
Z-01.A0	Laguna Hydrologic Subunit	-	-
Z-01.A1	San Joaquin Hydrologic Subarea	-	-
Z-01.A2	Laguna Hydrologic Subarea	-	-
Z-01.A3	Aliso Hydrologic Subarea	9- 1.01	Aliso Creek Basin
Z-01.A4	Dana Point Hydrologic Subarea	-	-
Z-01.B0	San Juan Hydrologic Subunit	9- 1.02	San Juan Creek Basin
Z-01.C0	San Clemente Hydrologic Subunit	-	-
Z-01.D0	San Mateo Hydrologic Subunit	9- 2.00	San Mateo Way
Z-01.E0	San Onofre Hydrologic Subunit	-	-
Z-01.E1	San Onofre Hydrologic Subarea	9- 3.00	San Onofre Valley
Z-01.E2	Las Pulgas Hydrologic Subarea	-	-
Z-01.E3	Stuart Hydrologic Subarea	-	-
Z-02.00	Santa Margarita Hydrologic Unit	-	-
Z-02.A0	Ysidora Hydrologic Subunit	9- 4.00	Santa Margarita Valley

*Boundaries of hydrologic areas are shown on Plates 1 and 12.

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-02.A1	Ysidora Hydrologic Subarea	-	-
Z-02.A2	Chappo Hydrologic Subarea	-	-
Z-02.A3	Upper Hydrologic Subarea	-	-
Z-02.B0	De Luz Hydrologic Subunit	-	-
Z-02.B1	De Luz Hydrologic Subarea	-	-
Z-02.B2	Gavilan Hydrologic Subarea	-	-
Z-02.B3	Vallecitos Hydrologic Subarea	-	-
Z-02.C0	Murrieta Hydrologic Subunit	-	-
Z-02.C1	Wildomar Hydrologic Subarea	9- 5.01	Murrieta Basin (Now c a portion of this are is utilized; the rema der is Murrieta Hydro logic Subarea, Z-02.C
Z-02.C2	Murrieta Hydrologic Subarea	9- 5.01	Murrieta Basin (Now c a portion of this are is utilized; the rema der is Wildomar Hydro Subarea, Z-02.C1)
Z-02.C3	French Hydrologic Subarea	-	-
Z-02.C4	Lower Domenigoni Hydrologic Subarea	-	-
Z-02.C5	Domenigoni Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-02.C6	Diamond Hydrologic Subarea	-	-
Z-02.D0	Auld Hydrologic Subunit	-	-
Z-02.D1	Auld Hydrologic Subarea	-	-
Z-02.D2	Gertrudis Hydrologic Subarea	-	-
Z-02.D3	Lower Tucalota Hydrologic Subarea	-	-
Z-02.D4	Tucalota Hydrologic Subarea	-	-
Z-02.E0	Pechanga Hydrologic Subunit	-	-
Z-02.E1	Pauba Hydrologic Subarea	9- 5.02	Pauba Basin
Z-02.E2	Pechanga Hydrologic Subarea	9- 5.03	Wolf Basin (Pechanga)
Z-02.F0	Wilson Hydrologic Subunit	-	-
Z-02.F1	Lancaster Valley Hydrologic Subarea	-	-
Z-02.F2	Lewis Hydrologic Subarea	-	-
Z-02.F3	Wilson Hydrologic Subarea	-	-
Z-02.G0	Anza Hydrologic Subunit	-	-
Z-02.G1	Lower Coahuila Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-02.G2	Upper Coahuila Hydrologic Subarea	9- 6.00	Coahuila Valley (Now on a portion of this area utilized; the remainder Anza Hydrologic Subarea Z-02.G3)
Z-02.G3	Anza Hydrologic	9- 6.00	Coahuila Valley (Now on a portion of this area utilized; the remainder Upper Coahuila Hydrolog Subarea, Z-02.G2)
Z-02.G4	Burnt Hydrologic Subarea	-	-
Z-02.HO	Aguanga Hydrologic Subunit	-	-
Z-02.H1	Vail Hydrologic Subarea	-	-
Z-02.H2	Devils Hole Hydrologic Subarea	-	-
Z-02.H3	Redec Hydrologic Subarea	-	-
Z-02.H4	Aguanga Hydrologic Subarea	-	-
Z-02.IO	Oakgrove Hydrologic Subunit	-	-
Z-02.I1	Lower Culp Hydrologic Subarea	-	-
Z-02.I2	Oakgrove Hydrologic Subarea	-	-
Z-02.I3	Dodge Hydrologic Subarea	-	-
Z-02.I4	Chihuahua Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-03.00	San Luis Rey Hydrologic Unit	-	-
Z-03.A0	Bonsall Hydrologic Subunit	-	-
Z-03.A1	Mission Hydrologic Subarea	9- 7.01	Mission Basin
Z-03.A2	Bonsall Hydrologic Subarea	9- 7.02	Bonsall Basin (Now only a portion of this area is utilized; the remainder is Pala Hydrologic Subarea, Z-03.B1 and Pauma Hydrologic Subarea, Z-03.B2)
Z-03.A3	Moosa Hydrologic Subarea	-	-
Z-03.A4	Valley Center Hydrologic Subarea	-	-
Z-03.A5	Woods Hydrologic Subarea	-	-
Z-03.A6	Rincon Hydrologic Subarea	-	-
Z-03.B0	Monserate Hydrologic Subunit	-	-
Z-03.B1	Pala Hydrologic Subarea	9- 7.02	Bonsall Basin (Now only a portion of this area is utilized; the remainder is Bonsall Hydrologic Subarea, Z-03.A2 and Pauma Hydrologic Subarea, Z-03.B2)
Z-03.B2	Pauma Hydrologic Subarea	9- 7.02	Bonsall Basin (Now only a portion of this area is utilized; the remainder is Bonsall Hydrologic Subarea, Z-03.A2 and Pala Hydrologic Subarea, Z-03.B1)
Z-03.B3	San Luis Rey Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-03.C0	Warner Hydrologic Subunit	9- 8.00	Warner Valley
Z-03.C1	Warner Hydrologic Subarea	-	-
Z-03.C2	Combs Hydrologic Subarea	-	-
Z-04.00	Carlsbad Hydrologic Unit	-	-
Z-04.A0	Loma Alta Hydrologic Subunit	-	-
Z-04.B0	Vista Hydrologic Subunit	-	-
Z-04.B1	Carlsbad Hydrologic Subarea	-	-
Z-04.B2	Vista Hydrologic Subarea	-	-
Z-04.C0	Agua Hedionda Hydrologic Subunit	-	-
Z-04.C1	Agua Hedionda Hydrologic Subarea	-	-
Z-04.C2	Buena Hydrologic Subarea	-	-
Z-04.D0	Encinas Hydrologic Subunit	-	-
Z-04.E0	San Marcos Hydrologic Subunit	-	-
Z-04.E1	Batiquitos Hydrologic Subarea	-	-
Z-04.E2	San Marcos Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-04.E3	Twin Oaks Hydrologic	-	-
Z-04.F0	Escondido Hydrologic Subunit	-	-
Z-04.F1	San Elijo Hydrologic Subarea	-	-
Z-04.F2	Escondido Hydrologic Subarea	9- 9.00	Escondido Valley
Z-04.F3	Lake Wohlford Hydrologic Subarea	-	-
Z-05.00	San Dieguito Hydrologic Unit	-	-
Z-05.A0	San Dieguito Hydrologic Subunit	-	-
Z-05.A1	San Dieguito Hydrologic Subarea	9-12.01	San Dieguito Basin
Z-05.A2	La Jolla Hydrologic Subarea	9-12.02	La Jolla Basin
Z-05.B0	Hodges Hydrologic Subunit	-	-
Z-05.B1	Hodges Hydrologic Subarea	9-10.01	Lake Hodges Basin
Z-05.B2	Green Hydrologic Subarea	9-10.04	Green Basin
Z-05.B3	Felicita Hydrologic Subarea	9-10.03	Felicita Basin
Z-05.B4	Bear Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-05.C0	San Pasqual Hydrologic Subunit	-	-
Z-05.C1	Highland Hydrologic Subarea	9-10.05	Highland Basin
Z-05.C2	San Pasqual Hydrologic Subarea	9-10.02	San Pasqual Basin
Z-05.C3	Reed Hydrologic Subarea	-	-
Z-05.C4	Hidden Hydrologic Subarea	-	-
Z-05.C5	Guejito Hydrologic Subarea	-	-
Z-05.C6	Vineyard Hydrologic Subarea	-	-
Z-05.D0	Santa Maria Valley Hydrologic Subunit	-	-
Z-05.D1	Ramona Hydrologic Subarea	9-11.01	Ramona Basin
Z-05.D2	Lower Hatfield Hydrologic Subarea	9-11.02	Lower Hatfield Basin
Z-05.D3	Wash Hollow Hydrologic Subarea	9-11.03	Wash Hollow Basin
Z-05.D4	Upper Hatfield Hydrologic Subarea	9-11.04	Upper Hatfield Basin
Z-05.D5	Ballena Hydrologic Subarea	9-11.06	Ballena Basin
Z-05.D6	East Santa Teresa Hydrologic Subarea	9-11.05	Santa Teresa Basin
Z-05.D7	West Santa Teresa Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-05.E0	Santa Ysabel Hydrologic Subunit	-	-
Z-05.E1	Boden Hydrologic Subarea	-	-
Z-05.E2	Pamo Hydrologic Subarea	9-10.06	Pamo Basin
Z-05.E3	Sutherland Hydrologic Subarea	-	-
Z-05.E4	Santa Ysabel Hydrologic Subarea	9-10.08	Santa Ysabel Basin
Z-06.00	Penasquito Hydrologic Unit	-	-
Z-06.A0	Soledad Hydrologic Subunit	-	-
Z-06.B0	Poway Hydrologic Subunit	9-13.00	Poway Valley
Z-06.C0	Scripps Hydrologic Subunit	-	-
Z-06.D0	Miramar Hydrologic Subunit	-	-
Z-06.E0	Tecolote Hydrologic Subunit	-	-
Z-07.00	San Diego Hydrologic Unit	-	-
Z-07.A0	Lower San Diego Hydrologic Subunit	-	-
Z-07.A1	Mission San Diego Hydrologic Subarea	9-14.00	Mission Valley (Now only a portion of this area is utilized; the remainder is Point Loma Hydrologic Subunit, Z-08.A0)

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-07.A2	Santee Hydrologic Subarea	9-15.00	San Diego River Valle
Z-07.A3	El Cajon Hydrologic Subarea	9-16.00	El Cajon Valley
Z-07.A4	Coches Hydrologic Subarea	-	-
Z-07.A5	El Monte Hydrologic Subarea	-	-
Z-07.B0	San Vicente Hydrologic Subunit	-	-
Z-07.B1	San Vicente Hydrologic Subarea	-	-
Z-07.B2	Kimball Hydrologic Subarea	-	-
Z-07.B3	Gower Hydrologic Subarea	-	-
Z-07.B4	Barona Hydrologic Subarea	-	-
Z-07.C0	El Capitan Hydrologic Subunit	-	-
Z-07.C1	El Capitan Hydrologic Subarea	-	-
Z-07.C2	Glen Oaks Hydrologic Subarea	-	-
Z-07.C3	Alpine Hydrologic Subarea	-	-
Z-07.D0	Cuyamaca Hydrologic Subunit	-	-
Z-07.D1	Inaja Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-07.D2	Spencer Hydrologic Subarea	-	-
Z-07.D3	Cuyamaca Hydrologic Subarea	-	-
Z-08.00	Coronado Hydrologic Unit	-	-
Z-08.A0	Point Loma Hydrologic Subunit	9-14.00	Mission Valley (Now only a portion of this area is utilized; the remainder is Mission San Diego Hydrologic Subarea, Z-07.A1)
Z-08.B0	San Diego Mesa Hydrologic Subunit	-	-
Z-08.B1	Lindbergh Hydrologic Subarea	-	-
Z-08.B2	Chollas Hydrologic Subarea	-	-
Z-08.C0	Paradise Hydrologic Subunit	-	-
Z-08.C1	El Toyan Hydrologic Subarea	-	-
Z-08.C2	Paradise Hydrologic Subarea	-	-
Z-09.00	Sweetwater Hydrologic Unit	-	-
Z-09.A0	Lower Sweetwater Hydrologic Subunit	-	-
Z-09.A1	Telegraph Hydrologic Subarea	-	-
Z-09.A2	Sweetwater Hydrologic Subarea	9-17.00	Sweetwater Valley

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-09.B0	Middle Sweetwater Hydrologic Subunit	-	-
Z-09.B1	Jamacha Hydrologic Subarea	-	-
Z-09.B2	Hillsdale Hydrologic Subarea	-	-
Z-09.B3	Dehesa Hydrologic Subarea	-	-
Z-09.B4	Galloway Hydrologic Subarea	-	-
Z-09.B5	Sequan Hydrologic Subarea	-	-
Z-09.B6	Alpine Heights Hydrologic Subarea	-	-
Z-09.C0	Upper Sweetwater Hydrologic Subunit	-	-
Z-09.C1	Loveland Hydrologic Subarea	-	-
Z-09.C2	Japatul Hydrologic Subarea	-	-
Z-09.C3	Viejas Hydrologic Subarea	-	-
Z-09.C4	Descanso Hydrologic Subarea	-	-
Z-09.C5	Garnet Hydrologic Subarea	-	-
Z-10.00	Otay Hydrologic Unit	-	-
Z-10.A0	Coronado Hydrologic Subunit	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-10.B0	Otay Hydrologic Subunit	9-18.00	Otay Valley
Z-10.C0	Dulzura Hydrologic Subunit	-	-
Z-10.C1	Savage Hydrologic Subarea	-	-
Z-10.C2	Proctor Hydrologic Subarea	-	-
Z-10.C3	Jamul Hydrologic Subarea	9-20.00	Jamul Valley
Z-10.C4	Lee Hydrologic Subarea	-	-
Z-10.C5	Lyon Hydrologic Subarea	-	-
Z-10.C6	Dulzura Hydrologic Subarea	-	-
Z-10.C7	Engineer Springs Hydrologic Subarea	-	-
Z-11.00	Tia Juana Hydrologic Unit	-	-
Z-11.A0	Tia Juana Hydrologic Subunit	9-19.00	Tia Juana Valley
Z-11.A1	Tia Juana Hydrologic Subarea	-	-
Z-11.A2	San Ysidro Hydrologic Subarea	-	-
Z-11.B0	Potrero Hydrologic Subunit	-	-
Z-11.B1	Marron Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-11.B2	Bee Canyon Hydrologic Subarea	-	-
Z-11.B3	Barrett Hydrologic Subarea	-	-
Z-11.B4	Round Potrero Hydrologic Subarea	-	-
Z-11.B5	Potrero Hydrologic Subarea	-	-
Z-11.CO	Barrett Lake Hydrologic Subunit	-	-
Z-11.DO	Monument Hydrologic Subunit	-	-
Z-11.D1	Pine Hydrologic Subarea	-	-
Z-11.D2	Monument Hydrologic Subarea	-	-
Z-11.EO	Morena Hydrologic Subunit	-	-
Z-11.FO	Cottonwood Hydrologic Subunit	-	-
Z-11.GO	Cameron Hydrologic Subunit	-	-
Z-11.HO	Campo Hydrologic Subunit	-	-
Z-11.H1	Tecate Hydrologic Subarea	-	-
Z-11.H2	Campo Hydrologic Subarea	-	-
Z-11.H3	Clover Flat Hydrologic Subarea	-	-

NAMES AND AREAL CODE NUMBERS
SAN DIEGO DRAINAGE PROVINCE
(continued)

New Designation		Old Designation	
Code	Hydrologic Unit, Hydrologic Subunit and Hydrologic Subarea	Code	Basin or Valley
Z-11.H4	Hill Hydrologic Subarea	-	-
Z-11.H5	Hipass Hydrologic Subarea	-	-

APPENDIX A

CLIMATE

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Agency Code

The agency code used in this report for precipitation data consists of four numerical characters for indicating the agency supplying the data. The complete agency code number, which is not used in this report, requires a fifth character to indicate the drainage province.

Agency Code for Central Coastal Drainage Province (T)

Agency Code	Agency Name
2100	Ventura County Flood Control District
4002	U. S. Army Corps of Engineers, Los Angeles
4004	U. S. Weather Bureau
4111	San Luis Obispo County Farm Agent

Agency Code for Los Angeles Drainage Province (U)

Agency Code	Agency Name
1101	Los Angeles County Flood Control District
2100	Ventura County Flood Control District
4004	U. S. Weather Bureau

Agency Code for Lahontan Drainage Province (W)

Agency Code	Agency Name
1101	Los Angeles County Flood Control District
1200	Los Angeles Department of Water and Power
4004	U. S. Weather Bureau
5100	San Bernardino County Flood Control District

Agency Code for Colorado River Basin Drainage Province (X)

Agency Code	Agency Name
4004	U. S. Weather Bureau
4103	Riverside County Flood Control and Water Conservation District

Agency Code for Santa Ana Drainage Province (Y)

Agency Code	Agency Name
1101	Los Angeles County Flood Control District
3102	Orange County Flood Control District
3200	San Bernardino Water Department
4004	U. S. Weather Bureau
4103	Riverside County Flood Control and Water Conservation District
4701	Corona Foothill Mutual Lemon Company
4706	Fontana Union Water Company
4730	Crafton Orange Growers Association
4731	Garrett and Company
4732	Gold Buckle Association
4740	Southern California Edison Company
5100	San Bernardino County Flood Control District
5717	Temescal Water Company

Agency Code for San Diego Drainage Province (Z)

Agency Code	Agency Name
3102	Orange County Flood Control District
4002	U. S. Army Corps of Engineers, Los Angeles
4004	U. S. Weather Bureau

ECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

YDRO UBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			CENTRAL COASTAL DRAINAGE PROVINCE (T)			
			T-09 SALINAS HYDRO UNIT			
-09.H	35-19-42	120-29-19	1,350	19.50	4004	SALINAS DAM
	35-22-27	120-38-07	1,153	31.60	4004	SANTA MARGARITA BOOSTER
	35-21-59	120-38-16	1,250	31.60	4004	SANTA MARGARITA 2SW
	35-32-06	120-36-41	1,150	14.06	4111	RUNITZ RANCH
	35-32-56	120-42-21	800	18.94	4111	TEMPLETON
	35-37-40	120-41-03	700	17.09	4004	PASO ROBLES
	35-40-42	120-38-14	803	14.81	4004	PASO ROBLES AIRPORT
			T-10 SAN LUIS OBISPO HYDRO UNIT			
-10.B	35-17-51	120-39-45	300	24.80	4004	SAN LUIS OBISPO POLY
	35-20-16	120-41-17	625	22.98	4004	CAMP SAN LUIS OBISPO
			T-11 CARRIZO PLAIN HYDRO UNIT			
-11.0	35-14-47	119-55-01	1,975	6.90	4111	SODA LAKE (WERLING)
			T-12 SANTA MARIA-CUYAMA HYDRO UNIT			
-12.A	34-54-13	120-26-56	238	11.71	4004	SANTA MARIA AIRPORT
-12.B	34-54-36	120-11-08	3,248	17.09	4002	TEPUSQUET PEAK
-12.C	34-56-18	119-37-27	2,240	4.49	4004	CUYAMA
			T-13 SAN ANTONIO HYDRO UNIT			
-13.0	34-44-38	120-16-53	565	12.86	4004	LOS ALAMOS
	34-45-47	120-25-30	320	12.11	4004	HARRIS GAGING STATION

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			T-14 SANTA YNEZ HYDRO UNIT			
T-14.A	34-39-42	120-28-32	72	11.19	4004	LOMPOC SEWAGE PLAN
T-14.D	34-35-06	119-59-12	781	12.69	4004	CACHUMA DAM
T-14.E	34-28-57	119-30-32	2,060	18.48	4004	JUNCAL DAM
	34-31-25	119-41-17	1,250	18.55	4004	GIBRALTER DAM NO.
	34-31-32	119-57-26	4,000	23.93	4004	SANTA BARBARA TV P
			T-15 SANTA BARBARA HYDRO UNIT			
T-15.A	34-26-57	120-28-15	110	11.71	4002	POINT CONCEPTION
	34-31-32	119-57-26	4,000	23.93	4004	SANTA BARBARA TV P
T-15.C	34-25-47	119-50-36	9	14.84	4004	SANTA BARBARA AIRP
	34-25-48	119-42-05	100	15.73	4004	SANTA BARBARA
	34-27-54	119-42-30	1,000	23.80	2100	DOULTON TUNNEL

RCIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HDRO UNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			LOS ANGELES DRAINAGE PROVINCE (U)			
			U-02 VENTURA RIVER HYDRO UNIT			
02.A	34-16-47	119-17-28	50	10.73	4004	VENTURA-STAR FREE PRESS
	34-20-35	119-17-43	215	13.51	2100	KINGSTON RES.
	34-22-25	119-13-42	800	9.77	2100	CANADA LARGA-BARRETT RN.
02.B	34-22-06	119-20-12	400	17.28	2100	CASITAS RN.
	34-23-42	119-18-03	505	14.65	2100	OAKVIEW F.S.
	34-25-32	119-21-22	750	15.79	2100	SELBY RN. NO. 1
	34-25-51	119-18-53	650	15.33	2100	RANCHO MATILIJA
	34-28-55	119-17-30	875	16.93	4004	WHEELER SPRINGS 2SSW
02.C	34-24-44	119-10-08	2,570	15.08	2100	MEHER MT.-SULPHER MT. RD.
	34-26-08	119-08-02	1,560	15.41	2100	RICHFIELD OIL LEASE
	34-26-09	119-11-36	1,250	14.07	2100	DENNISON RN.
	34-26-52	119-14-33	750	15.53	4004	OJAI
	34-27-58	119-10-49	1,360	15.15	2100	THACHER SCHOOL
			U-03 SANTA CLARA-CALLEGUAS HYDRO UNIT			
03.A	34-08-42	119-12-30	10	8.47	2100	PORT HUENEME
	34-09-26	119-04-39	20	6.01	2100	DAVIS RN.
	34-11-26	119-10-27	49	9.69	4004	OXNARD
	34-12-17	119-04-04	60	8.48	2100	AMER. CRYSTAL SUGAR
	34-16-40	119-12-10	300	11.77	2100	SATICOY-DEL MAR
	34-16-47	119-15-27	200	11.88	2100	O. BORGSTROM
03.B	34-17-05	119-08-38	170	11.53	2100	SATICOY-CULBERTSON
	34-19-55	119-07-25	335	11.31	2100	LIMONEIRA RN.
	34-21-16	119-03-50	265	12.08	4004	SANTA PAULA-VEN. CO. F.D.
	34-21-23	119-04-25	275	12.68	2100	BLANCHARD INV. CO.
	34-24-44	119-10-08	2,570	15.08	2100	MEHER MT.-SULPHER MT. RD.
	34-26-08	119-08-02	1,560	15.41	2100	RICHFIELD OIL LEASE
03.C	34-21-54	118-56-42	400	11.52	2100	BARSDALE-YOUNG RN.
	34-22-27	119-00-50	400	12.68	2100	PINE TREE RN.
	34-23-03	118-57-41	430	12.71	2100	RANCHO SESPE
	34-23-54	118-55-06	450	14.99	2100	FILLMORE CITRUS ASSN.
	34-24-10	118-55-34	435	12.68	4004	FILLMORE IWNW
	34-35-50	119-19-30	4,150	13.60	4004	WHEELER SPRINGS 7N
03.D	34-23-42	118-51-06	600	11.56	2100	DOUBLE H-N RN.
	34-24-08	118-44-10	675	10.20	2100	NEWHALL RN.
	34-24-22	118-45-22	730	10.69	2100	CAMULOS RN. QTRS.
	34-24-39	118-47-37	700	10.77	2100	PIRU CITRUS ASSN.
	34-44-37	118-42-43	4,025	8.33	4004	SANDBERGS QUAIL LAKE P.S.

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			U-03 SANTA CLARA-CALLEGUAS HYDRO UNIT (CONTD.)			
U-03.E	34-20-18	118-36-44	3,340	14.68	1101	SANTA SUSANNA MT.-DEV
	34-21-18	118-27-02	3,175	13.87	1101	WILSON CN.
	34-21-24	118-39-42	2,850	14.29	1101	SANTA SUSANNA MT.-SAL
	34-22-46	118-09-03	5,600	10.19	1101	LITTLE GLEASON
	34-23-07	118-31-54	1,243	9.78	4004	NEWHALL-SOLEDAD DIV.
	34-23-27	118-04-50	4,950	9.16	1101	TUJUNGA-MILL CR.SUMMI
	34-23-45	118-17-12	4,450	11.76	1101	MAGIC MTN.
	34-25-21	118-34-26	1,096	7.71	1101	SAUGUS-EDISON SUBSTAT
	34-26-36	118-04-00	4,500	9.79	1101	SANTIAGO CN.
	34-27-02	118-11-52	2,550	5.37	1101	ACTON-CAMP NO. 2
	34-27-51	118-09-25	2,900	5.66	1101	ACTON-ALISO CN.-BLUM
	34-28-55	118-31-32	1,511	7.67	1101	DRY CANYON RES.
	34-29-17	118-08-29	3,135	4.52	4004	VINCENT P. S.
	34-29-31	118-16-30	2,920	5.33	4004	ACTON-ESCONDIDO CN.
	34-30-47	118-21-31	2,350	6.68	1101	MINT CN.-THE OAKS
	34-30-50	118-14-10	3,250	6.65	1101	ACTON-HUBBARD
	34-32-02	118-31-27	1,580	10.06	1101	SAN FRANCISQUITO CN.
	34-35-14	118-21-45	3,050	8.90	4004	BOUQUET CN.
	34-35-20	118-27-10	2,100	9.81	4004	SAUGUS P.P.
	34-36-28	118-33-40	2,075	11.68	4004	ELIZABETH LAKE CN.
	34-40-27	118-25-49	3,275	8.14	4004	PINE CN. P.S.
U-03.F	34-10-43	118-50-59	810	9.73	4004	THOUSAND OAKS
	34-11-46	118-56-05	850	8.50	2100	NEWBURY PARK ACADEMY
	34-14-10	118-56-01	275	7.83	2100	SANTA ROSA VALLEY-JAN
	34-14-52	118-50-26	730	8.63	2100	EVERETT RN.
	34-15-44	118-39-32	1,075	9.16	4004	SUSANNA KNOLLS
	34-15-47	118-59-46	300	8.70	2100	SOMIS-SNYDER RN.
	34-16-08	119-02-04	375	12.70	2100	SOMIS-AGGEN RN.
	34-16-42	118-52-34	520	8.94	4004	MOORPARK ISSE
	34-17-45	118-52-34	720	9.41	2100	VEN. CO. W.W. DIST. 1
	34-17-53	118-43-16	1,080	9.93	2100	TAPO (MUTUAL VALLEY)
	34-18-58	118-53-36	851	10.35	2100	KERR BROS.
			U-04 MALIBU HYDRO UNIT			
U-04.A	34-05-03	118-35-57	747	14.66	4004	TOPANGA CN. R.S.
U-04.B	34-06-20	118-47-30	975	16.23	1101	SEMINOLE HOT SPRINGS
U-04.D	34-04-38	118-52-47	1,530	15.54	4004	LECHUZA P.S.

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
		U-05 L. A.-SAN GABRIEL RIVER HYDRO UNIT				
1-05.A	33-43-15	118-16-17	85	8.01	4004	SAN PEDRO
	33-44-33	118-24-31	150	7.65	1101	PT. VICENTE L. H.
	33-46-06	118-11-28	150	10.08	1101	LONG BEACH LOS ALAMITOS LD.
	33-46-10	118-11-37	68	10.45	1101	LONG BEACH VETS MEMORIAL
	33-46-30	118-22-58	1,240	11.79	1101	SAN PEDRO HILLS
	33-46-46	118-08-36	15	9.77	1101	LONG BEACH 10TH-ROSWELL
	33-47-16	118-12-08	11	9.37	1101	LONG BEACH-CITY AUTOMATIC
	33-47-27	118-15-30	40	10.03	1101	WILMINGTON-CITY ENGR.
	33-47-31	118-10-13	40	8.48	1101	LONG BEACH-HAMILTON BOWL
	33-47-49	118-10-03	140	9.70	4004	SIGNAL HILL-CITY HALL
	33-47-58	118-23-29	216	11.12	4004	PALOS VERDES ESTATES
	33-48-38	118-04-38	23	8.88	1101	LOS ALAMITOS
	33-49-52	118-19-41	85	10.64	4004	TORRANCE
	33-50-00	118-10-12	80	9.93	1101	LONG BEACH-KEEVER AVE.
	33-50-23	118-23-22	90	8.94	1101	REDONDO BEACH
	33-50-35	118-07-09	47	8.98	1101	LAKEWOOD-MONTANA RN.
	33-51-48	118-04-58	52	9.05	1101	ARTESIA- BARR LUMBER CO.
	33-52-07	118-19-55	65	10.01	1101	LA FRESA SUBSTATION
	33-52-20	118-11-55	55	10.00	1101	LONG BEACH-NEECE ST.
	33-52-44	118-07-31	68	9.15	1101	BELLFLOWER-MC CLURG
	33-53-00	118-23-19	182	10.05	1101	MANHATTAN BEACH
	33-53-13	118-00-56	86	8.75	1101	LA MIRADA-STANDARD OIL
	33-53-30	118-09-36	70	9.48	1101	PARAMOUNT F.S.
	33-53-42	118-13-34	68	10.08	1101	COMPTON F.S.
	33-53-52	118-04-00	85	8.76	1101	NORWALK C. OF C.
	33-54-57	118-25-50	150	9.28	1101	EL SEGUNDO-STANDARD OIL
	33-55-18	118-09-44	90	8.83	1101	RANCHO LOS AMIGOS
	33-56-18	118-08-03	130	9.59	4004	DOWNEY F.D.
	33-56-56	118-15-17	121	10.02	1101	L. A.-96TH-CENTRAL
	33-57-12	117-59-56	301	8.80	1101	EAST WHITTIER
	33-57-54	118-21-15	155	9.81	1101	INGLEWOOD F.S.
	33-58-27	118-01-57	340	9.69	4004	WHITTIER
	33-58-33	118-12-25	147	9.29	1101	HUNTINGTON PARK CITY YARD
	33-58-37	118-08-48	140	9.15	1101	LAGUNA BELL-S.C.E. CO.
	33-59-21	118-27-15	55	8.63	1101	VENICE F.S.
	34-00-43	118-29-27	94	9.62	4004	SANTA MONICA
	34-01-00	118-23-17	75	9.22	4004	CULVER CITY
	34-02-00	118-18-46	203	9.53	1101	CLARK MEM. LIBRARY
	34-02-42	118-27-08	232	10.66	1101	SAWTELLE-WEST L.A.
	34-03-08	118-14-46	385	9.46	1101	L. A. W. D.-2ND-HILL
	34-03-09	118-14-13	300	9.43	1101	L. A. W. D.-DUCOMMON ST.
	34-03-19	118-14-26	548	8.38	4004	L. A. FEDERAL BLDG.
	34-03-19	118-27-22	355	9.55	1101	SAWTELLE-SOLDIERS HOME
	34-03-34	118-33-25	700	10.42	1101	SA. YNEZ CN.-PASEO MIRAMAR
	34-03-50	118-21-29	175	9.67	1101	HANCOCK PARK
	34-04-27	118-23-57	290	9.91	1101	BEV. HILLS CITY HALL
	34-05-10	118-28-57	1,025	12.70	1101	MT. ST. MARYS COLLEGE
	34-05-11	118-26-45	540	11.73	4004	STONE CN.-BELL AIR HOTEL
	34-05-19	118-17-34	335	9.90	1101	L. A. CITY COLLEGE

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
		U-05	L. A.-SAN GABRIEL RIVER HYDRO UNIT (CONTD.)			
U-05.A	34-05-28	118-19-30	305	10.08	1101	HOLLYWOOD CITY ENGR.
	34-06-21	118-27-13	865	12.12	1101	STONE CN. RES.
	34-07-04	118-19-55	750	10.12	1101	HOLLYWOOD DAM
	34-07-06	118-10-39	620	9.67	1101	HIGHLAND PARK-LINDSAY
	34-07-14	118-24-38	867	10.93	1101	UPPER FRANKLIN RES.
	34-07-38	118-30-03	1,625	10.71	1101	MANDEVILLE CN.-FIRE RD
U-05.B	34-06-08	118-15-54	455	9.30	1101	SILVER LAKE RES.
	34-07-18	118-17-04	257	10.53	1101	GRIFFITH PARK NURSERY
	34-07-32	118-16-58	900	9.44	1101	GRIFFITH PARK LITTLE C
	34-07-45	118-24-20	1,100	10.73	1101	FRANKLIN CN. MULHOLLAN
	34-07-51	118-29-26	1,425	11.42	1101	SEPULVEDA CN.-MULHLD D
	34-07-52	118-28-42	1,325	10.76	1101	MULHOLLAND-SEPULVEDA
	34-08-02	118-17-18	650	10.44	1101	GRIFFITH PARK ZOO
	34-09-00	118-14-27	603	9.49	1101	GLENDALE-MC INTYRE
	34-09-02	118-10-57	950	10.75	1101	EAGLE ROCK SUBSTATION
	34-09-07	118-15-40	530	9.97	4004	GLENDALE-STAPENHORST
	34-09-21	118-18-20	470	9.54	1101	L. A. HEADWORKS PLANT
	34-09-23	118-21-56	593	10.38	1101	NO. HOLLYWOOD-BLIX
	34-09-24	118-38-14	924	12.17	1101	CALABASAS-FARMER NO. 2
	34-09-54	118-15-05	615	9.29	1101	GLENDALE-JONES NO. 1
	34-10-02	118-28-06	680	9.44	4004	SEPULVEDA DAM
	34-10-16	118-35-56	891	9.93	1101	GIRARD-BRANT RN.
	34-10-55	118-08-15	1,125	12.61	4004	ALTADENA
	34-10-55	118-18-24	635	9.72	4004	BURBANK F.S.
	34-11-22	118-39-30	945	9.83	1101	BELL CN.-DRY GULCH RN.
	34-11-39	118-23-17	717	8.89	1101	LANKERSHIM P.P.
	34-12-18	118-17-05	1,610	11.49	1101	SUNSET DAM
	34-13-15	118-13-45	1,600	14.82	1101	PICKENS DEBRIS BASIN
	34-13-28	118-14-24	1,565	14.55	4004	LA CRESCENTA
	34-13-34	118-36-58	865	9.92	1101	CHATSWORTH RES.
	34-13-52	118-28-04	828	9.89	1101	LINDOMAR NURSERY
	34-14-20	118-13-28	2,225	16.04	1101	BRIGGS TERRACE
	34-15-21	118-24-24	955	9.89	1101	PACOIMA-WAREHOUSE
	34-15-23	118-36-19	957	10.76	4004	CHATSWORTH-LACFCD NO.
	34-15-43	118-23-50	1,110	10.65	4004	HANSEN DAM
	34-15-50	118-16-13	2,450	12.40	4004	HAINES CN.-LOWER
	34-16-18	118-15-07	3,450	14.60	4004	HAINES CN. UPPER
	34-16-40	118-28-06	977	10.55	4004	SAN FERNANDO
	34-16-58	118-30-46	1,150	11.07	1101	GRANADA PUMP PLANT
	34-17-18	118-28-54	1,150	11.94	1101	VAN NORMAN LAKE
	34-17-31	118-11-15	2,315	14.06	4004	BIG TUJUNGA DAM
	34-18-02	118-06-39	3,675	13.59	4004	COLBYS
	34-18-40	118-28-20	1,250	11.13	1101	SYLMAR PACKING CORP.
	34-19-48	118-23-59	1,500	12.00	4004	PACOIMA DAM
	34-20-18	118-36-44	3,340	14.68	1101	SA. SUSANNA MT.-DEVILS
	34-21-18	118-27-02	3,175	13.87	1101	WILSON CN.
	34-22-44	118-01-53	6,925	10.69	1101	PACIFIC MTN.
	34-22-46	118-09-03	5,600	10.19	1101	LITTLE GLEASON
	34-23-27	118-04-50	4,950	9.16	1101	TUJUNGA-MILL CR. SUMMI

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
		U-05 L. A.-SAN GABRIEL RIVER HYDRO UNIT (CONTD.)				
-05.C	34-07-41	118-06-40	670	10.03	1101	SAN MARINO-HUNTGTN LIBRARY
	34-08-14	118-07-25	795	10.66	1101	PASADENA-CAL. TECH.
	34-08-47	118-04-03	635	10.90	1101	EAST PASADENA
	34-08-54	118-08-36	864	10.18	4004	PASADENA
	34-09-27	118-02-36	665	11.84	1101	SIERRA MADRE-PEGLER
	34-09-31	118-02-01	611	11.61	1101	ARCADIA P.P. NO. 1
	34-09-47	118-02-21	700	12.15	1101	SIERRA MADRE P.P.
	34-09-48	118-10-53	1,120	11.25	1101	EL MIRADOR RN.
	34-10-11	118-02-51	985	13.95	1101	SIERRA MADRE-MIRA MONTE
	34-10-25	118-03-38	1,180	13.85	1101	BAILEY DEBRIS DAM
	34-10-34	118-02-32	1,100	14.03	1101	SIERRA MADRE DAM
	34-10-48	118-07-01	1,186	12.54	1101	ALTADENA GOLF COURSE
	34-10-57	118-11-47	1,345	11.30	1101	FLINTRIDG F.S.
	34-11-03	118-01-09	1,400	13.70	1101	SANTA ANITA DAM NO. 2
	34-11-36	118-05-18	2,550	14.97	1101	HENNINGER FLATS
	34-11-52	118-11-05	1,155	11.82	1101	ARROYO SECO PATROL
	34-12-10	118-12-40	1,300	12.22	1101	DESCANSO GARDENS
	34-12-12	118-11-40	1,270	12.84	1101	LA CANADA-ROBERTS
	34-12-27	118-10-00	1,181	13.42	1101	ARROYO SECO-CHLORINE PLANT
	34-12-32	118-02-02	2,650	19.83	4004	HOGEES CAMP IVY
	34-12-33	118-10-12	1,220	13.88	4004	ARROYO SECO R.S.
	34-13-37	118-06-33	4,500	19.78	1101	MT. LOWE
	34-13-40	118-12-42	2,020	14.87	1101	ALTA CANYADA-CARPENTER
	34-14-40	118-10-50	1,800	10.84	1101	OAK WILDE-PHILLIPS
-05.D	33-59-40	117-59-37	860	10.31	1101	PUENTE HILLS
	34-00-12	117-52-14	488	10.90	4004	WALNUT P.S.
	34-00-12	117-56-19	380	10.15	1101	PUENTE-BIXBY RN.
	34-00-13	117-51-09	533	8.88	1101	WALNUT FRUIT GROWER ASSOC.
	34-00-26	117-59-42	575	10.01	1101	NO.WHITTIER-COLE RN.
	34-02-35	118-04-50	285	9.23	1101	POTRERO HEIGHTS
	34-03-52	117-57-04	358	10.25	1101	WEST COVINA-HURST RN
	34-04-57	117-52-28	575	9.79	4004	COVINA-TEMPLE
	34-05-36	117-57-40	386	8.96	1101	BALDWIN PARK EXPER. STA.
	34-06-05	118-07-52	533	10.44	1101	ALHAMBRA
	34-06-11	118-05-56	400	9.58	4004	SAN GABRIEL F.D.
	34-06-18	118-06-32	472	9.80	1101	SAN GABRIEL-BRUINGTON 2
	34-06-26	117-48-19	960	9.75	4004	SAN DIMAS F.S.
	34-06-58	118-09-05	690	10.38	1101	SO. PASADENA-CITY HALL
	34-07-39	117-47-42	1,110	11.19	1101	SAN DIMAS-STEVENS
	34-07-57	117-53-32	615	10.62	1101	AZUSA-FOOTHILL RN.
	34-08-03	117-54-17	610	10.18	4004	AZUSA
	34-08-22	117-51-54	782	11.33	1101	GLENDORA-M.C. IRRIG. CO.
	34-08-23	117-51-33	822	11.42	4004	GLENDORA-WEST
	34-08-50	117-52-01	835	12.57	1101	GLENDORA-BROWN
	34-08-57	118-00-04	560	12.43	1101	MONROVIA NEWS-POST
	34-09-05	117-46-28	1,350	12.92	1101	SAN DIMAS DAM
	34-09-20	117-54-28	750	13.36	4004	SAN GABRIEL CN. P.H.
	34-09-22	117-50-57	1,165	13.41	1101	GLENDORA-ENGLEHART

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HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			U-05	L. A.-SAN GABRIEL RIVER HYDRO UNIT (CONTD.		
U-05.D	34-09-46	117-54-15	770	13.07	1101	ROGERS CN.
	34-09-58	117-59-37	962	13.74	1101	MONROVIA-5 POINTS
	34-10-04	117-46-02	1,485	14.19	1101	SAN DIMAS R.S.
	34-10-06	117-48-36	1,575	14.82	4004	BIG DALTON DAM
	34-10-34	117-59-14	1,378	14.47	1101	SAWPIT DAM NO. 2
	34-10-53	117-52-43	1,210	13.65	1101	MORRIS DAM NO. 2
	34-11-38	117-57-52	2,725	17.57	1101	SAWPIT CN.-DEER PARK
	34-12-19	117-51-40	1,481	14.05	4004	SAN GABRIEL DAM NO.1
	34-12-20	117-45-40	2,750	13.89	1101	TANBARK FLATS
	34-13-27	118-03-32	5,650	18.90	1101	MT. WILSON OBSERVATOR
	34-13-33	117-50-48	1,500	12.58	1101	SAN GABRIEL DAM 1 CAMP
	34-13-36	118-03-57	5,709	17.05	4004	MT. WILSON
	34-13-51	118-02-19	3,325	21.22	1101	STURTEVANT CAMP
	34-14-10	117-48-18	1,600	12.21	1101	SAN GAB. CN.-E. FORK
	34-14-20	117-51-36	1,530	12.07	1101	CAMP RINCON-MASON
	34-18-58	117-50-30	5,370	16.24	4004	CRYSTAL LAKE
	34-20-23	117-56-21	7,925	13.94	1101	WATERMAN MTN.
	34-21-18	117-52-32	6,665	11.71	1101	CEDAR SPRINGS-PRISON
	34-22-26	117-45-05	6,600	12.80	1101	VINCENT GULCH
U-05.E	34-03-17	117-45-02	880	9.78	1101	POMONA F.S.
	34-03-58	117-46-21	858	9.67	4004	POMONA
	34-05-30	117-48-22	1,030	9.62	1101	PUDDINGSTONE DAM
	34-06-03	117-46-12	1,050	9.59	1101	LA VERNE POLICE DEPT.
	34-06-42	117-43-54	1,250	10.35	4004	LIVE OAK CN. ELDER NO.
	34-07-22	117-43-11	1,403	10.35	1101	CLAREMONT-INDIAN HILLS
	34-08-54	117-41-52	1,810	14.86	1101	PADUA HILLS P.S.
U-05.F	33-48-38	118-04-38	23	8.88	1101	LOS ALAMITOS
	33-51-33	117-53-06	190	7.30	3102	PLACENTIA-A. U. WATER
	33-51-57	117-59-50	75	7.69	1101	BUENA PARK
	33-52-15	117-54-24	195	9.64	3102	FULLERTON-KNOWLTON
	33-52-42	117-52-24	225	8.50	3102	PLACENTIA MUTUAL ORANG
	33-53-17	117-49-03	395	7.94	4004	YORBA LINDA
	33-53-25	117-55-31	275	8.52	4004	BREA DAM
	33-55-46	117-54-53	375	8.83	1101	BREA-UNION OIL
	33-55-58	117-56-38	315	9.83	3102	LA HABRA F.S.
	33-57-08	117-55-26	645	10.36	1101	PUENTE HILLS-WESSEL RN
	33-58-41	117-49-58	748	9.93	1101	DIAMOND BAR RN.

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RO UNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			LAHONTAN DRAINAGE PROVINCE (W)			
			W-01 MONO HYDRO UNIT			
1.0	37-45-07	119-08-36	9,120	21.81	1200	GEM LAKE
	37-53-32	119-05-45	6,980	15.65	1200	CAIN RN.
	37-56-10	119-13-56	9,500	30.32	1200	ELLERY LAKE
			W-03 OWENS HYDRO UNIT			
3.B	37-03-10	118-13-40	3,850	9.06	1200	TINEMAHA RES
	37-07-31	118-25-58	8,200	22.20	1200	BIG PINE CR.-GLACIER LODGE
	37-08-31	118-19-22	4,670	11.54	1200	BIG PINE P.P. NO. 3
	37-10-32	118-33-37	9,600	25.69	4004	SOUTH LAKE
	37-12-48	118-36-48	9,140	21.66	1200	LAKE SABRINA
	37-22-17	118-21-56	4,108	6.10	4004	BISHOP AIRPORT
	37-28-12	118-43-24	9,360	20.85	1200	ROCK CR. STORE
	37-35-15	118-42-16	6,790	13.36	1200	LONG VALLEY RES.
3.C	36-08-18	117-57-20	3,825	7.18	4004	HAIWEE RES.
	36-25-09	118-02-15	3,710	7.54	1200	COTTONWOOD GATES
	36-36-01	118-03-38	3,720	5.13	1200	LONE PINE
	36-40-15	118-05-40	3,725	6.01	1200	L.A.A.-ALABAMA HILLS
	36-48-05	118-12-08	3,950	8.66	4004	INDEPENDENCE
	36-58-31	118-12-31	3,825	9.44	1200	L.A.A.-INTAKE
	37-03-10	118-13-40	3,850	9.06	1200	TINEMAHA RES.
			W-05 DEEP SPRINGS HYDRO UNIT			
5.0	37-22-15	117-59-03	5,225	5.22	4004	DEEP SPRINGS SCHOOL
			W-21 SEARLES HYDRO UNIT			
1.A	35-45-42	117-22-27	1,695	1.61	4004	TRONA
			W-24 INDIAN WELLS HYDRO UNIT			
4.A	35-57-07	117-55-31	3,510	3.71	1200	LITTLE LAKE
4.B	35-35-40	117-55-04	3,310	2.17	1200	L.A.A.-FREEMAN STA.

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			W-26 ANTELOPE HYDRO UNIT			
W-26.A	34-20-23	117-56-21	7,925	13.94	1101	WATERMAN MTN.
	34-20-50	117-49-57	7,590	20.64	1101	LITTLE JIMMY SPRINGS
	34-21-31	117-37-59	5,975	9.14	5100	WRIGHTWOOD F.D.
	34-22-26	117-45-05	6,600	12.80	1101	VINCENT GULCH
	34-22-44	118-01-53	6,925	10.69	1101	PACIFIC MTN.
	34-22-45	117-41-20	6,860	9.82	4004	BIG PINES PARK
	34-22-53	117-41-05	7,500	6.95	4004	TABLE MTN.
	34-23-53	117-43-40	6,150	6.24	1101	JACKSON LAKE-BIG PINE
	34-25-02	117-58-17	3,925	7.66	1101	LITTLE ROCK-SYCAMORE
	34-26-36	118-04-00	4,500	9.79	1101	SANTIAGO CN.
	34-26-44	117-51-02	3,715	5.31	1101	VALYERMO R.S.
	34-27-35	117-55-58	3,996	5.43	1101	PLEASANT VIEW MESA-NE
	34-28-05	117-44-51	3,810	3.50	1101	LLANO-SHAWNEE HILLS F
	34-30-18	118-01-40	3,035	3.45	1101	LITTLE ROCK CREEK
	34-32-07	117-58-30	2,805	2.63	1101	CALIVALI FARMS
	34-32-14	118-03-48	2,825	3.39	1101	PALMDALE-CIRCLE C
	34-34-25	118-06-45	2,662	3.52	1101	PALMDALE-CO. MAINT. Y
	34-34-42	118-10-58	2,950	4.99	1101	ANAVERDE VALLEY-PLATT
	34-36-59	118-05-02	2,536	2.15	4004	PALMDALE AIRPORT
	34-37-12	118-17-08	3,200	8.11	1101	LEONIS VALLEY-RITTER
	34-37-23	118-13-57	2,900	4.35	1101	BELLEVIEW-STRATMAN
	34-39-02	117-50-55	2,680	2.90	1101	PIUTE BUTTE-MUSEUM
	34-40-46	117-57-06	2,442	2.58	1101	LANCASTER-WILEY RN.
	34-42-01	118-07-45	2,360	2.39	4004	LANCASTER
	34-42-12	118-18-32	2,450	3.49	1101	ANTELOPE VALLEY FIELD
	34-42-15	118-25-40	3,050	7.01	4004	FAIRMONT
	34-42-50	118-21-15	2,600	3.85	1101	MUNZ VALLEY RN.
	34-43-15	118-35-00	3,700	8.57	1101	SAWMILL MTN. RN.
	34-44-15	118-27-20	2,865	5.35	1101	FAIRMONT-BARNES
	34-44-37	118-42-43	4,025	8.33	1101	SANDBERGS P.S.
	34-44-47	118-43-29	4,517	5.56	4004	SANDBERGS AIRWAYS STA
	34-47-00	118-36-30	3,000	5.65	1200	NEENACH
	35-02-49	118-09-58	2,735	2.11	4004	MOJAVE
	35-04-07	118-10-29	2,850	2.55	1200	MOJAVE
			W-28 MOJAVE HYDRO UNIT			
W-28.A	34-21-31	117-37-59	5,975	9.14	5100	WRIGHTWOOD F.D.
W-28.B	34-14-19	117-14-06	5,723	18.83	4004	SQUIRREL INN NO. 2
	34-15-06	117-11-30	5,250	17.35	4004	LAKE ARROWHEAD
	34-25-23	117-18-11	3,200	3.47	5100	HESPERIA
	34-31-57	117-18-12	2,900	2.23	4004	VICTORVILLE P.P.
W-28.E	34-54-03	117-01-17	2,142	0.96	4004	BARSTOW
W-28.H	35-23-18	116-06-46	1,045	2.01	4004	BAKER 9NNW

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DRO UNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
		COLORADO RIVER BASIN DRAINAGE PROVINCE (X)				
		X-05 EMERSON HYDRO UNIT				
05.0	34-09-44	116-32-25	4,300	2.84	4004	KEE RANCH
		X-09 DALE HYDRO UNIT				
09.A	34-08-03	116-03-12	1,990	1.68	4004	29 PALMS
		X-12 WARD HYDRO UNIT				
12.0	34-08-44	115-07-16	922	2.33	4004	IRON MTN.
		X-13 PIUTE HYDRO UNIT				
13.C	34-45-48	114-37-08	913	1.55	4004	NEEDLES AIRPORT
		X-15 COLORADO HYDRO UNIT				
15.D	33-36-34	114-35-45	266	1.66	4004	BLYTHE
	33-36-50	114-35-54	268	1.83	4103	BLYTHE F.S.
	33-36-51	114-42-50	390	2.05	4004	BLYTHE AIRPORT
		X-17 CHUCKWALLA HYDRO UNIT				
17.B	33-48-31	115-27-01	973	1.85	4004	EAGLE MTN.
		X-18 HAYFIELD HYDRO UNIT				
18.0	33-42-18	115-37-44	1,370	1.56	4004	HAYFIELD P.P.
		X-19 WHITEWATER HYDRO UNIT				
19.A	34-03-19	116-34-31	2,580	3.35	4004	MORONGO VALLEY
19.C	33-51-58	116-44-59	3,440	11.79	4103	HURLEY FLAT-TWIN PINES
	33-55-03	116-46-56	1,815	7.54	4004	CABAZON
	33-55-48	116-57-01	2,600	9.98	4103	BEAUMONT S.F. STATION

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
		X-19 WHITEWATER HYDRO UNIT (CONTD.)				
X-19.D	33-29-37	116-06-44	-170	1.50	4103	OASIS
	33-34-13	116-04-33	-190	1.52	4103	MECCA STATE FOREST
	33-38-04	116-09-28	-120	1.48	4004	THERMAL AIRPORT
	33-38-05	116-09-51	-118	1.61	4103	THERMAL AIRPORT (F
	33-40-11	116-18-08	90	2.07	4103	LA QUINTA F.S.
	33-42-48	116-13-25	-8	1.21	4103	INDIO STATE FOREST
	33-43-21	116-22-17	263	2.05	4103	PALM DESERT
	33-43-37	116-14-40	-20	1.47	4004	INDIO-U.S. DATE GA
	33-46-56	116-28-00	300	2.82	4103	CATHEDRAL CITY F.S
	33-49-01	116-31-38	411	2.68	4004	PALM SPRINGS
	33-52-13	116-40-55	1,940	6.40	4004	SNOW CREEK-UPPER
	33-57-48	116-30-08	1,100	3.71	4103	DESERT HOT SPRINGS
		X-22 ANZA-BORREGO HYDRO UNIT				
X-22.A	33-16-08	116-24-59	850	2.95	4004	BORREGO DESERT PAR
	33-26-23	116-30-32	2,300	1.18	4004	COYOTE CN.
X-22.C	33-12-33	116-32-30	4,000	8.43	4004	RANCHITA
		X-23 IMPERIAL HYDRO UNIT				
X-23.A	32-40-28	115-28-57	3	1.40	4004	CALEXICO 2NE
	32-46-02	115-33-52	-37	1.10	4004	EL CENTRO 2SSW
	32-50-57	115-34-06	-69	1.18	4004	IMPERIAL
	32-58-53	115-31-44	-119	1.37	4004	BRAWLEY 2SW
	33-16-41	115-31-23	-55	1.02	4004	NILAND
X-23.B	32-44-32	115-57-48	250	1.24	4004	COYOTE WELLS

RECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			SANTA ANA DRAINAGE PROVINCE (Y)			
			Y-01 SANTA ANA RIVER HYDRO UNIT			
Y-01.A	33-36-15	117-53-00	8	6.97	4004	NEWPORT BEACH HARBOR
	33-36-26	117-42-07	400	7.94	3102	EL TORO-MOULTON
	33-38-13	117-47-54	300	7.00	3102	IRVINE CO.-SHADY CAMP
	33-38-26	117-55-20	90	7.57	3102	COSTA MESA-DODGE
	33-39-13	117-42-53	350	6.14	3102	IRVINE CO.-JOHNSON RN.
	33-39-39	117-59-57	35	7.79	3102	HUNTINGTON BEACH
	33-39-48	117-49-50	80	6.10	3102	IRVINE CO.-OLD RANCH
	33-40-30	117-45-37	200	6.39	3102	IRVINE CO.-WAREHOUSE
	33-40-32	117-47-54	100	6.10	3102	IRVINE CO.-HARKEL RD. CAMP
	33-41-46	117-42-48	400	7.08	3102	IRVINE CO.-LAMBERT
	33-42-38	117-51-16	55	5.04	3102	DYER-HOLLY SUGAR CO.
	33-42-39	117-31-59	5,660	11.99	3102	SANTIAGO PEAK
	33-42-49	117-59-56	25	7.92	3102	WINTERSBURG-SLATER
	33-42-55	117-45-43	197	6.70	3102	SAN JOAQUIN FRUIT CO.
	33-43-21	118-00-46	25	7.47	3102	WINTERSBURG-MURDY RN.
	33-44-18	117-48-00	106	5.46	3102	TUSTIN AUTOMATIC
	33-44-20	117-49-12	120	4.77	3102	TUSTIN UNION H.S.
	33-44-38	117-52-04	115	5.89	4004	SANTA ANA F.S.
	33-45-00	117-52-12	145	5.88	3102	SANTA ANA-O.C.F.C.D.
	33-46-13	117-56-03	90	6.38	3102	GARDEN GROVE-CO. RD. DEPT.
	33-46-15	117-43-15	1,000	7.65	3102	IRVINE CO.-LIMESTONE RN.
	33-47-15	117-50-26	216	6.87	3102	ORANGE-U.S.F.S.
	33-47-44	117-54-08	135	7.89	3102	ANAHEIM-KATELLA SUBSTATION
	33-48-52	117-49-20	290	7.96	3102	VILLA PARK ORCHARD ASSN.
	33-49-12	117-54-48	147	8.24	3102	ANAHEIM AUTOMATIC
	33-49-46	117-54-42	150	8.86	3102	ANAHEIM WATER WORKS
	33-50-16	117-50-43	230	9.58	3102	OLIVE HGTS. CITRUS ASSN.
Y-01.B	33-49-51	117-34-41	1,225	9.01	4701	CORONA-FOOTHILL LEMON 2
	33-50-38	117-34-36	1,050	7.74	4701	CORONA-FOOTHILL LEMON 1
	33-51-50	117-35-30	850	8.06	4701	CORONA-FOOTHILL LEMON 3
	33-52-23	117-33-56	680	6.75	5717	CORONA-TEMESCAL WATER 3
	33-57-06	117-23-46	820	5.39	4004	RIVERSIDE FIRE STA. NO. 3
	33-57-37	117-16-42	3,040	6.64	4103	BOX SPRINGS
	33-58-21	117-19-48	1,050	6.33	4004	RIVERSIDE CITRUS EXP. STA.
	33-58-43	117-22-29	875	6.33	4103	RIVERSIDE
	33-59-52	117-40-50	670	8.42	4740	CHINO-S.C.E. SUBSTATION
	34-01-34	117-46-06	820	9.73	1101	POMONA-RIVERA
	34-03-17	117-45-02	876	9.78	1101	POMONA FIRE DEPT.
	34-03-22	117-19-08	940	6.80	4740	COLTON-S.C.E. SUBSTATION
	34-04-05	117-35-25	975	9.85	4731	GUASTI WINE CO.
	34-05-45	117-42-57	1,180	10.45	1101	CLAREMONT F.S.
	34-05-48	117-42-33	1,185	10.47	4004	CLAREMONT-POMONA COLLEGE
	34-06-03	117-26-04	1,279	10.26	5100	FONTANA-HERALD NEWS
	34-06-06	117-26-09	1,280	12.24	4706	FONTANA-UNION WATER CO.

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
		Y-01	SANTA ANA RIVER HYDRO UNIT (CONTD.)			
Y-01.B	34-06-28	117-25-36	1,325	10.02	5100	FONTANA
	34-07-08	117-40-45	1,568	11.04	1101	UPLAND-CADNUM
	34-07-22	117-43-11	1,403	10.35	1101	CLAREMONT-INDIAN HILLS
	34-08-23	117-40-35	1,830	11.68	4004	UPLAND 3N
	34-09-20	117-40-55	2,090	12.93	1101	SAN ANTONIO SPR. GRDS.
	34-09-24	117-40-20	2,120	12.81	1101	SAN ANTONIO DAM
	34-12-50	117-40-10	3,200	14.91	1101	SAN ANTONIO CN.-SIERRA
Y-01.C	33-42-39	117-31-59	5,660	11.99	3102	SANTIAGO PEAK
	33-50-28	117-21-30	1,540	5.68	4103	CAJALCO NO. 2
	33-50-35	117-26-47	1,375	4.55	4103	LAKE MATTHEWS NO. 1
Y-01.D	33-59-43	117-13-55	1,880	8.02	4103	RECHE CANYON-ATOPA RAN
	34-04-00	117-19-23	980	6.60	5100	COLTON-POLICE DEPT.
	34-06-24	117-21-50	1,246	8.90	5100	RIALTO
	34-07-26	117-20-53	1,225	9.43	3200	LYTLE CR.-S.B.W.D. PLA
	34-09-20	117-23-46	1,590	10.52	4740	FONTANA POWERHOUSE
	34-12-07	117-27-00	2,225	16.45	4740	LYTLE CR. P.H.
	34-12-14	117-26-45	2,250	16.45	4004	LYTLE CR. P.H. NO. 1
	34-12-16	117-26-57	6,050	15.54	5100	RUNNING SPRINGS
	34-13-57	117-28-52	2,720	13.82	4004	LYTLE CR. R.S.
	34-14-14	117-29-28	2,800	17.47	4740	LYTLE CR. S.C.E. INTAK
Y-01.E	34-03-08	117-11-28	1,360	7.41	4004	REDLANDS
	34-04-02	117-08-02	1,650	8.67	4730	MENTONE-CRAFTON ORANGE
	34-05-16	117-02-19	2,965	11.67	4004	MILL CR. NO. 2
	34-06-47	117-10-07	1,370	6.47	4732	E. HIGHLAND-GOLD BUCKL
	34-07-17	117-09-58	1,525	10.62	5100	E. HIGHLAND-ORANGE CO.
	34-07-42	117-16-05	1,125	8.31	4004	SAN BERNARDINO CO. HOS
	34-08-46	117-03-26	2,765	13.49	4004	SANTA ANA RIVER P.H. N
	34-10-21	117-18-44	1,415	8.61	3200	NEWMARK RES.
	34-12-06	117-19-58	1,900	12.34	3200	DEVIL CN.
Y-01.F	33-55-39	116-58-47	2,580	8.73	4004	BEAUMONT
Y-01.G	34-14-26	116-58-34	6,815	19.62	4004	BIG BEAR LAKE DAM
		Y-02	SAN JACINTO VALLEY HYDRO UNIT			
Y-02.A	33-53-56	117-15-35	1,533	4.74	4004	MARCH FIELD
Y-02.B	33-47-15	116-58-06	1,550	6.88	4004	SAN JACINTO
	33-55-39	116-58-47	2,580	8.73	4004	BEAUMONT
	33-55-48	116-57-01	2,600	9.98	4103	BEAUMONT S.F. STA.
Y-02.C	33-40-06	117-19-51	1,300	6.29	4004	ELSINORE

ECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

YDRO BUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			SAN DIEGO DRAINAGE PROVINCE (Z)			
			Z-01 SAN JUAN HYDRO UNIT			
01.A	33-32-48	117-46-53	56	8.39	4004	LAGUNA BEACH
	33-36-26	117-42-07	400	7.94	3102	EL TORO-MOULTON
01.B	33-27-56	117-41-12	20	6.90	3102	CAPISTRANO BEACH AUTO.
	33-30-42	117-38-29	150	8.49	3102	SAN JUAN CAPISTRANO
	33-30-44	117-39-58	150	8.40	3102	SAN JUAN CAP. SUBSTA
	33-42-39	117-31-59	5,660	11.99	3102	SANTIAGO PEAK
01.C	33-25-45	117-36-52	135	6.29	3102	SAN CLEMENTE
			Z-02 SANTA MARGARITA HYDRO UNIT			
02.A	33-13-00	117-23-43	60	5.90	4004	OCEANSIDE-PENDLETON
02.G	33-33-18	116-39-52	3,900	8.89	4004	ANZA
			Z-03 SAN LUIS REY HYDRO UNIT			
03.A	33-15-32	117-01-26	1,615	8.10	4004	VALLEY CENTER 3NE
03.B	33-14-18	116-45-40	2,700	13.53	4004	HENSHAW DAM
03.C	33-17-06	116-38-10	3,180	7.81	4004	WARNER SPRINGS
	33-20-42	116-50-42	5,560	11.28	4004	PALOMAR
			Z-04 CARLSBAD HYDRO UNIT			
04.A	33-11-38	117-22-37	67	6.55	4002	OCEANSIDE NO. 4
04.E	33-03-45	117-15-15	170	5.99	4002	SCOTT RANCH
04.F	33-01-12	117-12-06	240	6.24	4002	RANCHO SANTE FE
			Z-05 SAN DIEGUITO HYDRO UNIT			
05.A	32-59-06	117-15-10	200	4.98	4004	LOCKWOOD MESA
	33-01-12	117-12-06	240	6.24	4002	RANCHO SANTE FE
05.D	33-03-41	116-50-53	1,470	9.74	4004	RAMONA-SPAULDING
05.E	33-06-30	116-40-27	2,984	13.95	4002	SANTA YSABEL STORF
	33-12-16	116-45-43	3,600	15.83	4002	HOLDREDGE RANCH

PRECIPITATION AT SOUTHERN CALIFORNIA STATIONS JULY 1962 TO JUNE 1963

HYDRO SUBUNIT	LATITUDE	LONGITUDE	ELEV.	PRECIP.	AGENCY	STATION NAME
			Z-06 PENASQUITO HYDRO UNIT			
Z-06.A	32-59-06	117-15-10	200	4.98	4004	LOCKWOOD MESA
Z-06.B	32-57-00	117-03-48	440	7.14	4004	POWAY VALLEY
			Z-07 SAN DIEGO HYDRO UNIT			
Z-07.A	32-46-12	117-00-44	528	6.12	4004	LA MESA
	32-46-51	117-02-38	535	6.18	4002	MURRAY DAM
	32-51-56	116-53-39	450	8.04	4004	LAKESIDE 2 ENE
	32-53-09	116-48-40	600	8.66	4004	EL CAPITAN DAM
Z-07.D	32-59-20	116-35-12	4,650	12.78	4004	CUYAMACA
	33-05-34	116-38-39	3,655	13.98	4004	JULIAN WYNOLA
	33-06-30	116-40-27	2,984	13.95	4002	SANTA YSABEL STORE
			Z-08 CORONADO HYDRO UNIT			
Z-08.A	32-40-22	117-14-27	410	2.96	4004	CABRILLO N.M.
Z-08.B	32-43-59	117-10-32	19	3.98	4004	SAN DIEGO AIRPORT
	32-46-12	117-00-44	528	6.12	4004	LA MESA
Z-08.C	32-40-04	117-06-42	15	3.48	4002	NATIONAL CITY
			Z-09 SWEETWATER HYDRO UNIT			
Z-09.A	32-37-57	117-05-39	25	3.60	4002	CHULA VISTA
	32-39-34	117-01-56	105	4.45	4004	BONITA
	32-41-33	117-00-31	300	4.83	4002	SWEETWATER LAKE
	32-46-12	117-00-44	528	6.12	4004	LA MESA
Z-09.B	32-46-52	116-47-38	1,400	9.63	4002	LAKE LOVELAND
Z-09.C	32-51-31	116-37-39	3,550	11.70	4004	DESCANSO R.S.
			Z-10 OTAY HYDRO UNIT			
Z-10.B	32-36-03	117-05-32	9	3.25	4004	CHULA VISTA
			Z-11 TIA JUANA HYDRO UNIT			
Z-11.B	32-40-49	116-40-21	1,623	8.91	4004	BARRETT DAM
Z-11.H	32-39-47	116-20-28	3,250	6.41	4004	BOULEVARD S.W.

APPENDIX B

SURFACE WATER FLOW

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DAILY MEAN DISCHARGE

Gaging Station

West Fork of Mojave River below Cedar Springs — B-1
Longitude 117°18.4', Latitude 34°18.4'.
Elevation 3,159 feet.
2 miles NE of Cedar Springs on left bank of West Fork Mojave River at State Highway 118 Crossing.
Drainage area: 19.8 square miles.

East Fork of West Fork of Mojave River above Cedar Springs — B-4
Longitude 117°17.5', Latitude 34°16.3'.
Elevation 3,580 feet.
2.2 miles east of Cedar Springs on the right bank of the East Fork of West Fork Mojave River.
Drainage area: 11.5 square miles.

West Fork of Mojave River above Cedar Springs — B-7
Longitude 117°22.5', Latitude 34°17.1'.
Elevation 3,552 feet.
2.6 miles west of Cedar Springs on the left bank of the West Fork of Mojave River.
Drainage area: 3.2 square miles.

Elizabeth Lake Canyon Creek above Castaic — B-10
Longitude 118°34.2', Latitude 34°33.7'.
Elevation 1,469 feet.
3.9 miles north of intersection of Castaic Canyon Road and Elizabeth Lake Canyon Road on left bank of stream at Canyon Christian Camp.
Drainage area: 45.7 square miles.

Castaic Creek above Cordova Ranch — B-12
Longitude 118°39.8', Latitude 34°36.7'.
Elevation 1,470 feet.
6.7 miles west of Elizabeth Lake Canyon Road on Castaic Canyon Road on left bank
Drainage area: 65.0 square miles.

DAILY MEAN DISCHARGE

WEST FORK OF MOJAVE RIVER BELOW CEDAR SPRINGS

STATION NO	WATER YEAR
V92200	1961

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1					0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	1
2					0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0	2
3					0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	3
4					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	4
5					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	5
6					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	6
7					0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	7
8					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	8
9					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	9
10					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	10
11					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	11
12					0.1	0.7	0.1	0.1	0.0	0.0	0.0	0.0	12
13					0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.0	13
14					0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	14
15					0.1	1.0	0.0	0.1	0.0	0.0	0.0	0.0	15
16					0.2	2.3	0.0	0.1	0.0	0.0	0.0	0.0	16
17					0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	17
18					0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	18
19					0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	19
20					0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	20
21					0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	21
22					0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	22
23					0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	23
24					0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	24
25					0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	25
26					0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	26
27					0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	27
28				2.5	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	28
29				2.5		0.1	0.1	0.0	0.0	0.0	0.0	0.0	29
30				2.5		0.1	0.1	0.0	0.0	0.0	0.0	0.0	30
31				0.5		0.1		0.0		0.0	0.0		31
MEAN					0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	MEAN
MAX.					0.5	2.3	0.1	0.1	0.0	0.0	0.0	0.0	MAX
MIN.					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	MIN
AC.FT.					7	15	5	4					AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation of no flow mode on this day.
‡ - E and ✱

WATER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET

DAILY MEAN DISCHARGE

WEST FORK OF MOJAVE RIVER BELOW CEDAR SPRINGS

STATION NO	WATER YEAR
V92200	1962

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.3	8.6	27.1	21.0	5.7	3.4	0.1	0.1	0.0	1
2	0.0	0.0	105.3	0.3	9.0	26.1	21.9	5.6	2.9	0.1	0.1	0.0	2
3	0.0	0.0	11.4	0.3	9.2	24.1	23.8	4.8	2.9	0.1	0.1	0.0	3
4	0.0	0.0	6.1	0.3	9.4	22.5	28.2	4.1	3.4	0.1	0.1	0.0	4
5	0.0	0.0	3.5	0.3	9.2	23.9	24.3	4.3	3.7	0.1	0.0	0.0	5
6	0.0	0.0	2.3	0.3	8.8	51.8	18.9	3.8	4.1	0.1	0.0	0.0	6
7	0.0	0.0	1.8	0.3	8.8	46.3	19.4	2.6	4.4	0.1	0.0	0.0	7
8	0.0	0.0	1.6	0.2	64.6	36.5	18.5	2.1	3.7	0.1	0.0	0.0	8
9	0.0	0.0	1.6	0.2	453.2	36.1	17.3	2.8	2.6	0.1	0.0	0.0	9
10	0.0	0.0	1.6	0.2	154.0	33.8	16.7	4.7	1.9	0.1	0.0	0.0	10
11	0.0	0.0	1.6	0.3	545.8	32.2	16.9	1.6	1.3	0.1	0.0	0.0	11
12	0.0	0.0	1.6	0.3	437.1	31.4	16.2	1.5	0.9	0.1	0.0	0.0	12
13	0.0	0.0	1.6	.0.3	125.0	29.6	17.3	1.3	0.6	0.1	0.0	0.0	13
14	0.0	0.0	1.7	0.3	66.0	25.9	16.5	9.5	0.3	0.1	0.0	0.0	14
15	0.0	0.0	1.7	0.3	154.0	23.7	14.6	13.0	0.1	0.1	0.0	0.0	15
16	0.0	0.0	1.5	0.3	168.0	23.8	12.2	15.8	0.1	0.1	0.0	0.0	16
17	0.0	0.0	1.6	0.3	90.5	25.1	9.8	15.1	0.1	0.1	0.0	0.0	17
18	0.0	0.0	1.6	0.3	59.6	24.9	10.6	12.7	0.1	0.1	0.0	0.0	18
19	0.0	0.0	1.4	0.3	120.0	26.8	14.2	11.3	0.1	0.1	0.0	0.0	19
20	0.0	0.0	1.4	30.3	101.2	31.9	13.8	7.9	1.5	0.1	0.0	0.0	20
21	0.0	0.0	1.4	15.4	66.8	27.1	13.1	7.1	2.0	0.1	0.0	0.0	21
22	0.0	0.0	1.4	13.6	53.2	26.4	11.6	6.7	0.7	0.1	0.0	0.0	22
23	0.0	0.0	1.3	12.1	48.4	34.4	13.0	4.9	0.1	0.1	0.0	0.0	23
24	0.0	0.0	0.3	10.5	47.2	30.8	12.9	2.5	0.1	0.1	0.0	0.0	24
25	0.0	0.0	0.3	9.4	46.0	26.9	14.0	5.0	0.1	0.1	0.0	0.0	25
26	0.0	0.0	0.3	9.4	41.7	24.7	13.5	8.6	0.1	0.1	0.0	0.0	26
27	0.0	0.0	0.3	9.0	35.5	22.5	13.5	10.5	0.1	0.1	0.0	0.0	27
28	0.0	0.0	0.3	9.4	32.0	21.0	10.5	8.5	0.1	0.1	0.0	0.0	28
29	0.0	0.0	0.3	9.0		22.6	3.2	3.3	0.1	0.1	0.0	0.0	29
30	0.0	0.0	0.3	9.2		22.4	6.1	4.4	0.1	0.1	0.0	0.0	30
31	0.0		0.3	8.8		21.9		4.1		0.1	0.0	0.0	31
MEAN	0.0	0.0	5.1	4.9	106.2	28.5	15.6	6.3	1.4	0.1	0.0	0.0	MEAN
MAX.	0.0	0.0	105.3	30.3	545.8	51.8	28.2	15.8	4.4	0.1	0.1	0.0	MAX.
MIN.	0.0	0.0	0.0	0.2	8.6	21.0	6.1	1.3	0.1	0.1	0.0	0.0	MIN.
AC.FT.			312	301	5898	1754	929	388	83	6	1		AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation at no flow made on this day.
- E and ✱

WATER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM DISCHARGE	MAXIMUM GAGE HT	MAXIMUM MO	MAXIMUM DAY	MAXIMUM TIME	MINIMUM DISCHARGE	MINIMUM GAGE HT.	MINIMUM MO	MINIMUM DAY	MINIMUM TIME	TOTAL ACRE-FEET

DAILY MEAN DISCHARGE

WEST FORK OF MOJAVE RIVER BELOW CEDAR SPRINGS

STATION NO	WATER YEAR
V92200	1963

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.0	0.2	0.9	9.4	1.3	1.1	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.3	0.8	8.8	1.3	1.1	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.3	0.7	7.7	1.2	1.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.3	0.7	5.5	1.3	1.1	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.2	0.7	3.7	1.3	1.1	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.2	0.7	3.5	1.3	1.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.2	0.7	3.3	1.3	0.8	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.2	0.7	2.8	1.3	0.7	0.0	0.0	8
9	0.0	0.0	0.0	0.0	11.6	0.2	0.7	2.1	1.3	1.1	0.0	0.0	9
10	0.0	0.0	0.0	0.0	60.0	0.2	0.7	1.9	1.3	1.8	0.0	0.0	10
11	0.0	0.0	0.0	0.0	3.1	0.2	0.7	1.8	1.3	1.4	0.0	0.0	11
12	0.0	0.0	0.0	0.0	1.2	0.2	0.7	1.7	1.4	0.9	0.0	0.0	12
13	0.0	0.0	0.0	0.0	1.2	0.2	0.7	1.5	1.3	0.6	0.0	0.0	13
14	0.0	0.0	0.0	0.0	1.3	0.2	1.2	1.4	1.3	0.3	0.0	0.0	14
15	0.0	0.0	0.0	0.0	1.0	0.3	1.9	1.3	1.3	0.1	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.5	0.5	1.1	1.3	1.3	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.3	1.4	1.3	1.3	1.2	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.2	1.2	1.2	1.2	1.2	0.0	0.0	60.4	18
19	0.0	0.0	0.0	0.0	0.2	0.7	1.1	1.1	1.2	0.0	0.0	20.4	19
20	0.0	0.0	0.0	0.0	0.2	0.7	1.8	1.2	1.2	0.0	0.0	0.4	20
21	0.0	0.0	0.0	0.0	0.4	0.6	22.3	1.3	1.2	0.0	0.0	0.1	21
22	0.0	0.0	0.0	0.0	0.3	0.6	11.6	1.4	1.2	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.3	0.9	7.5	1.6	1.2	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.2	1.0	6.7	2.0	1.2	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.2	0.7	6.2	2.2	1.1	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.3	0.7	14.8	2.4	1.1	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.2	0.8	13.9	3.1	1.1	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.3	4.3	10.0	2.5	1.1	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0		1.6	7.3	1.5	1.1	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0		1.4	9.2	1.4	1.2	0.0	0.0	0.0	30
31	0.0		0.0	0.0		1.0		1.3		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.0	3.0	0.7	4.3	2.7	1.2	0.5	0.0	2.7	MEAN
MAX.	0.0	0.0	0.0	0.0	60.0	4.3	22.3	9.4	1.4	1.8	0.0	60.4	MAX
MIN.	0.0	0.0	0.0	0.0	0.0	0.2	0.7	1.1	1.1	0.0	0.0	0.0	MIN.
AC.FT.					165	43	255	165	74	28		161	AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation of no flow made on this day.
- E and ✱

WATER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT.	MO	DAY	TIME	DISCHARGE	GAGE HT.	MO	DAY	TIME	ACRE-FEET
1.3	60.4					0.0					890

DAILY MEAN DISCHARGE

EAST FORK OF WEST FORK OF MOJAVE R. ABOVE CEDAR SPRINGS

IN SECOND FEET

STATION NO	WATER YEAR
V92250	1961

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG	SEPT.	DAY
1							0.2	0.4	0.2	0.0	0.0	0.0	1
2							0.2	0.4	0.2	0.0	0.0	0.0	2
3							0.2	0.5	0.2	0.0	0.0	0.0	3
4							0.2	0.3	0.2	0.0	0.0	0.0	4
5							0.2	0.2	0.2	0.0	0.0	0.0	5
6							0.2	0.2	0.2	0.0	0.0	0.0	6
7							0.2	0.2	0.2	0.0	0.0	0.0	7
8							0.2	0.2	0.2	0.0	0.0	0.0	8
9							0.2	0.2	0.2	0.0	0.0	0.0	9
10							0.2	0.2	0.2	0.0	0.0	0.0	10
11							0.2	0.2	0.2	0.0	0.0	0.0	11
12							0.3	0.2	0.2	0.0	0.0	0.0	12
13							0.7	0.2	0.2	0.0	0.0	0.0	13
14							0.3	0.2	0.2	0.0	0.0	0.0	14
15							0.2	0.2	0.1	0.0	0.0	0.0	15
16							0.2	0.2	0.1	0.0	0.0	0.0	16
17							0.3	0.2	0.1	0.0	0.0	0.0	17
18							0.3	0.2	0.1	0.0	0.0	0.0	18
19							0.3	0.2	0.1	0.0	0.0	0.0	19
20							0.3	0.2	0.0	0.0	0.0	0.0	20
21							0.3	0.2	0.0	0.0	0.0	0.0	21
22							0.3	0.2	0.0	0.0	0.0	0.0	22
23							0.3	0.2	0.0	0.0	0.0	0.0	23
24							0.2	0.2	0.0	0.0	0.0	0.0	24
25							0.3	0.2	0.0	0.0	0.0	0.0	25
26							0.3	0.2	0.0	0.0	0.0	0.0	26
27							0.3	0.2	0.0	0.0	0.0	0.0	27
28							0.3	0.2	0.0	0.0	0.0	0.0	28
29							0.3	0.2	0.0	0.0	0.0	0.0	29
30							0.3	0.2	0.0	0.0	0.0	0.0	30
31								0.2		0.0	0.0		31
MEAN							0.2	0.2	0.1	0.0	0.0	0.0	MEAN
MAX.							0.7	0.5	0.2	0.0	0.0	0.0	MAX.
MIN.							0.2	0.2	0.0	0.0	0.0	0.0	MIN.
AC.FT.							16	14	7				AC.FT.

E - Estimated
NR - No Record
* - Discharge measurement or observation of no flow made on this day.

WATER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM DISCHARGE	MAXIMUM GAGE HT	MAXIMUM MO	MAXIMUM DAY	MAXIMUM TIME	MINIMUM DISCHARGE	MINIMUM GAGE HT	MINIMUM MO	MINIMUM DAY	MINIMUM TIME	TOTAL ACRE-FEET

DAILY MEAN DISCHARGE

EAST FORK OF WEST FORK OF MOJAVE R. ABOVE CEDAR SPRINGS

STATION NO	WATER YEAR
V92250	1962

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB	MAR.	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.4	1.3	5.0	23.8	18.2	3.8	2.6	0.8	0.2	0.0	1
2	0.0	0.0	17.0	1.3	2.9	22.8	16.4	3.8	2.3	0.8	0.2	0.0	2
3	0.0	0.0	9.2	1.5	3.9	21.7	19.9	3.6	2.4	0.8	0.2	0.0	3
4	0.0	0.0	2.3	1.8	4.5	20.6	19.2	3.5	2.2	0.8	0.2	0.0	4
5	0.0	0.0	1.5	2.2	4.4	20.7	13.0	3.4	2.2	0.8	0.2	0.0	5
6	0.0	0.0	1.2	1.6	4.5	90.5	6.0	3.2	2.1	0.7	0.1	0.0	6
7	0.0	0.0	1.0	1.4	4.8	73.4	5.7	3.0	1.9	0.6	0.1	0.0	7
8	0.0	0.0	0.9	1.5	80.1	50.2	5.5	2.9	1.8	0.6	0.1	0.0	8
9	0.0	0.0	0.8	1.6	280.3	48.0	5.2	2.9	1.7	0.6	0.0	0.0	9
10	0.0	0.0	0.8	1.3	68.2	41.4	7.0	2.8	1.6	0.6	0.0	0.0	10
11	0.0	0.0	0.8	1.5	222.9	34.3	15.6	2.7	1.6	0.6	0.0	0.0	11
12	0.0	0.0	0.6	2.2	95.6	31.6	13.4	2.9	1.5	0.6	0.0	0.0	12
13	0.0	0.0	0.5	1.4	166.5	28.2	6.9	2.8	1.6	0.6	0.0	0.0	13
14	0.0	0.0	0.6	1.3	137.5	26.5	6.5	4.3	1.8	0.6	0.0	0.0	14
15	0.0	0.0	0.6	1.2	88.2	24.7	6.2	3.9	1.9	0.6	0.0	0.0	15
16	0.0	0.0	0.7	0.9	70.6	24.1	5.7	9.0	1.7	0.6	0.0	0.0	16
17	0.0	0.0	0.7	0.9	100.7	32.9	5.3	7.1	1.5	0.6	0.0	0.0	17
18	0.0	0.0	0.8	0.9	98.1	34.8	5.2	5.4	1.4	0.5	0.0	0.0	18
19	0.0	0.0	0.8	0.8	103.2	47.9	5.2	5.0	1.3	0.5	0.0	0.0	19
20	0.0	0.0	0.8	34.2	92.5	59.7	4.7	4.5	1.2	0.5	0.0	0.0	20
21	0.0	0.2	0.8	21.3	58.1	33.8	4.3	3.6	1.2	0.5	0.0	0.0	21
22	0.0	0.3	0.7	9.1	81.7	34.6	4.3	3.1	1.2	0.5	0.0	0.0	22
23	0.0	0.2	0.7	11.9	85.0	54.0	4.3	3.0	1.1	0.5	0.0	0.0	23
24	0.0	0.2	0.7	5.2	78.6	45.0	4.1	2.7	1.8	0.4	0.0	0.0	24
25	0.0	0.7	0.7	4.6	73.5	38.4	4.5	3.2	3.0	0.4	0.0	0.0	25
26	0.0	0.6	0.8	5.7	43.3	27.3	4.1	3.9	2.3	0.4	0.0	0.0	26
27	0.0	0.5	0.8	6.2	41.3	20.3	4.2	3.5	0.9	0.3	0.0	0.0	27
28	0.0	0.4	0.7	6.4	31.6	24.7	4.6	3.1	0.9	0.3	0.0	0.0	28
29	0.0	0.4	0.8	6.8		23.7	4.3	3.3	0.9	0.2	0.0	0.0	29
30	0.0	0.4	0.9	6.3		22.3	3.8	3.1	0.9	0.2	0.0	0.0	30
31	0.0		1.1	5.6		20.0		2.9		0.2	0.0	0.0	31
MEAN	0.0	0.1	1.6	4.8	76.0	35.5	7.8	3.7	1.7	0.5	0.0	0.0	MEAN
MAX.	0.0	0.7	17.0	34.2	280.3	90.5	19.9	9.0	3.0	0.8	0.2	0.0	MAX.
MIN.	0.0	0.0	0.4	0.8	2.9	20.0	3.8	2.7	0.9	0.2	0.0	0.0	MIN.
AC.FT.		8	101	297	4220	2186	463	230	100	33	3		AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation of no flow made on this day.
- E and ✱

WATER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
131.7	455.6					31.7					7640

DAILY MEAN DISCHARGE

EAST FORK OF WEST FORK OF MOJAVE R. ABOVE CEDAR SPRINGS

STATION NO	WATER YEAR
V92250	1963

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	2.9	0.1	0.2	0.2	0.3	0.6	0.8	1.7	0.8	0.2	0.0	0.0	1
2	7.3	0.1	0.1	0.2	0.2	0.6	0.8	1.5	0.8	0.2	0.0	0.0	2
3	4.9	0.1	0.1	0.3	0.2	0.6	0.8	1.5	0.6	0.2	0.0	0.0	3
4	8.0	0.1	0.1	0.2	0.2	0.6	0.8	1.4	0.6	0.2	0.0	0.0	4
5	15.2	0.1	0.2	0.2	0.2	0.6	0.8	1.3	0.8	0.2	0.0	0.0	5
6	15.5	0.1	0.2	0.2	0.2	0.6	0.8	1.2	0.8	0.2	0.0	0.0	6
7	7.9	0.1	0.2	0.2	0.2	0.6	0.8	1.2	0.7	0.2	0.0	0.0	7
8	0.2	0.1	0.2	0.2	0.2	0.6	0.8	1.2	0.7	0.2	0.0	0.0	8
9	0.2	0.1	0.2	0.2	14.3	0.6	0.8	1.2	0.7	0.2	0.0	0.0	9
10	0.1	0.1	0.2	0.5	47.1	0.6	0.8	1.2	0.8	0.1	0.0	0.0	10
11	0.1	0.1	0.2	0.3	2.1	0.6	0.8	1.1	0.8	0.1	0.0	0.0	11
12	0.1	0.1	0.2	0.2	1.1	0.6	0.8	1.1	0.8	0.1	0.0	0.0	12
13	0.1	0.1	0.2	0.3	1.0	0.6	0.8	1.1	0.7	0.1	0.0	0.0	13
14	0.1	0.1	0.2	0.3	1.0	0.6	1.2	1.1	0.7	0.0	0.0	0.0	14
15	0.1	0.1	0.2	0.4	0.8	1.0	1.1	1.0	0.6	0.0	0.0	0.0	15
16	0.1	0.1	0.2	0.4	0.7	0.8	1.0	1.0	0.5	0.0	0.0	0.0	16
17	0.1	0.1	0.2	0.3	0.7	1.2	1.3	1.0	0.4	0.0	0.0	0.2	17
18	0.1	0.2	0.2	0.3	0.7	1.1	1.3	0.9	0.3	0.0	0.0	328.6	18
19	0.1	0.2	0.2	0.3	0.7	1.2	1.1	0.9	0.3	0.0	0.0	4.3	19
20	0.1	0.2	0.2	0.3	0.7	1.2	1.3	0.9	0.3	0.0	0.0	0.9	20
21	0.1	0.2	0.2	0.4	0.6	1.2	7.1	0.9	0.4	0.0	0.0	0.4	21
22	0.1	0.2	0.2	0.3	0.6	1.1	3.0	0.9	0.6	0.0	0.0	0.4	22
23	0.1	0.2	0.2	0.3	0.6	1.3	2.4	0.8	0.6	0.0	0.0	0.3	23
24	0.1	0.2	0.2	0.3	0.6	1.1	1.9	0.8	0.5	0.0	0.0	0.2	24
25	0.1	0.2	0.2	0.3	0.6	1.0	1.8	0.8	0.3	0.0	0.0	0.2	25
26	0.1	0.2	0.2	0.4	0.6	0.9	3.5	0.8	0.3	0.0	0.0	0.2	26
27	0.1	0.2	0.2	0.3	0.6	0.8	2.9	0.8	0.3	0.0	0.0	0.2	27
28	0.1	0.2	0.2	0.3	0.5	1.8	2.3	1.0	0.3	0.0	0.0	0.2	28
29	0.1	0.2	0.2	0.3		1.4	1.9	1.0	0.3	0.0	0.0	0.1	29
30	0.1	0.2	0.2	0.4		1.2	1.9	0.9	0.3	0.0	0.0	0.1	30
31	0.1		0.2	0.4		1.0		0.9		0.0	0.0		31
MEAN	2.1	0.1	0.2	0.3	2.8	0.9	1.6	1.1	0.6	0.1	0.0	11.2	MEAN
MAX.	15.5	0.2	0.2	0.5	47.1	1.8	7.1	1.7	0.8	0.2	0.0	328.6	MAX.
MIN.	0.1	0.1	0.1	0.2	0.2	0.6	0.8	0.8	0.3	0.0	0.0	0.0	MIN.
AC.FT.	128	9	12	18	153	55	94	66	33	4		667	AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation of no flow made on this day.

WATER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM DISCHARGE	MAXIMUM GAGE HT	MAXIMUM MO	MAXIMUM DAY	MAXIMUM TIME	MINIMUM DISCHARGE	MINIMUM GAGE HT	MINIMUM MO	MINIMUM DAY	MINIMUM TIME	TOTAL ACRE-FEET
1.6	328.6					0.0					1,160

DAILY MEAN DISCHARGE

WEST FORK OF MOJAVE RIVER ABOVE CEDAR SPRINGS

STATION NO	WATER YEAR
V92300	1961

IN SECOND FEET

DAY	OCT.	NOV.	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1						0.1	0.1	0.0	0.0	0.0	0.0	0.0	1
2						0.1	0.1	0.1	0.0	0.0	0.0	0.0	2
3						0.1	0.1	0.1	0.0	0.0	0.0	0.0	3
4						0.1	0.1	0.1	0.0	0.0	0.0	0.0	4
5						0.1	0.1	0.1	0.0	0.0	0.0	0.0	5
6						0.1	0.1	0.1	0.0	0.0	0.0	0.0	6
7						0.1	0.1	0.1	0.0	0.0	0.0	0.0	7
8						0.1	0.1	0.1	0.0	0.0	0.0	0.0	8
9						0.1	0.1	0.1	0.0	0.0	0.0	0.0	9
10						0.1	0.1	0.0	0.0	0.0	0.0	0.0	10
11						0.1	0.1	0.0	0.0	0.0	0.0	0.0	11
12						0.1	0.1	0.1	0.0	0.0	0.0	0.0	12
13						0.1	0.1	0.0	0.0	0.0	0.0	0.0	13
14						0.0	0.1	0.0	0.0	0.0	0.0	0.0	14
15						0.2	0.1	0.0	0.0	0.0	0.0	0.0	15
16						0.1	0.1	0.0	0.0	0.0	0.0	0.0	16
17						0.1	0.1	0.0	0.0	0.0	0.0	0.0	17
18						0.1	0.1	0.0	0.0	0.0	0.0	0.0	18
19						0.1	0.1	0.0	0.0	0.0	0.0	0.0	19
20						0.1	0.1	0.0	0.0	0.0	0.0	0.0	20
21						0.1	0.1	0.0	0.0	0.0	0.0	0.0	21
22					0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	22
23					0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	23
24					0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	24
25					0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	25
26					0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	26
27					0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	27
28					0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	28
29						0.2	0.1	0.0	0.0	0.0	0.0	0.0	29
30						0.2	0.0	0.0	0.0	0.0	0.0	0.0	30
31						0.1		0.0		0.0	0.0		31
MEAN						0.1	0.1	0.0	0.0	0.0	0.0	0.0	MEAN
MAX.						0.2	0.1	0.1	0.0	0.0	0.0	0.0	MAX
MIN.						0.0	0.0	0.0	0.0	0.0	0.0	0.0	MIN.
AC.FT.						7	6	2					AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation of no flow made on this day.
‡ - E and ✱

WATER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT.	MO	DAY	TIME	ACRE-FEET

DAILY MEAN DISCHARGE

WEST FORK OF MOJAVE RIVER ABOVE CEDAR SPRINGS

STATION NO	WATER YEAR
V92300	1962

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.2	1.1	0.1	2.2	1.1	0.7	0.2	0.0	0.0	1
2	0.0	0.0	11.9	0.2	1.1	0.1	2.2	1.0	0.7	0.2	0.0	0.0	2
3	0.0	0.0	1.5	0.2	1.1	0.1	2.1	1.0	0.7	0.2	0.0	0.0	3
4	0.0	0.0	0.8	0.2	1.0	0.1	2.1	0.9	0.7	0.2	0.0	0.0	4
5	0.0	0.0	0.6	0.2	1.0	0.1	2.0	0.9	0.7	0.2	0.0	0.0	5
6	0.0	0.0	0.5	0.2	1.0	3.4	1.8	0.9	0.7	0.2	0.0	0.0	6
7	0.0	0.0	0.4	0.1	0.9	2.6	1.8	0.9	0.7	0.2	0.0	0.0	7
8	0.0	0.0	0.4	0.1	33.5	0.1	2.0	0.8	0.6	0.1	0.0	0.0	8
9	0.0	0.0	0.4	0.1	148.4	0.1	1.8	0.8	0.6	0.1	0.0	0.0	9
10	0.0	0.0	0.4	0.1	27.0	0.1	1.7	0.8	0.6	0.1	0.0	0.0	10
11	0.0	0.0	0.4	0.1	251.6	0.1	1.7	0.8	0.6	0.1	0.0	0.0	11
12	0.0	0.0	0.3	0.2	95.8	0.1	1.6	0.8	0.6	0.1	0.0	0.0	12
13	0.0	0.0	0.3	0.3	19.1	0.1	1.6	0.8	0.6	0.1	0.0	0.0	13
14	0.0	0.0	0.3	0.2	10.9	2.2	1.5	1.3	0.6	0.1	0.0	0.0	14
15	0.0	0.0	0.3	0.2	20.5	3.0	1.5	1.1	0.6	0.1	0.0	0.0	15
16	0.0	0.0	0.3	0.2	14.6	2.9	1.5	1.3	0.6	0.1	0.0	0.0	16
17	0.0	0.0	0.3	0.2	10.5	3.0	1.4	1.1	0.6	0.1	0.0	0.0	17
18	0.0	0.0	0.3	0.2	8.8	2.9	1.4	1.0	0.6	0.1	0.0	0.0	18
19	0.0	0.0	0.3	0.2	9.3	2.9	1.4	1.0	0.5	0.1	0.0	0.0	19
20	0.0	0.0	0.3	10.9	8.6	3.3	1.3	0.9	0.5	0.1	0.0	0.0	20
21	0.0	0.0	0.3	3.2	7.7	3.0	1.3	0.9	0.5	0.1	0.0	0.0	21
22	0.0	0.0	0.2	1.6	6.8	3.1	1.2	0.8	0.5	0.1	0.0	0.0	22
23	0.0	0.0	0.2	1.3	6.7	3.2	1.2	0.8	0.4	0.1	0.0	0.0	23
24	0.0	0.0	0.2	1.1	7.0	2.8	1.2	0.8	0.4	0.0	0.0	0.0	24
25	0.0	0.0	0.2	1.0	5.9	2.6	1.2	0.9	0.4	0.0	0.0	0.0	25
26	0.0	0.0	0.2	1.0	1.5	2.6	1.1	0.9	0.4	0.0	0.0	0.0	26
27	0.0	0.0	0.2	1.1	0.1	2.6	1.1	0.9	0.3	0.0	0.0	0.0	27
28	0.0	0.0	0.2	1.2	0.1	2.5	1.1	0.9	0.3	0.0	0.0	0.0	28
29	0.0	0.0	0.2	1.3		2.4	1.1	0.8	0.3	0.0	0.0	0.0	29
30	0.0	0.0	0.2	1.3		2.4	1.1	0.8	0.3	0.0	0.0	0.0	30
31	0.0		0.2	1.2		2.3		0.8		0.0	0.0	0.0	31
MEAN	0.0	0.0	0.7	1.0	25.0	1.8	1.5	0.9	0.5	0.1	0.0	0.0	MEAN
MAX.	0.0	0.0	11.9	10.9	251.6	3.4	2.2	1.3	0.7	0.2	0.0	0.0	MAX.
MIN.	0.0	0.0	0.0	0.1	0.1	0.1	1.1	0.8	0.3	0.0	0.0	0.0	MIN.
AC.FT.			44	59	1391	113	92	57	32	6			AC.FT.

E - Estimated
NR - No Record
* - Discharge measurement or observation of no flow made on this day

WATER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM DISCHARGE	MAXIMUM GAGE HT	MAXIMUM MO	MAXIMUM DAY	MAXIMUM TIME	MINIMUM DISCHARGE	MINIMUM GAGE HT	MINIMUM MO	MINIMUM DAY	MINIMUM TIME	TOTAL ACRE-FEET
0.7	251.6		11	11		0.0		8	1		1,000

DAILY MEAN DISCHARGE

WEST FORK OF MOJAVE RIVER ABOVE CEDAR SPRINGS

STATION NO	YEAR
V92300	1963

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.8	0.3	0.1	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	0.3	0.1	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	0.3	0.1	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	0.3	0.1	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.3	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.3	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.6	0.3	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.2	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	0.3	0.2	0.4	0.6	0.2	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	1.7	0.2	0.3	0.6	0.3	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	0.7	0.2	0.2	0.5	0.3	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.6	0.2	0.3	0.5	0.3	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.5	0.2	0.3	0.5	0.3	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.5	0.2	0.4	0.5	0.2	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.4	0.3	0.5	0.4	0.1	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.4	0.3	0.4	0.4	0.2	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.1	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.1	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.4	0.5	0.4	0.4	0.1	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.4	0.5	0.5	0.4	0.1	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.3	0.5	1.1	0.4	0.1	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.3	0.5	1.0	0.4	0.1	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.3	0.6	0.8	0.4	0.1	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.3	0.6	0.7	0.3	0.1	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.3	0.1	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.3	0.5	1.1	0.3	0.1	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.3	0.5	1.2	0.3	0.1	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.2	0.7	1.2	0.3	0.1	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0		0.6	1.1	0.3	0.1	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0		0.5	1.0	0.3	0.1	0.0	0.0	0.0	30
31	0.0		0.0			0.5		0.3		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.0	0.3	0.4	0.6	0.5	0.2	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	0.0	1.7	0.7	1.2	0.8	0.3	0.1	0.0	0.0	MAX
MIN.	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.1	0.0	0.0	0.0	MIN.
AC.FT.					18	22	35	29	11	1			AC.FT.

E - Estimated
NR - No Record
* - Discharge measurement or observation of no flow made on this day.
# - E and *

WATER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
0.2	1.7					0.0					116

DAILY MEAN DISCHARGE

ELIZABETH LAKE CANYON CREEK ABOVE CASTAIC

STATION NO	WATER YEAR
Z32330	1962

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.6	26.9	9.9	6.0	3.8	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.3	25.3	9.8	5.7	3.8	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.4	22.0	9.6	6.0	3.8	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.5	19.4	9.6	6.0	3.8	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.6	18.5	9.5	5.7	4.4	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.6	28.3	9.2	5.4	4.1	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.8	24.1	9.0	5.4	3.5	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	75.7	20.6	8.7	5.4	3.2	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	122.2	19.5	8.7	5.4	1.9	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	252.8	18.0	8.2	5.4	1.5	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	901.2	16.4	7.9	5.4	1.6	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	361.2	15.5	7.7	5.4	1.6	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	186.1	14.5	7.6	5.4	0.9	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	121.0	14.2	7.4	5.4	1.9	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	119.7	13.5	7.0	5.4	4.6	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	99.8	13.2	6.7	5.9	5.7	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	81.2	12.6	6.7	8.3	3.4	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	57.0	13.4	6.7	6.9	0.8	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	99.3	14.7	6.1	6.4	0.4	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	79.0	13.3	6.0	5.7	0.4	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	65.3	12.7	5.7	5.7	0.4	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	56.0	13.3	5.7	5.4	0.4	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	51.0	13.2	5.4	5.4	0.5	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	47.4	12.3	6.0	5.4	0.6	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	43.9	12.1	6.0	5.4	0.7	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	39.5	11.9	6.0	5.4	0.7	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	32.0	11.9	5.7	5.7	0.8	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	28.7	11.9	5.4	5.1	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	1.8		10.8	5.4	4.7	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	1.5		9.9	6.0	4.1	0.0	0.0	0.0	0.0	30
31	0.0		0.0	0.9				4.1		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.1	104.4	16.0	7.3	5.6	5.6	2.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	1.8	901.2	28.3	9.9	8.3	5.7	0.0	0.0	0.0	MAX.
MIN.	0.0	0.0	0.0	0.0	0.3	9.9	5.4	4.1	0.0	0.0	0.0	0.0	MIN.
AC.FT.				8	5799	983	435	343	117				AC.FT.

E - Estimated
NR - No Record
* - Discharge measurement or observation

WATER YEAR SUMMARY

MEAN	MAXIMUM		MINIMUM		TOTAL

ELIZABETH LAKE CANYON CREEK ABOVE CASTAIC

Z32330	1963

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.4	0.5	2.1	1.5	0.6	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.4	0.5	1.8	1.3	0.5	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.4	0.8	1.5	1.2	0.4	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.4	0.8	1.4	1.2	0.4	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.4	0.9	1.3	1.1	0.5	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.4	0.9	1.3	1.0	0.8	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.4	1.0	1.3	0.9	0.7	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.3	1.0	1.5	1.0	0.5	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	11.3	1.0	1.6	1.5	0.4	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	17.6	1.0	1.5	1.4	0.5	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	4.0	1.0	1.3	1.2	0.8	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	2.4	0.9	1.2	1.1	0.9	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.3	1.7	0.9	1.1	1.0	0.8	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.3	1.2	1.0	1.9	0.9	0.6	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.3	1.1	1.0	1.9	0.8	0.4	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.3	1.0	2.0	1.5	0.7	0.3	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.3	0.9	3.5	1.5	0.6	0.2	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.4	0.9	2.3	1.4	0.5	0.2	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.3	0.8	1.8	1.3	0.6	0.2	0.0	0.0	0.3	19
20	0.0	0.0	0.0	0.3	0.7	1.5	1.7	0.6	0.2	0.0	0.0	0.1	20
21	0.0	0.0	0.0	0.3	0.6	1.3	2.7	0.5	0.2	0.0	0.0	0.1	21
22	0.0	0.0	0.0	0.3	0.5	1.3	1.9	0.6	0.2	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.3	0.5	2.4	1.5	0.7	0.3	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.4	0.5	2.4	1.3	0.8	0.2	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.4	0.5	2.0	1.4	0.8	0.2	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.4	0.5	1.8	8.1	0.9	0.1	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.4	0.5	1.7	4.2	0.9	0.1	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.4	0.5	6.9	2.7	0.9	0.1	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.4		3.9	2.2	1.0	0.1	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.4		3.0	1.8	0.8	0.0	0.0	0.0	0.0	30
31	0.0		0.0	0.5		2.3		0.7		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.2	1.8	1.7	1.9	0.9	0.4	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	0.5	17.6	6.9	8.1	1.5	0.9	0.0	0.0	0.3	MAX.
MIN.	0.0	0.0	0.0	0.0	0.3	0.5	1.1	0.5	0.0	0.0	0.0	0.0	MIN.
AC.FT.				13	101	106	115	57	23			1	AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation of no flow made on this day.
- E and ✱

WATER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
0.6	17.6					0.0					415

DAILY MEAN DISCHARGE

CASTAIC CREEK ABOVE CORDOVA RANCH

IN SECOND FEET

STATION NO	WATER YEAR
Z32360	1962

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG.	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.1	27.3	14.6	7.1	4.2	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.1	19.5	14.5	7.1	3.3	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.1	35.7	14.1	7.1	3.3	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.1	34.2	13.7	6.2	2.3	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.1	30.7	13.2	6.2	2.3	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.1	74.8	12.1	6.2	1.4	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.1	53.6	11.6	6.2	1.4	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	127.5	40.0	11.5	6.2	0.4	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	437.4	31.9	10.2	6.2	0.4	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	2179.3	41.0	10.8	6.2	0.4	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	2050.8	34.1	10.7	6.2	0.4	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	480.3	39.2	10.2	6.2	0.3	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	195.6	35.8	10.2	6.2	0.3	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	132.1	30.6	10.2	6.2	0.3	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	201.6	26.7	10.2	6.2	0.3	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	144.8	24.3	10.2	7.1	0.3	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	119.8	21.9	10.1	7.1	0.3	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	104.3	30.8	9.5	7.1	0.3	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	205.5	47.7	8.1	7.1	0.3	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	139.7	27.5	8.1	7.1	0.3	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	127.4	24.3	8.1	7.1	0.3	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	114.8	21.9	8.1	6.2	0.3	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	104.3	22.2	8.1	6.2	0.3	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	91.9	19.3	8.1	6.2	0.3	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	69.4	18.2	8.1	6.2	0.3	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	44.6	17.5	7.1	6.2	0.3	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	23.8	16.3	7.1	6.2	0.3	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	44.5	16.1	7.1	5.2	0.3	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0		16.0	7.1	5.2	0.3	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0		15.3	7.1	5.2	0.3	0.0	0.0	0.0	30
31	0.0		0.0	0.0		14.7		4.2		0.0	0.0		31
MEAN	0.0	0.0	0.0	0.0	255.0	29.3	10.0	6.3	0.9	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	0.0	2179.3	74.8	14.6	7.1	4.2	0.0	0.0	0.0	MAX.
MIN.	0.0	0.0	0.0	0.0	0.1	14.7	7.1	4.2	0.3	0.0	0.0	0.0	MIN.
AC.FT.					14162	1803	595	387	51				AC.FT.

E - Estimated
NR - No Record
* - Discharge measurement or observation

WATER YEAR SUMMARY

MEAN	MAXIMUM	MINIMUM	TOTAL

DAILY MEAN DISCHARGE

CASTAIC CREEK ABOVE CORDOVA RANCH

STATION NO	YEAR
232360	1963

IN SECOND FEET

DAY	OCT.	NOV	DEC.	JAN	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG	SEPT.	DAY
1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	0.0	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.7	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.5	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.5	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	0.0	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.0	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.0	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	8
9	0.0	0.0	0.0	0.0	153.3	0.0	0.5	0.9	0.0	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	159.4	0.0	0.5	1.0	0.0	0.0	0.0	0.0	10
11	0.0	0.0	0.0	0.0	2.0	0.0	0.5	0.8	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.7	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.3	0.0	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.2	0.0	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	4.2	0.3	0.2	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.6	0.2	0.1	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.3	19
20	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.1	20
21	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.1	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.0	0.0	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.2	47.1	0.1	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.2	2.3	0.1	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.0	8.7	2.3	0.1	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0		1.6	1.4	0.1	0.0	0.0	0.0	0.0	29
30	0.0	0.0	0.0	0.0		0.5	0.5	0.1	0.0	0.0	0.0	0.0	30
31	0.0		0.0	0.0		0.5		0.1	0.0	0.0	0.0	0.0	31
MEAN	0.0	0.0	0.0	0.0	11.2	0.6	2.1	0.6	0.0	0.0	0.0	0.0	MEAN
MAX.	0.0	0.0	0.0	0.0	159.4	8.7	47.1	3.7	0.0	0.0	0.0	0.3	MAX
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	MIN.
AC.FT.					624	37	123	37				1	AC.FT.

E - Estimated
NR - No Record
✱ - Discharge measurement or observation of no flow made on this day.
‡ - E and ✱

WATER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.2	159.4					0.0					822

PLATE I

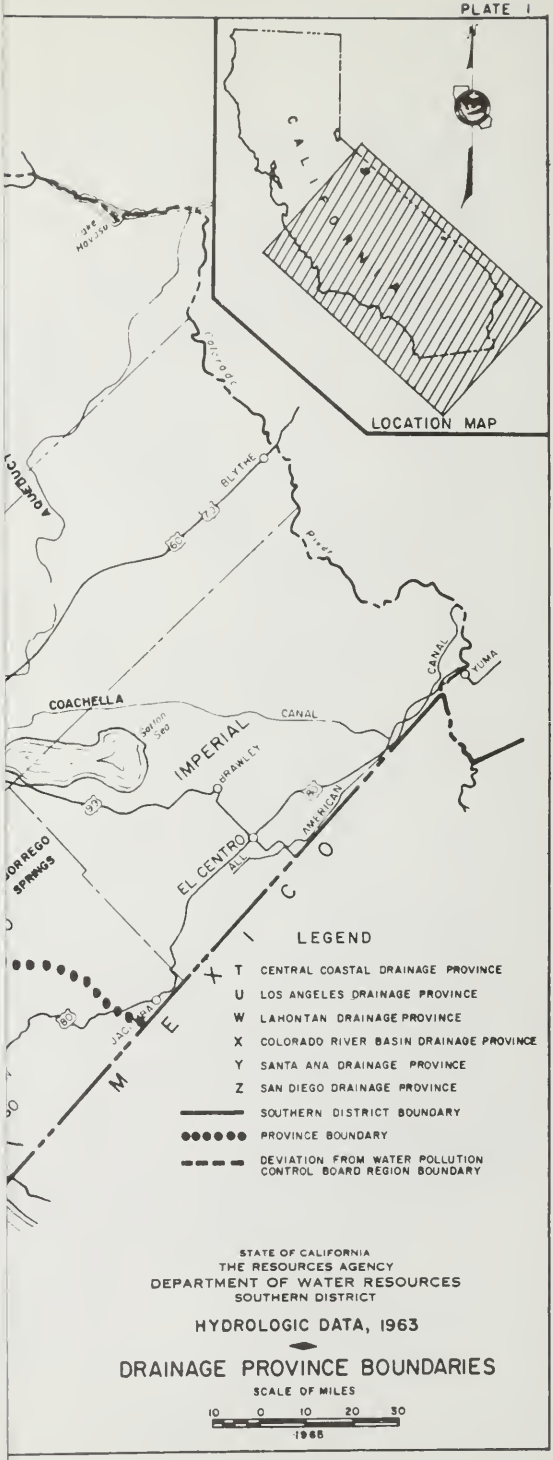
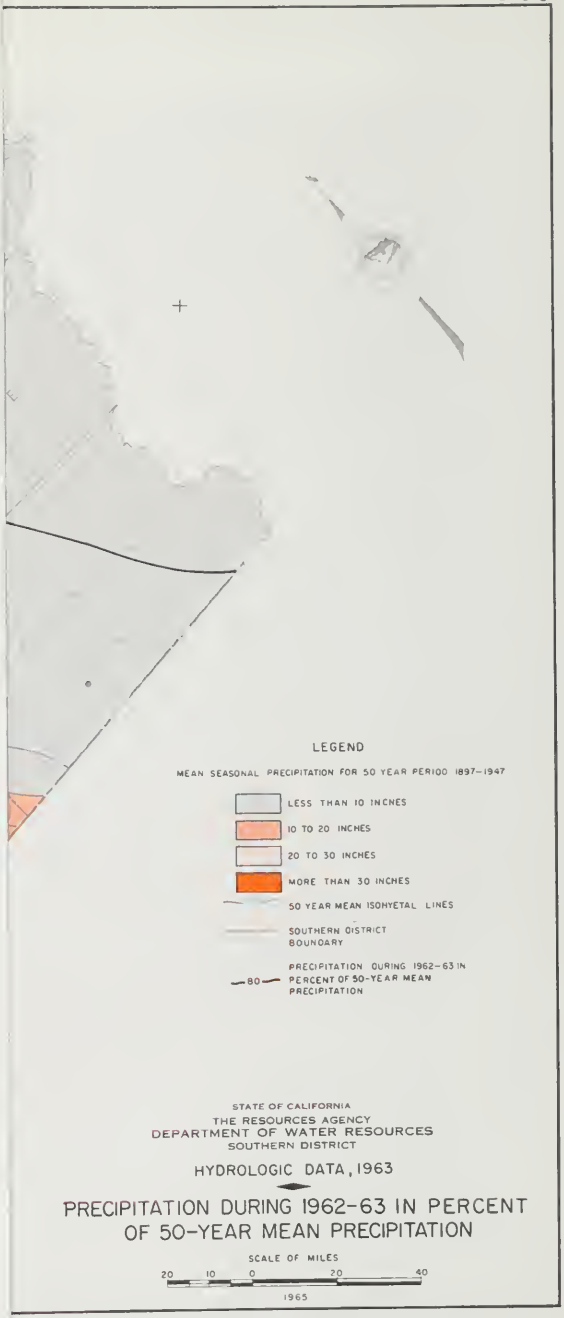
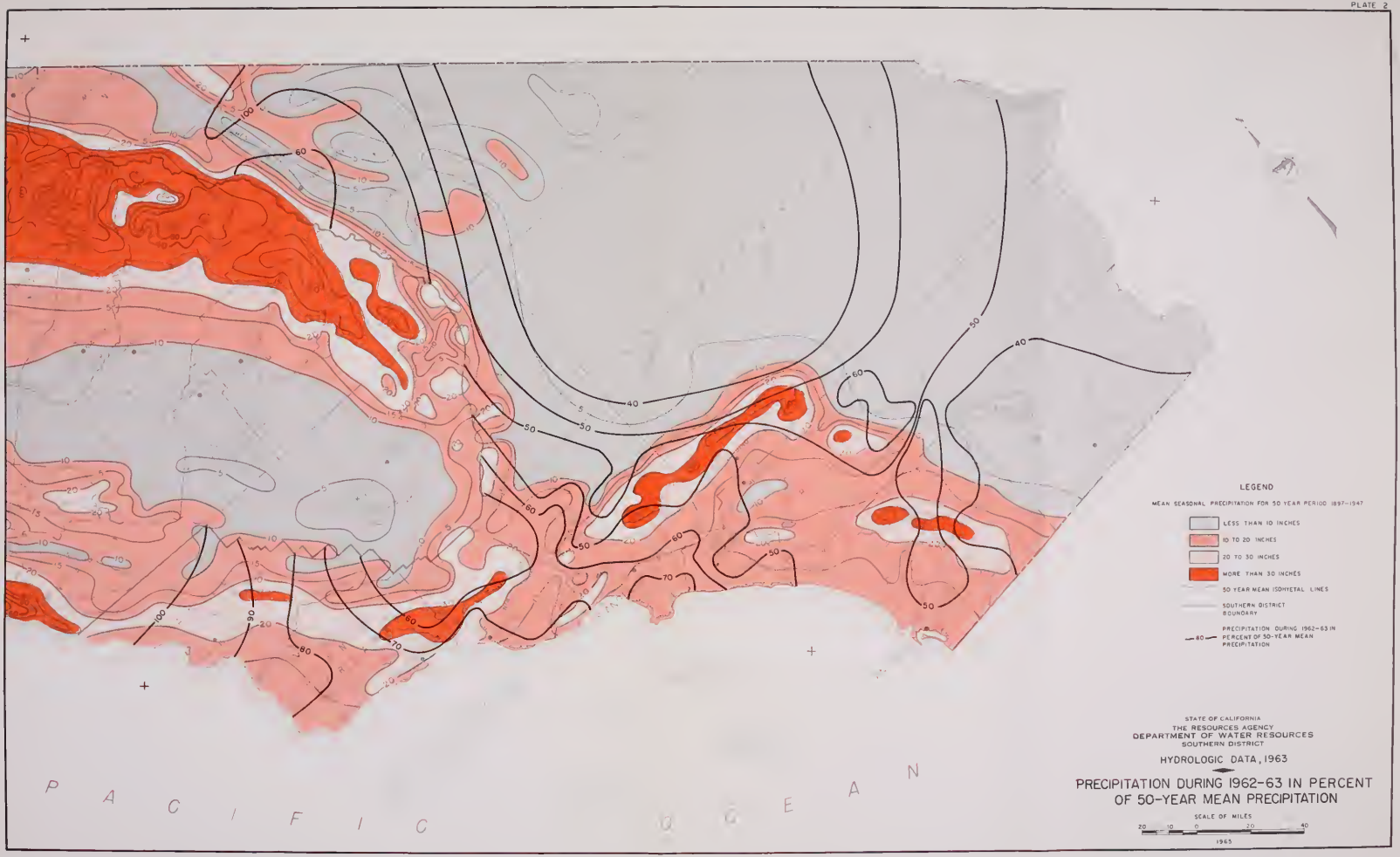

LOCATION MAP
CALIFORNIA
BLYTHE
COACHELLA
CANAL
IMPERIAL
BRAWLEY
EL CENTRO
AMERICAN
CANAL
YUMA
MEXICO
LEGEND
T CENTRAL COASTAL DRAINAGE PROVINCE
U LOS ANGELES DRAINAGE PROVINCE
W LAHONTAN DRAINAGE PROVINCE
X COLORADO RIVER BASIN DRAINAGE PROVINCE
Y SANTA ANA DRAINAGE PROVINCE
Z SAN DIEGO DRAINAGE PROVINCE
SOUTHERN DISTRICT BOUNDARY
PROVINCE BOUNDARY
DEVIATION FROM WATER POLLUTION CONTROL BOARD REGION BOUNDARY
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
HYDROLOGIC DATA, 1963
DRAINAGE PROVINCE BOUNDARIES
SCALE OF MILES
10 0 10 20 30
1968

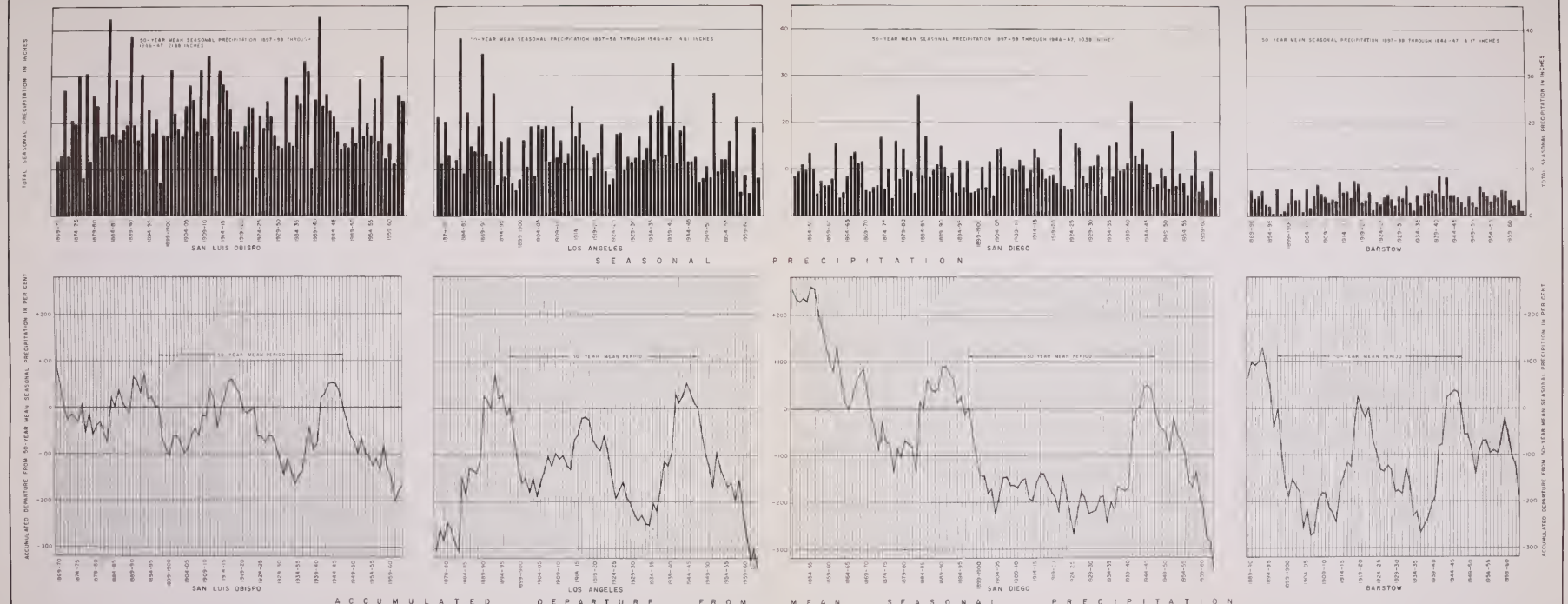
PLATE I

NEVADA
PACIFIC OCEAN
MEXICO
MONO
INYO
MARIPOSA
MADERA
MERCED
FRESNO
TULARE
KINGS
KERN
SAN BENITO
MONTEREY
SAN LUIS OBISPO
SANTA BARBARA
VENTURA
LOS ANGELES
SAN BERNARDINO
RIVERSIDE
ORANGE
SAN DIEGO
IMPERIAL
COACHELLA
COLORADO
W
X
Y
Z
U
T
LEGEND
T CENTRAL COASTAL DRAINAGE PROVINCE
U LOS ANGELES DRAINAGE PROVINCE
W LAHONTAN DRAINAGE PROVINCE
X COLORADO RIVER BASIN DRAINAGE PROVINCE
Y SANTA ANA DRAINAGE PROVINCE
Z SAN DIEGO DRAINAGE PROVINCE
SOUTHERN DISTRICT BOUNDARY
PROVINCE BOUNDARY
DEVIATION FROM WATER POLLUTION CONTROL BOARD REGION BOUNDARY
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
HYDROLOGIC DATA, 1963
DRAINAGE PROVINCE BOUNDARIES
SCALE OF MILES
10 0 10 20 30
1965
LOCATION MAP


LEGEND
MEAN SEASONAL PRECIPITATION FOR 50 YEAR PERIOD 1897–1947
LESS THAN 10 INCHES
10 TO 20 INCHES
20 TO 30 INCHES
MORE THAN 30 INCHES
50 YEAR MEAN ISOHYETAL LINES
SOUTHERN DISTRICT BOUNDARY
80
PRECIPITATION DURING 1962–63 IN PERCENT OF 50-YEAR MEAN PRECIPITATION
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
HYDROLOGIC DATA, 1963
PRECIPITATION DURING 1962–63 IN PERCENT OF 50-YEAR MEAN PRECIPITATION
SCALE OF MILES
20 10 0 20 40
1965

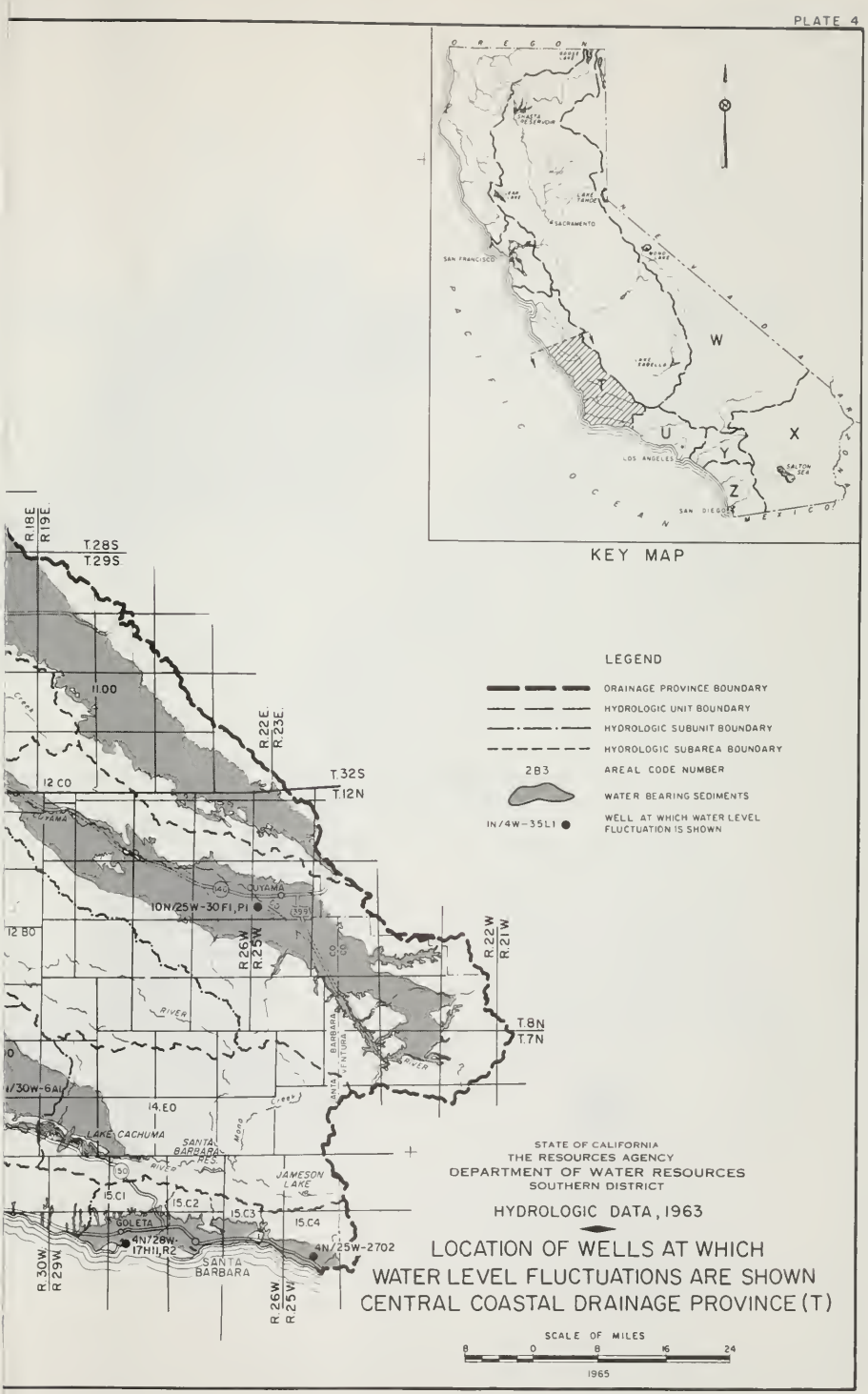
54165


LEGEND
MEAN SEASONAL PRECIPITATION FOR 50 YEAR PERIOD 1897–1947
LESS THAN 10 INCHES
10 TO 20 INCHES
20 TO 30 INCHES
MORE THAN 30 INCHES
50 YEAR MEAN ISOHYETAL LINES
SOUTHERN DISTRICT BOUNDARY
80 PRECIPITATION DURING 1962–63 IN PERCENT OF 50-YEAR MEAN PRECIPITATION
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
HYDROLOGIC DATA, 1963
PRECIPITATION DURING 1962–63 IN PERCENT OF 50-YEAR MEAN PRECIPITATION
SCALE OF MILES
20 10 0 20 40
1965
PACIFIC OCEAN



REPRESENTATIVE PRECIPITATION CHARACTERISTICS IN SOUTHERN CALIFORNIA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1965

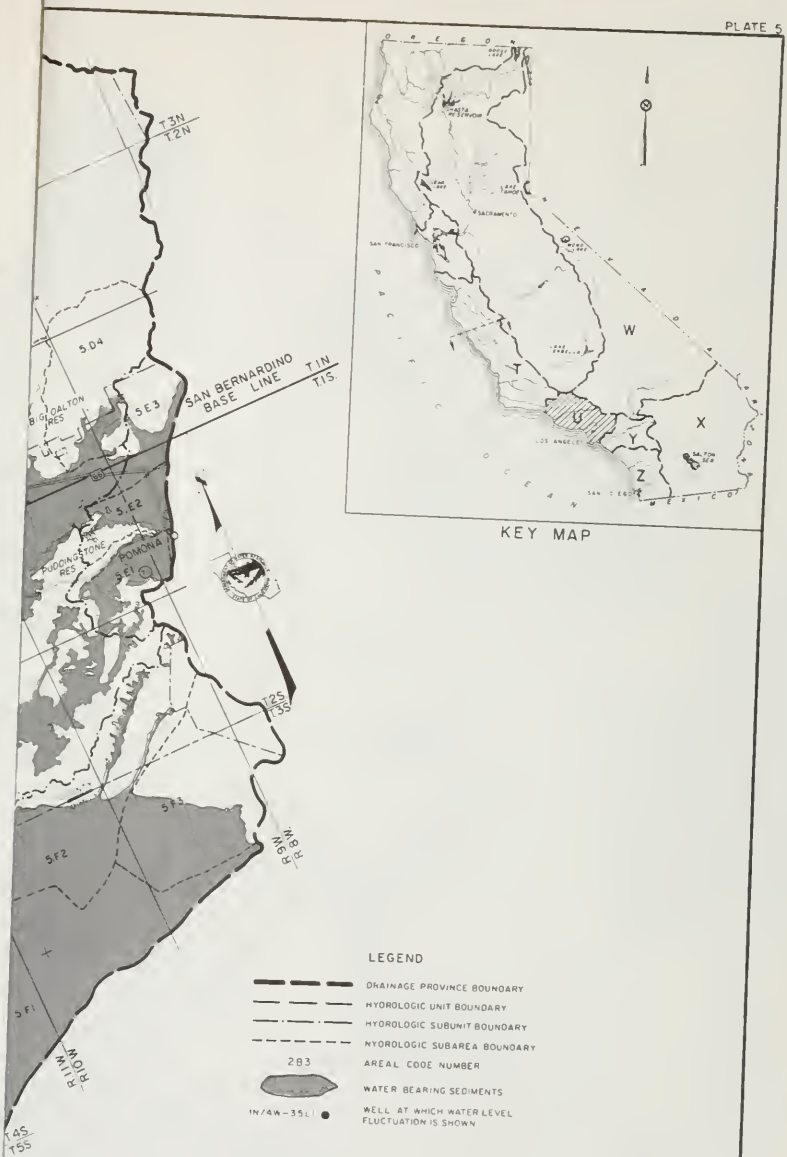

KEY MAP
OREGON
SHASTA RESERVOIR
LAKE TAHOE
SACRAMENTO
SAN FRANCISCO
PACIFIC OCEAN
NEVADA
W
T
U
X
Y
Z
LOS ANGELES
SALTON SEA
SAN DIEGO
MEXICO
LEGEND
DRAINAGE PROVINCE BOUNDARY
HYDROLOGIC UNIT BOUNDARY
HYDROLOGIC SUBUNIT BOUNDARY
HYDROLOGIC SUBAREA BOUNDARY
2B3
AREAL CODE NUMBER
WATER BEARING SEDIMENTS
1N/4W-35L1
WELL AT WHICH WATER LEVEL FLUCTUATION IS SHOWN
R.18E
R.19E
T.28S
T.29S
11.00
R.22E.
R.23E.
T.32S
T.12N
12.C0
12.B0
OJAI
OJAIA
10N/25W-30F1,P1
R.26W
R.25W
R.22W
R.21W
T.8N
T.7N
SANTA BARBARA
VENTURA
RIVER
14.E0
LAKE CACHUMA
SANTA BARBARA RES.
JAMESON LAKE
15.C1
15.C2
15.C3
15.C4
GOLETA
4N/26W-17H11,R2
4N/25W-2702
SANTA BARBARA
R.30W
R.29W
R.26W
R.25W
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
HYDROLOGIC DATA, 1963
LOCATION OF WELLS AT WHICH WATER LEVEL FLUCTUATIONS ARE SHOWN
CENTRAL COASTAL DRAINAGE PROVINCE (T)
SCALE OF MILES
8 0 8 16 24
1965

AREAL DESIGNATIONS
HYDROLOGIC UNITS, SUBUNITS AND SUBAREAS

CENTRAL COASTAL DRAINAGE PROVINCE

T-09.00	SALINAS HYDRO UNIT
T-09.H0	PASO ROBLES HYDRO SUBUNIT
T-09.I0	ROZO HYDRO SUBUNIT
T-10.00	SAN LUIS OBISPO HYDRO UNIT
T-10.A0	CAMBRIA HYDRO SUBUNIT
T-10.A1	SAN CARPOFORO HYDRO SUBAREA
T-10.A2	ARROYO DE LA CRUZ HYDRO SUBAREA
T-10.A3	SAN SIMEON HYDRO SUBAREA
T-10.A4	SANTA ROSA HYDRO SUBAREA
T-10.A5	VILLA HYDRO SUBAREA
T-10.A6	CAYUCOS HYDRO SUBAREA
T-10.A7	OLD HYDRO SUBAREA
T-10.A8	TORO HYDRO SUBAREA
T-10.B0	SAN LUIS OBISPO HYDRO SUBUNIT
T-10.B1	MORRO HYDRO SUBAREA
T-10.B2	CHORRO HYDRO SUBAREA
T-10.B3	LOS OSOS HYDRO SUBAREA
T-10.B4	SAN LUIS OBISPO CR HYDRO SUBAREA
T-10.B5	POINT SAN LUIS HYDRO SUBAREA
T-10.B6	PISMO HYDRO SUBAREA
T-10.C0	ARROYO GRANDE HYDRO SUBUNIT
T-10.C1	ARROYO GRANDE HYDRO SUBAREA
T-10.C2	NIPOMO MESA HYDRO SUBAREA
T-11.00	CARRIZO PLAIN HYDRO UNIT
T-12.00	SANTA MARIA-CUYAMA HYDRO UNIT
T-12.A0	SANTA MARIA HYDRO SUBUNIT
T-12.B0	SISQUOC HYDRO SUBUNIT
T-12.C0	CUYAMA VALLEY HYDRO SUBUNIT
T-13.00	SAN ANTONIO HYDRO UNIT
T-14.00	SANTA YNEZ HYDRO UNIT
T-14.A0	LOMPOC HYDRO SUBUNIT
T-14.B0	SANTA RITA HYDRO SUBUNIT
T-14.C0	RUELLTON HYDRO SUBUNIT
T-14.D0	SANTA YNEZ HYDRO SUBUNIT
T-14.E0	HEADWATER HYDRO SUBUNIT
T-15.00	SANTA BARBARA HYDRO UNIT
T-15.A0	ARGUELLO HYDRO SUBUNIT
T-15.C0	SOUTH COAST HYDRO SUBUNIT
T-15.C1	GOLETA HYDRO SUBAREA
T-15.C2	SANTA BARBARA HYDRO SUBAREA
T-15.C3	MONTECITO HYDRO SUBAREA
T-15.C4	CARPINTERIA HYDRO SUBAREA
T-16.00	SANTA BARBARA CH IS HYDRO UNIT
T-16.A0	SAN MIGUEL ISLAND HYDRO SUBUNIT
T-16.B0	SANTA ROSA ISLAND HYDRO SUBUNIT
T-16.C0	SANTA CRUZ ISLAND HYDRO SUBUNIT

KEY MAP



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

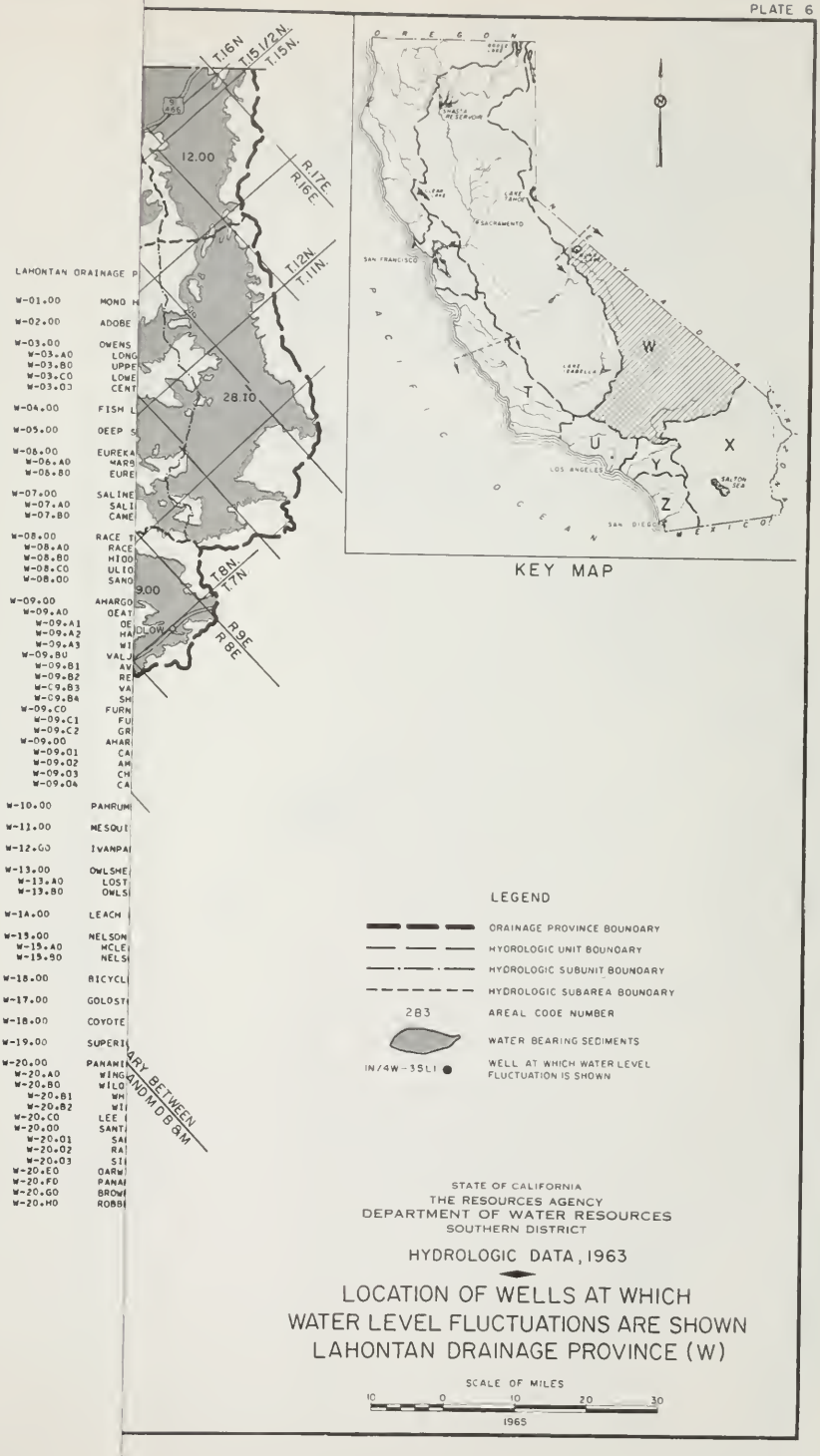
HYDROLOGIC DATA, 1963

LOCATION OF WELLS AT WHICH
WATER LEVEL FLUCTUATIONS ARE SHOWN
LOS ANGELES DRAINAGE PROVINCE (U)

SCALE OF MILES
3 0 3 6 9

1965

SAN GABRIEL MTS
SANTA MONICA MTS
PACIFIC OCEAN
SAN BERNARDINO BASE LINE
KEY MAP
LEGEND
DRAINAGE PROVINCE BOUNDARY
HYDROLOGIC UNIT BOUNDARY
HYDROLOGIC SUBUNIT BOUNDARY
HYDROLOGIC SUBAREA BOUNDARY
AREAL CODE NUMBER
WATER BEARING SEDIMENTS
WELL AT 40-YR INTERVALS (U.S. FIRST DATA GROUP)
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
HYDROLOGIC DATA, 1963
LOCATION OF WELLS AT WHICH WATER LEVEL FLUCTUATIONS ARE SHOWN
LOS ANGELES DRAINAGE PROVINCE (U)
SCALE OF MILES


T.16N
T.15 1/2N.
T.15N.
R.17E
R.16E
T.12N
T.11N.
T.8N.
T.7N.
R.9E
R.8E
12.00
28.10
9.00
LAHONTAN DRAINAGE P
W-01.00 MONO H
W-02.00 ADOBE
W-03.00 OWENS
W-03.A0 LONG
W-03.B0 UPPE
W-03.C0 LOWE
W-03.D3 CENT
W-04.00 FISH L
W-05.00 DEEP S
W-06.00 EUREKA
W-06.A0 MARB
W-06.B0 EURE
W-07.00 SALINE
W-07.A0 SALI
W-07.B0 CAME
W-08.00 RACE T
W-08.A0 RACE
W-08.B0 HIOO
W-08.C0 ULIO
W-08.D0 SANO
W-09.00 AMARGO
W-09.A0 OEAT
W-09.A1 OE
W-09.A2 HA
W-09.A3 WI
W-09.B0 VALJ
W-09.B1 AV
W-09.B2 RE
W-09.B3 VA
W-09.B4 SH
W-09.C0 FURN
W-09.C1 FU
W-09.C2 GR
W-09.D0 AMAR
W-09.D1 CA
W-09.D2 AM
W-09.D3 CH
W-09.D4 CA
W-10.00 PAHRUM
W-11.00 MESQUI
W-12.00 IVANPA
W-13.00 OWLSHE
W-13.A0 LOST
W-13.B0 OWLS
W-14.00 LEACH
W-15.00 NELSON
W-15.A0 MCLE
W-15.B0 NELS
W-16.00 BICYCL
W-17.00 GOLOST
W-18.00 COYOTE
W-19.00 SUPERI
W-20.00 PANAMI
W-20.A0 WING
W-20.B0 WILO
W-20.B1 WH
W-20.B2 WI
W-20.C0 LEE
W-20.D0 SANT
W-20.D1 SA
W-20.D2 RA
W-20.D3 SI
W-20.E0 OARW
W-20.F0 PANA
W-20.G0 BROW
W-20.H0 ROBB
ARY BETWEEN
AND M D B & M
KEY MAP
O R E G O N
SHASTA RESERVOIR
LAKE TAHOE
SACRAMENTO
SAN FRANCISCO
LAKE ISABELLA
LOS ANGELES
SALTON SEA
SAN DIEGO
M E X I C O
P A C I F I C O C E A N
W
T
U
X
Y
Z
LEGEND
DRAINAGE PROVINCE BOUNDARY
HYDROLOGIC UNIT BOUNDARY
HYDROLOGIC SUBUNIT BOUNDARY
HYDROLOGIC SUBAREA BOUNDARY
283 AREAL CODE NUMBER
WATER BEARING SEDIMENTS
IN/4W-35L1 WELL AT WHICH WATER LEVEL FLUCTUATION IS SHOWN
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
HYDROLOGIC DATA, 1963
LOCATION OF WELLS AT WHICH
WATER LEVEL FLUCTUATIONS ARE SHOWN
LAHONTAN DRAINAGE PROVINCE (W)
SCALE OF MILES
10 0 10 20 30
1965

AREAL DESIGNATIONS
HYDROLOGIC UNITS, SUBUNITS AND SUBAREAS

LAHONTAN DRAINAGE PROVINCE

w-01-00 MONO HYDRO UNIT

w-02-00 ADOBE HYDRO UNIT

w-03-00 OWENS HYDRO UNIT
w-03-10 LONG HYDRO SUBUNIT
w-03-80 UPPER OWENS HYDRO SUBUNIT
w-03-70 LOWER OWENS HYDRO SUBUNIT
w-03-90 CENTENNIAL HYDRO SUBUNIT

w-04-00 FISH LAKE HYDRO UNIT

w-05-00 DEEP SPRINGS HYDRO UNIT

w-06-00 EUREKA HYDRO UNIT
w-06-10 MARPLE BATH HYDRO SUBUNIT
w-06-90 EUREKA HYDRO SUBUNIT

w-07-00 SALINE HYDRO UNIT
w-07-40 SALINE HYDRO SUBUNIT
w-07-80 COWES HYDRO SUBUNIT

w-08-00 RACE TRACK HYDRO UNIT
w-08-80 RACE TRACK HYDRO SUBUNIT
w-08-85 HIDDEN VALLEY HYDRO SUBUNIT
w-08-70 UBEHEBE HYDRO SUBUNIT
w-08-90 SAND FLAT HYDRO SUBUNIT

w-09-00 ANAMOSA HYDRO UNIT
w-09-40 DEATH VALLEY HYDRO SUBUNIT
w-09-41 DEATH VALLEY HYDRO SUBAREA
w-09-42 WINGATE HYDRO SUBAREA
w-09-43 WINGATE WASH HYDRO SUBAREA
w-09-80 VALJEAN HYDRO SUBUNIT
w-09-81 AMARGOSA HYDRO SUBAREA
w-09-82 RED PEAK HYDRO SUBAREA
w-09-83 SALT CREEK HYDRO SUBAREA
w-09-84 SHADOW HYDRO SUBAREA
w-09-70 FURNACE CREEK HYDRO SUBUNIT
w-09-71 FURNACE CREEK HYDRO SUBAREA
w-09-72 FURNACE CREEK HYDRO SUBAREA
w-09-90 AMARGOSA HYDRO SUBUNIT
w-09-91 CALICO HYDRO SUBAREA
w-09-92 AMARGOSA HYDRO SUBAREA
w-09-93 TWICHAD HYDRO SUBAREA
w-09-94 CALIFORNIA HYDRO SUBAREA

w-10-00 PANAMINT HYDRO UNIT

w-11-00 MESQUITE HYDRO UNIT

w-12-00 INYAMPAH HYDRO UNIT

w-13-00 OWLSHEAD HYDRO UNIT
w-13-40 LOST LAKE HYDRO SUBUNIT
w-13-80 OWLSHEAD HYDRO SUBUNIT

w-14-00 LEACH HYDRO UNIT

w-15-00 NELSON HYDRO UNIT
w-15-40 NELSON HYDRO SUBUNIT
w-15-80 NELSON HYDRO SUBUNIT

w-16-00 BICYCLE HYDRO UNIT

w-17-00 GOLDSTONE HYDRO UNIT

w-18-00 COYOTE HYDRO UNIT

w-19-00 SUPERSTION HYDRO UNIT

w-20-00 RANGANIKY HYDRO UNIT
w-20-40 WINGATE PASS HYDRO SUBUNIT
w-20-80 WINGATE HYDRO SUBUNIT
w-20-81 WHITE SAGE HYDRO SUBAREA
w-20-82 WILD ROSE HYDRO SUBAREA
w-20-70 LEE FLAT HYDRO SUBUNIT
w-20-90 SANTA ROSA FLAT HYDRO SUBUNIT
w-20-91 SILVER BOWL HYDRO SUBAREA
w-20-92 RAINBOW HYDRO SUBAREA
w-20-93 SILVER DOLLAR HYDRO SUBAREA
w-20-60 DARWIN HYDRO SUBUNIT
w-20-50 DARWIN HYDRO SUBUNIT
w-20-40 BROWN HYDRO SUBUNIT
w-20-30 PIONEER HYDRO SUBUNIT

w-21-00 SEARLES HYDRO UNIT
w-21-40 SEARLES HYDRO SUBUNIT
w-21-80 SALT WELLS HYDRO SUBUNIT
w-21-60 PILOT KNOB HYDRO SUBUNIT

w-22-00 COSO HYDRO UNIT
w-22-40 WILD HORSE HYDRO SUBUNIT
w-22-80 COSO HYDRO SUBUNIT

w-23-00 UPPER CACTUS HYDRO UNIT

w-24-00 INDIAN WELLS HYDRO UNIT
w-24-40 INDIAN WELLS SUBUNIT
w-24-80 INDIAN WELLS HYDRO SUBUNIT

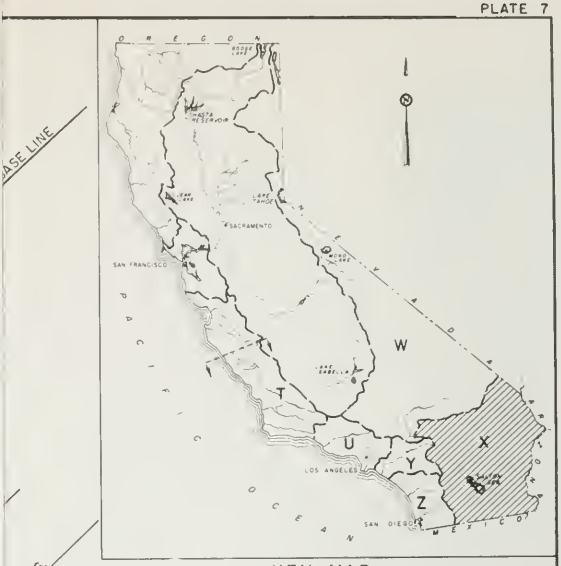
w-25-00 FAIRMONT HYDRO UNIT
w-25-40 DOVE SPRINGS HYDRO SUBUNIT
w-25-80 FAIRMONT HYDRO SUBUNIT
w-25-60 FELT RESERVOIR HYDRO SUBUNIT
w-25-00 EDWIN HYDRO SUBUNIT

w-26-00 ANTELOPE HYDRO UNIT
w-26-40 ANTELOPE HYDRO SUBUNIT
w-26-41 SHAFFE HYDRO SUBAREA
w-26-42 GLOSTER HYDRO SUBAREA
w-26-43 WILLOW SPRINGS HYDRO SUBAREA
w-26-44 MERRICH HYDRO SUBAREA
w-26-45 SOUTH HUNTER HYDRO SUBAREA
w-26-46 NORTH HUNTER HYDRO SUBAREA
w-26-47 BUTTES HYDRO SUBAREA
w-26-48 ROCK CREEK HYDRO SUBAREA

w-27-00 CUDDEBACK HYDRO UNIT

w-28-00 MOJAVE HYDRO UNIT
w-28-60 UPPER MOJAVE HYDRO SUBUNIT
w-28-65 LOWER MOJAVE HYDRO SUBUNIT
w-28-70 MIDDLE MOJAVE HYDRO SUBUNIT
w-28-80 HOOPER HYDRO SUBUNIT
w-28-81 GRASS VALLEY HYDRO SUBAREA
w-28-82 HOOPER CREEK HYDRO SUBAREA
w-28-83 LOWER MOJAVE HYDRO SUBUNIT
w-28-90 TROY HYDRO SUBUNIT
w-28-91 LAKE BASIN HYDRO SUBAREA
w-28-92 TROY HYDRO SUBAREA
w-28-93 HYDE HYDRO SUBAREA
w-28-60 CHAFFEE HYDRO SUBAREA
w-28-50 CROSSIE HYDRO SUBAREA
w-28-40 LANGFORD HYDRO SUBAREA
w-28-40 BAKER HYDRO SUBUNIT
w-28-30 SOUTH LAKE HYDRO SUBAREA
w-28-20 SOUTH LAKE HYDRO SUBAREA
w-28-10 BELLO HYDRO SUBUNIT

w-29-00 FRAGONTILL HYDRO UNIT



KEY MAP

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

HYDROLOGIC DATA, 1963

LOCATION OF WELLS AT WHICH
WATER LEVEL FLUCTUATIONS ARE SHOWN
ORADO RIVER BASIN DRAINAGE PROVINCE (X)

SCALE OF MILES
10 0 10 20 30

1965

AREAL DESIGNATIONS
HYDROLOGIC UNITS, SUBUNITS AND SUBAREAS

COLORADO RIVER BASIN DRAINAGE PROVINCE

X-01.00 LUCERNE HYDRO UNIT

X-02.00 JOHNSON HYDRO UNIT

X-03.00 BESSEMER HYDRO UNIT

X-04.00 MEARS HYDRO UNIT

X-05.00 EMERSON HYDRO UNIT

X-06.00 LAVIC HYDRO UNIT

X-07.00 DEADMAN HYDRO UNIT

X-08.00 JOSHUA TREE HYDRO UNIT
X-08.A0 WARREN HYDRO SUBUNIT
X-08.B0 COPPER MOUNTAIN HYDRO SUBUNIT

X-09.00 DALE HYDRO UNIT
X-09.A0 TWENTYNINE PALMS HYDRO SUBUNIT
X-09.B0 DALE HYDRO SUBUNIT

X-10.00 BRISTOL HYDRO UNIT
X-10.A0 BRISTOL HYDRO SUBUNIT
X-10.B0 FENNER HYDRO SUBUNIT

X-11.00 CADIZ HYDRO UNIT

X-12.00 HARO HYDRO UNIT

X-13.00 PIUTE HYDRO UNIT
X-13.A0 LANFAIR HYDRO SUBUNIT
X-13.B0 PIUTE HYDRO SUBUNIT
X-13.C0 NEEDLES HYDRO SUBUNIT

X-14.00 CHEMEHUEVIS HYDRO UNIT

X-15.00 COLORADO HYDRO UNIT
X-15.A0 VIDAL HYDRO SUBUNIT
X-15.B0 BIG WASH HYDRO SUBUNIT
X-15.C0 QUEEN SADE HYDRO SUBUNIT
X-15.D0 PALO VERDE HYDRO SUBUNIT
X-15.E0 ARROYO SECO HYDRO SUBUNIT

X-16.00 RICE HYDRO UNIT

X-17.00 CHUCKWALLA HYDRO UNIT
X-17.A0 FORD HYDRO SUBUNIT
X-17.B0 PALEN HYDRO SUBUNIT
X-17.C0 PINTO HYDRO SUBUNIT
X-17.D0 PLEASANT HYDRO SUBUNIT

X-18.00 HAYFIELD HYDRO UNIT

X-19.00 WHITEWATER HYDRO UNIT
X-19.A0 MORONGO HYDRO SUBUNIT
X-19.B0 SHAVERS HYDRO SUBUNIT
X-19.C0 SAN GORGONIO HYDRO SUBUNIT
X-19.C1 BEAUMONT HYDRO SUBAREA
X-19.C2 SAN GORGONIO HYDRO SUBAREA
X-19.D0 COACHELLA HYDRO SUBUNIT
X-19.D1 GARNET HILL HYDRO SUBAREA
X-19.D2 MISSION CREEK HYDRO SUBAREA
X-19.D3 MIRACLE HILL HYDRO SUBAREA
X-19.D4 SKY VALLEY HYDRO SUBAREA
X-19.D5 FARGO CANYON HYDRO SUBAREA
X-19.D6 THOUSAND PALMS HYDRO SUBAREA
X-19.D7 INDIO HYDRO SUBAREA

X-20.00 CLARK HYDRO UNIT

X-21.00 WEST SALTON SEA HYDRO UNIT

X-22.00 ANZA BORREGO HYDRO UNIT
X-22.A0 BORREGO HYDRO SUBUNIT
X-22.X1 TRAMWAY-LIGGER HYDRO SUBAREA
X-22.X2 COLLINS HYDRO SUBAREA
X-22.X3 BORREGO HYDRO SUBAREA
X-22.B0 OCOTILLO-CARR & FELIPE HYDR SUBUNIT
X-22.C0 MESCAL BAJADA HYDRO SUBUNIT
X-22.D0 SAN FELIPE HYDRO SUBUNIT
X-22.E0 MASON HYDRO SUBUNIT
X-22.F0 VALLECITO-CARRIZO HYDRO SUBUNIT
X-22.F1 CARRIZO HYDRO SUBAREA
X-22.F2 VALLECITO HYDRO SUBAREA
X-22.F3 CANYONBAKE HYDRO SUBAREA
X-22.G0 JACUMBA HYDRO SUBUNIT
X-22.G1 MCCAIN HYDRO SUBAREA
X-22.G2 JACUMBA HYDRO SUBAREA

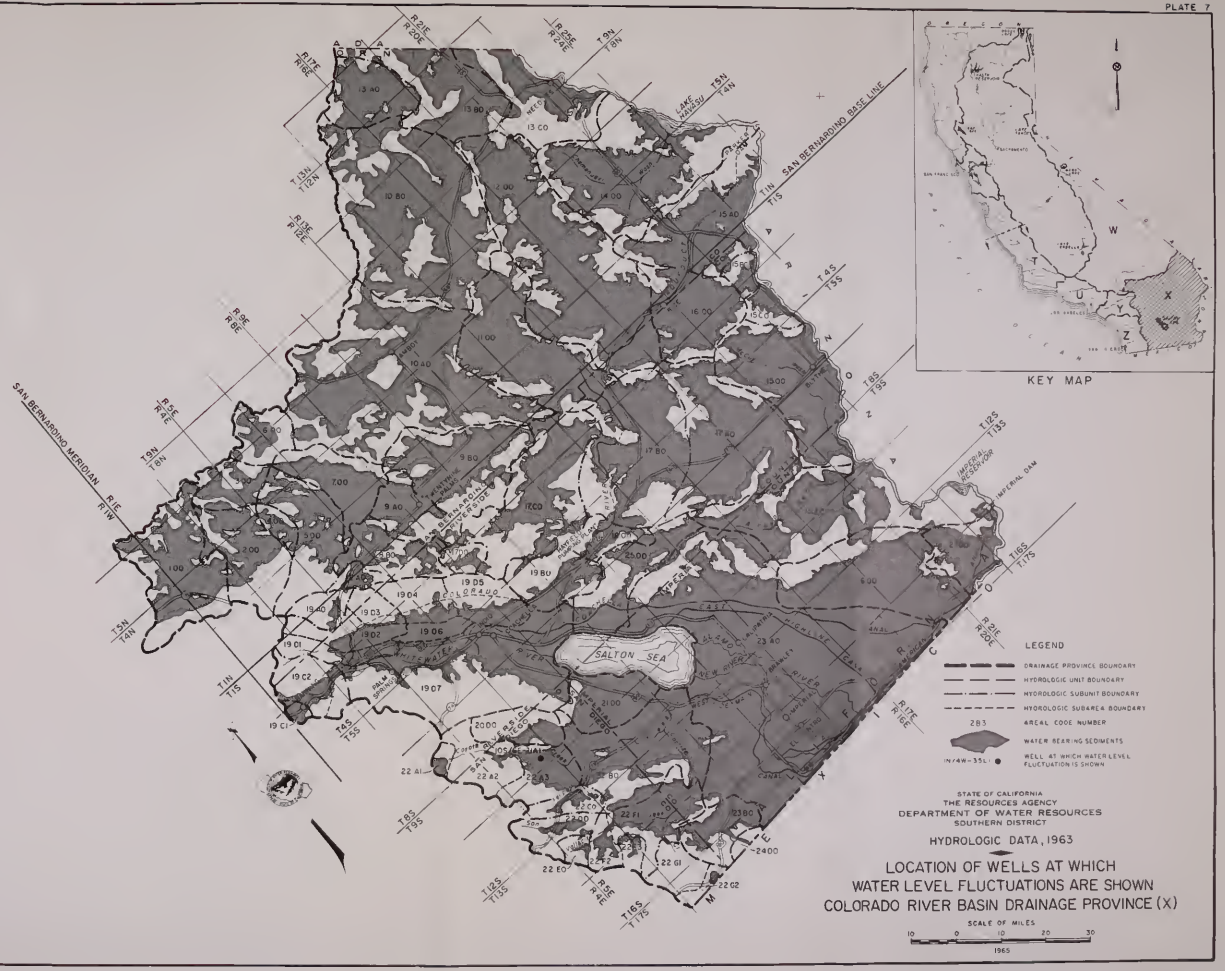
X-23.00 IMPERIAL HYDRO UNIT
X-23.A0 IMPERIAL HYDRO SUBUNIT
X-23.B0 CORNIP WELLS HYDRO SUBUNIT

X-24.00 DAVIES HYDRO UNIT

X-25.00 EAST SALTON SEA HYDRO UNIT

X-26.00 RMOS-OGILBY HYDRO UNIT

X-27.00 YUMA HYDRO UNIT



KEY MAP

LEGEND

DRAINAGE PROVINCE BOUNDARY

HYDROLOGIC UNIT BOUNDARY

HYDROLOGIC SUBUNIT BOUNDARY

HYDROLOGIC SUBAREA BOUNDARY

2B3 AREAL CODE NUMBER

WATER BEARING SEDIMENTS

N 4W-35 WELL AT WHICH WATER LEVEL FLUCTUATION IS SHOWN

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

HYDROLOGIC DATA, 1963

LOCATION OF WELLS AT WHICH WATER LEVEL FLUCTUATIONS ARE SHOWN SANTA ANA DRAINAGE PROVINCE (Y)

SCALE OF MILES

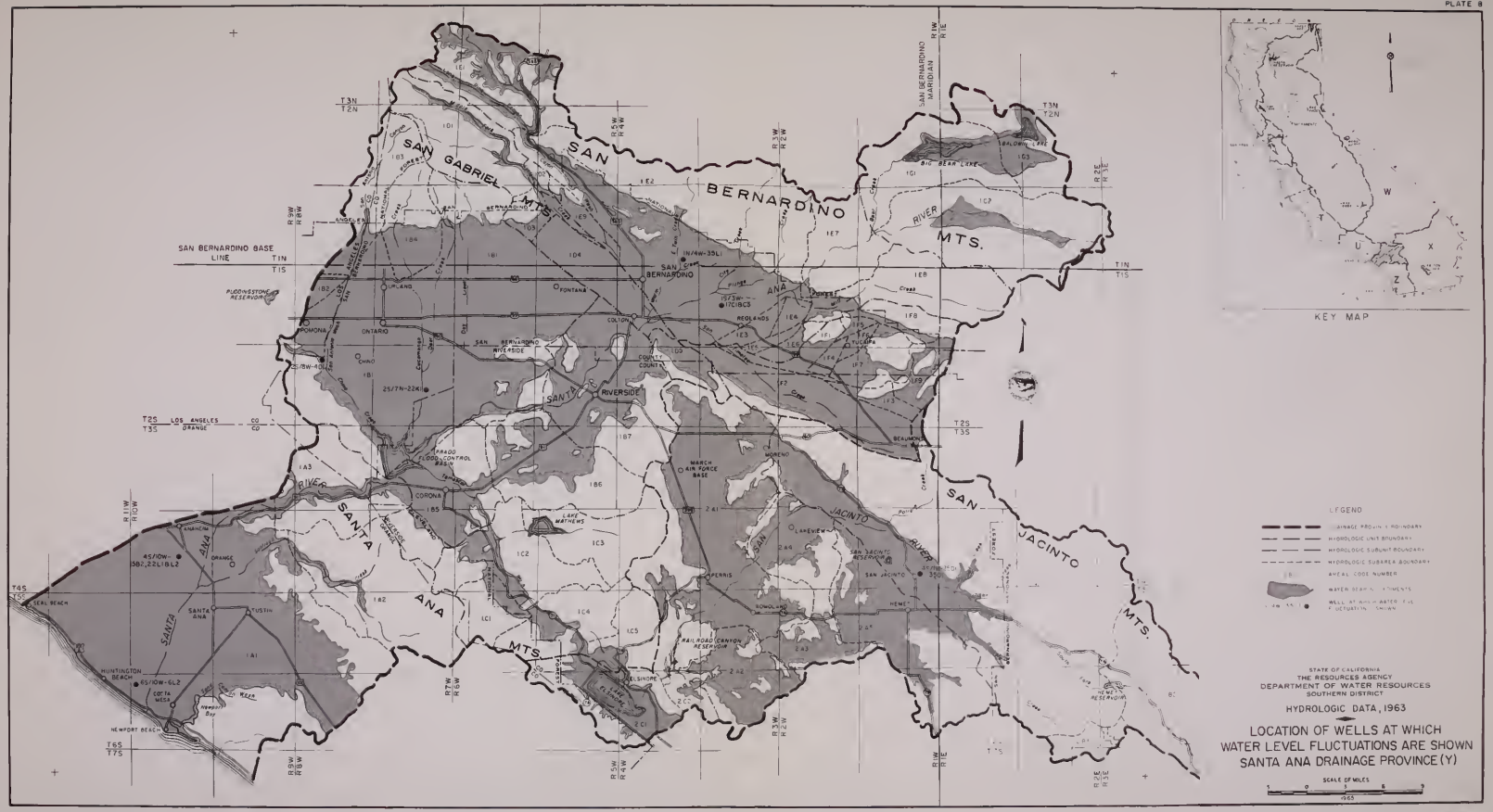
3 0 3 6 9

1965

AREAL DESIGNATIONS
HYDROLOGIC UNITS, SUBUNITS AND SUBAREAS

SANTA ANA DRAINAGE PROVINCE

Y-01	SANTA ANA RIVER HYDRO UNIT
Y-01-A0	LOWER SANTA ANA RIV HYDRO SUBUNIT
Y-01-A1	EAST COASTAL PLAIN HYDRO SUBAREA
Y-01-A2	SANTIAGO HYDRO SUBAREA
Y-01-A3	SANTA ANA NARROWS HYDRO SUBAREA
Y-01-B0	MIDDLE SANTA ANA RIV HYDR SUBUNIT
Y-01-B1	CHINO HYDRO SUBAREA
Y-01-B2	HERMOSA HYDRO SUBAREA
Y-01-B3	RIALTO-COLTON HYDRO SUBAREA
Y-01-B4	CUCAMONGA HYDRO SUBAREA
Y-01-B5	TEMESCAL HYDRO SUBAREA
Y-01-B6	ARLINGTON HYDRO SUBAREA
Y-01-B7	RIVERSIDE HYDRO SUBAREA
Y-01-C0	LAKE MATHEWS HYDRO SUBUNIT
Y-01-C1	COLDWATER HYDRO SUBAREA
Y-01-C2	REDLANDS HYDRO SUBAREA
Y-01-C3	CAJALCO HYDRO SUBAREA
Y-01-C4	LEE LAKE HYDRO SUBAREA
Y-01-C5	TIERRA COSTA HYDRO SUBAREA
Y-01-D0	COLTON-RIALTO HYDRO SUBAREA
Y-01-D1	UPPER LYTLE HYDRO SUBAREA
Y-01-D2	LOWER LYTLE HYDRO SUBAREA
Y-01-D3	COLTON-RIALTO HYDRO SUBAREA
Y-01-D4	AVONA HYDRO SUBAREA
Y-01-E0	UPPER SANTA ANA HYDRO SUBUNIT
Y-01-E1	CAJON HYDRO SUBAREA
Y-01-E2	BUNKER HILL HYDRO SUBAREA
Y-01-E3	REDLANDS HYDRO SUBAREA
Y-01-E4	MENTONE HYDRO SUBAREA
Y-01-E5	RESERVOIR HYDRO SUBAREA
Y-01-E6	CRAFTON HYDRO SUBAREA
Y-01-E7	SANTA ANA CANYON HYDRO SUBAREA
Y-01-E8	MILLER HYDRO SUBAREA
Y-01-E9	HIGHLAND HYDRO SUBAREA
Y-01-F0	SAN TIMOTEO HYDRO SUBUNIT
Y-01-F1	YUCAIPA HYDRO SUBAREA
Y-01-F2	SAN TIMOTEO HYDRO SUBAREA
Y-01-F3	CHERRY VALLEY HYDRO SUBAREA
Y-01-F4	CHICKEN HILL HYDRO SUBAREA
Y-01-F5	GATEWAY HYDRO SUBAREA
Y-01-F6	OAK GLEN HYDRO SUBAREA
Y-01-F7	SOUTH MESA HYDRO SUBAREA
Y-01-F8	TRIPLE FALLS CREEK HYDRO SUBAREA
Y-01-F9	MOUTH CREEK HYDRO SUBAREA
Y-01-G0	SAN BERNARDINO MTN HYDRO SUBUNIT
Y-01-G1	BEAR VALLEY HYDRO SUBAREA
Y-01-G2	SNOW CREEK HYDRO SUBAREA
Y-01-G3	MALIBU HYDRO SUBAREA
Y-02-D0	SAN JACINTO VALLEY HYDRO UNIT
Y-02-A0	PERRIS HYDRO SUBUNIT
Y-02-A1	PERRIS VALLEY HYDRO SUBAREA
Y-02-A2	MENIFEE HYDRO SUBAREA
Y-02-A3	WINCHESTER HYDRO SUBAREA
Y-02-A4	LAKEVIEW HYDRO SUBAREA
Y-02-A5	HEMET HYDRO SUBAREA
Y-02-B0	SAN JACINTO HYDRO SUBUNIT
Y-02-B1	SAN JACINTO HYDRO SUBAREA
Y-02-B2	SAN JACINTO HYDRO SUBAREA
Y-02-B3	BOULDER HYDRO SUBAREA
Y-02-C0	ELSINORE HYDRO SUBUNIT
Y-02-C1	ELSINORE HYDRO SUBAREA
Y-02-C2	RAILROAD HYDRO SUBAREA



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

HYDROLOGIC DATA, 1963

LOCATION OF WELLS AT WHICH WATER LEVEL FLUCTUATIONS ARE SHOWN
SANTA ANA DRAINAGE PROVINCE (Y)

AREAL DESIGNATIONS
HYDROLOGIC UNITS, SUBUNITS AND SUBAREAS

SAN DIEGO DRAINAGE PROVINCE

Z-01.00 SAN JUAN HYDRO UNIT
Z-01.A0 LAGUNA HYDRO SUBUNIT
Z-01.A1 SAN JOAQUIN HYDRO SUBAREA
Z-01.A2 LAGUNA HYDRO SUBAREA
Z-01.A3 ALISO HYDRO SUBAREA
Z-01.A4 DANA POINT HYDRO SUBAREA
Z-01.B0 SAN JUAN HYDRO SUBUNIT
Z-01.C0 SAN CLEMENTE HYDRO SUBUNIT
Z-01.D0 SAN MATEO HYDRO SUBUNIT
Z-01.E0 SAN ONOFRE HYDRO SUBUNIT
Z-01.E1 SAN ONOFRE HYDRO SUBAREA
Z-01.E2 LAS PULGAS HYDRO SUBAREA
Z-01.E3 STUART HYDRO SUBAREA

Z-02.00 SANTA MARGARITA HYDRO UNIT
Z-02.A0 VISTORA HYDRO SUBUNIT
Z-02.A1 VISTORA HYDRO SUBAREA
Z-02.A2 CHARRO HYDRO SUBAREA
Z-02.A3 UPPER HYDRO SUBAREA
Z-02.B0 DE LUZ HYDRO SUBUNIT
Z-02.B1 DE LUZ HYDRO SUBAREA
Z-02.B2 GAVILAN HYDRO SUBAREA
Z-02.B3 VALLECITOS HYDRO SUBAREA
Z-02.C0 MURRIETA HYDRO SUBUNIT
Z-02.C1 WILDOMAR HYDRO SUBAREA
Z-02.C2 MURRIETA HYDRO SUBAREA
Z-02.C3 FRENCH HYDRO SUBAREA
Z-02.C4 LOWER LOMA VISTA HYDRO SUBAREA
Z-02.C5 LOWER MURRIETA HYDRO SUBAREA
Z-02.C6 DIAMOND HYDRO SUBAREA
Z-02.D0 AULD HYDRO SUBUNIT
Z-02.D1 AULD HYDRO SUBAREA
Z-02.D2 GERTRUDIS HYDRO SUBAREA
Z-02.D3 LOWER TUCALOTA HYDRO SUBAREA
Z-02.D4 TUCALOTA HYDRO SUBAREA
Z-02.E0 MECHANICA HYDRO SUBUNIT
Z-02.E1 PAUBA HYDRO SUBAREA
Z-02.E2 MECHANICA HYDRO SUBAREA
Z-02.F0 WILSON HYDRO SUBUNIT
Z-02.F1 LANCASTER VALLEY HYDRO SUBAREA
Z-02.F2 LEWIS HYDRO SUBAREA
Z-02.F3 WILSON HYDRO SUBAREA
Z-02.G0 ANZA HYDRO SUBUNIT
Z-02.G1 LOWER CORMULA HYDRO SUBAREA
Z-02.G2 UPPER CORMULA HYDRO SUBAREA
Z-02.G3 ANZA HYDRO SUBAREA
Z-02.G4 MORAT HYDRO SUBAREA
Z-02.H0 AGUANGA HYDRO SUBUNIT
Z-02.H1 VAIL HYDRO SUBUNIT
Z-02.H2 DEVILS HOLE HYDRO SUBAREA
Z-02.H3 REDIC HYDRO SUBAREA
Z-02.H4 AGUANGA HYDRO SUBAREA
Z-02.I0 BARONA HYDRO SUBUNIT
Z-02.I1 LOWER CULP HYDRO SUBAREA
Z-02.I2 BARONA HYDRO SUBAREA
Z-02.I3 DOSSE HYDRO SUBAREA
Z-02.I4 CHIMAMAUA HYDRO SUBAREA

Z-03.00 SAN LUIS REY HYDRO UNIT
Z-03.A0 RONSALL HYDRO SUBUNIT
Z-03.A1 MISSION HYDRO SUBAREA
Z-03.A2 RONSALL HYDRO SUBAREA
Z-03.A3 MOOSA HYDRO SUBAREA
Z-03.A4 VALLEY CENTER HYDRO SUBAREA
Z-03.A5 WOODS HYDRO SUBAREA
Z-03.A6 RINCON HYDRO SUBAREA
Z-03.B0 MONSERATE HYDRO SUBUNIT
Z-03.B1 PALA HYDRO SUBAREA
Z-03.B2 PAUMA HYDRO SUBAREA
Z-03.B3 MONSERATE HYDRO SUBAREA
Z-03.C0 LAKEVIEW HYDRO SUBUNIT
Z-03.C1 WARNER HYDRO SUBAREA
Z-03.C2 COMES HYDRO SUBAREA

Z-04.00 CARLSBAD HYDRO UNIT
Z-04.A0 LOMA ALTA HYDRO SUBUNIT
Z-04.B0 VISTA HYDRO SUBUNIT
Z-04.B1 CARLSBAD HYDRO SUBAREA
Z-04.B2 VISTA HYDRO SUBAREA
Z-04.C0 AGUA MEDIONDA HYDRO SUBUNIT
Z-04.C1 AGUA MEDIONDA HYDRO SUBAREA
Z-04.C2 ENCINA HYDRO SUBAREA
Z-04.D0 SAN MARCOS HYDRO SUBUNIT
Z-04.E1 MATIQUITOS HYDRO SUBAREA
Z-04.E2 SAN MARCOS HYDRO SUBAREA
Z-04.E3 TWIN OAKS HYDRO SUBAREA
Z-04.F0 ESCONDIDO HYDRO SUBUNIT
Z-04.F1 SAN ELIJO HYDRO SUBAREA
Z-04.F2 ESCONDIDO HYDRO SUBAREA
Z-04.F3 LAKE WOHLFORD HYDRO SUBAREA

Z-05.00 SAN DIEGUITO HYDRO UNIT
Z-05.A0 SAN DIEGUITO HYDRO SUBUNIT
Z-05.A1 SAN DIEGUITO HYDRO SUBAREA
Z-05.B0 HODGES HYDRO SUBUNIT
Z-05.B1 HODGES HYDRO SUBAREA
Z-05.B2 GUEJITO HYDRO SUBAREA
Z-05.B3 FELICITA HYDRO SUBAREA
Z-05.B4 REAR HYDRO SUBAREA
Z-05.C0 SAN PASQUAL HYDRO SUBUNIT
Z-05.C1 HIGHLAND HYDRO SUBAREA
Z-05.C2 SAN PASQUAL HYDRO SUBAREA
Z-05.C3 REED HYDRO SUBAREA
Z-05.C4 HIDDEN HYDRO SUBAREA
Z-05.C5 GUEJITO HYDRO SUBAREA
Z-05.C6 VINEYARD HYDRO SUBAREA
Z-05.D0 LOWER HATFIELD HYDRO SUBUNIT
Z-05.D1 BARONA HYDRO SUBAREA
Z-05.D2 LOWER HATFIELD HYDRO SUBAREA
Z-05.D3 WASH HOLLOW HYDRO SUBAREA
Z-05.D4 UPPER HATFIELD HYDRO SUBAREA
Z-05.D5 HALLEAN HYDRO SUBAREA
Z-05.D6 EAST SANTA YSIDRA HYDRO SUBAREA
Z-05.D7 WEST SANTA YSIDRA HYDRO SUBAREA
Z-05.E0 SANTA ISABEL HYDRO SUBUNIT
Z-05.E1 POWAY HYDRO SUBAREA
Z-05.E2 POWAY HYDRO SUBAREA
Z-05.E3 SUTHERLAND HYDRO SUBAREA
Z-05.E4 SANTA ISABEL HYDRO SUBAREA

Z-06.00 MIRAMUNDO HYDRO UNIT
Z-06.A0 SOLEDAD HYDRO SUBUNIT
Z-06.B0 POWAY HYDRO SUBUNIT
Z-06.C0 SCRIPPS HYDRO SUBUNIT
Z-06.D0 MIRAMAR HYDRO SUBUNIT
Z-06.E0 TECOLOTE HYDRO SUBUNIT

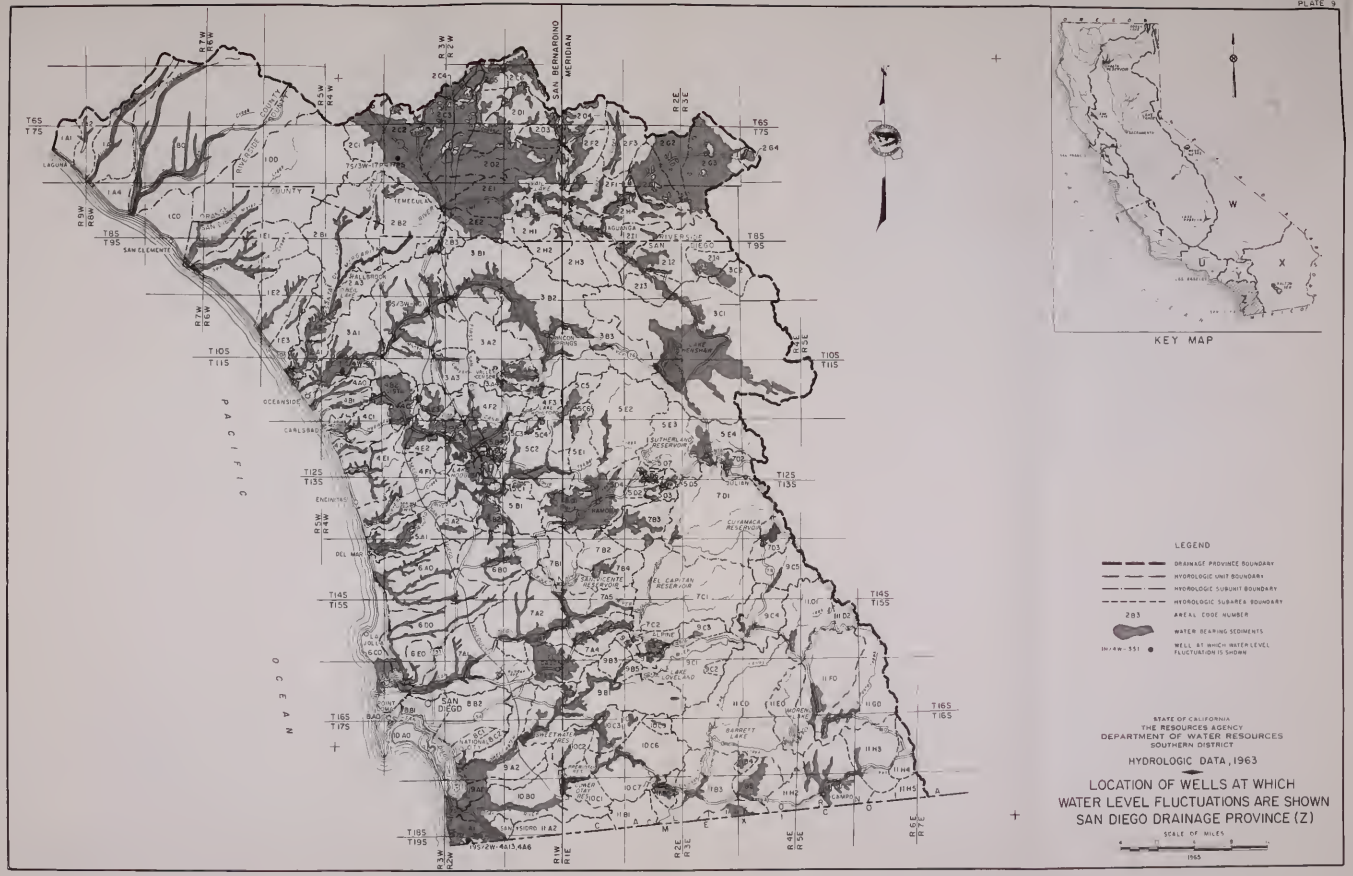
Z-07.00 SAN DIEGO HYDRO UNIT
Z-07.A0 LOWER SAN DIEGO HYDRO SUBUNIT
Z-07.A1 MISSION SAN DIEGO HYDRO SUBAREA
Z-07.A2 SANTEE HYDRO SUBAREA
Z-07.A3 EL CAJON HYDRO SUBAREA
Z-07.A4 COWLES HYDRO SUBAREA
Z-07.A5 LOWER SAN DIEGO HYDRO SUBAREA
Z-07.B0 SAN VICENTE HYDRO SUBUNIT
Z-07.B1 SAN VICENTE HYDRO SUBAREA
Z-07.B2 EUCALIPTUS HYDRO SUBAREA
Z-07.B3 GOWER HYDRO SUBAREA
Z-07.B4 MARTINA HYDRO SUBAREA
Z-07.C0 EL CAPITAN HYDRO SUBUNIT
Z-07.C1 EL CAPITAN HYDRO SUBAREA
Z-07.C2 GLEN OAKS HYDRO SUBAREA
Z-07.C3 ALPINE HYDRO SUBAREA
Z-07.D0 CUYAMACA HYDRO SUBUNIT
Z-07.D1 INKA HYDRO SUBAREA
Z-07.D2 SPENCER HYDRO SUBAREA
Z-07.D3 CUYAMACA HYDRO SUBAREA

Z-08.00 CORONADO HYDRO UNIT
Z-08.A0 POINT LOMA HYDRO SUBUNIT
Z-08.B0 SAN DIEGO MESA HYDRO SUBUNIT
Z-08.B1 LINDBERGH HYDRO SUBAREA
Z-08.B2 CHOLLAS HYDRO SUBAREA
Z-08.C0 PARADISE HYDRO SUBUNIT
Z-08.C1 EL TOYAN HYDRO SUBAREA
Z-08.C2 PARADISE HYDRO SUBAREA

Z-09.00 SWEETWATER HYDRO UNIT
Z-09.A0 LOWER SWEETWATER HYDRO SUBUNIT
Z-09.A1 TELEGRAPH HYDRO SUBAREA
Z-09.A2 LOWER SWEETWATER HYDRO SUBAREA
Z-09.B0 MIDDLE SWEETWATER HYDRO SUBUNIT
Z-09.B1 JAMACHA HYDRO SUBAREA
Z-09.B2 HILLSDALE HYDRO SUBAREA
Z-09.B3 DEHESA HYDRO SUBAREA
Z-09.B4 GALLOWAY HYDRO SUBAREA
Z-09.B5 SYCUAN HYDRO SUBAREA
Z-09.B6 ALPINE HEIGHTS HYDRO SUBAREA
Z-09.C0 UPPER SWEETWATER HYDRO SUBUNIT
Z-09.C1 LOVELAND HYDRO SUBAREA
Z-09.C2 JAPATUL HYDRO SUBAREA
Z-09.C3 VISTAS HYDRO SUBAREA
Z-09.C4 DESCANSO HYDRO SUBAREA
Z-09.C5 GARNET HYDRO SUBAREA

Z-10.00 otay HYDRO UNIT
Z-10.A0 CORONADO HYDRO SUBUNIT
Z-10.B0 otay HYDRO SUBUNIT
Z-10.C0 DULZURA HYDRO SUBUNIT
Z-10.C1 SAVAGE HYDRO SUBAREA
Z-10.C2 HONDON HYDRO SUBAREA
Z-10.C3 JAMUL HYDRO SUBAREA
Z-10.C4 LEE HYDRO SUBAREA
Z-10.C5 LYON HYDRO SUBAREA
Z-10.C6 DULZURA HYDRO SUBAREA
Z-10.C7 ENGINEER SPRINGS HYDRO SUBAREA

Z-11.00 TIA JUANA HYDRO UNIT
Z-11.A0 TIA JUANA HYDRO SUBUNIT
Z-11.A1 TIA JUANA HYDRO SUBAREA
Z-11.A2 SAN YSIDRO HYDRO SUBAREA
Z-11.B0 POTRERO HYDRO SUBUNIT
Z-11.B1 MARRON HYDRO SUBAREA
Z-11.B2 BEE CANYON HYDRO SUBAREA
Z-11.B3 BARRETT HYDRO SUBAREA
Z-11.B4 ROUND POTRERO HYDRO SUBAREA
Z-11.B5 POTRERO HYDRO SUBAREA
Z-11.C0 BARRETT LAKE HYDRO SUBUNIT
Z-11.D0 MONUMENT HYDRO SUBUNIT
Z-11.D1 PINE HYDRO SUBAREA
Z-11.D2 MONUMENT HYDRO SUBAREA
Z-11.E0 MORENA HYDRO SUBUNIT
Z-11.F0 CORDOBONDO HYDRO SUBUNIT
Z-11.G0 CAMPION HYDRO SUBUNIT
Z-11.H0 HILL HYDRO SUBUNIT
Z-11.H1 HILL HYDRO SUBAREA
Z-11.H2 HIPASS HYDRO SUBAREA

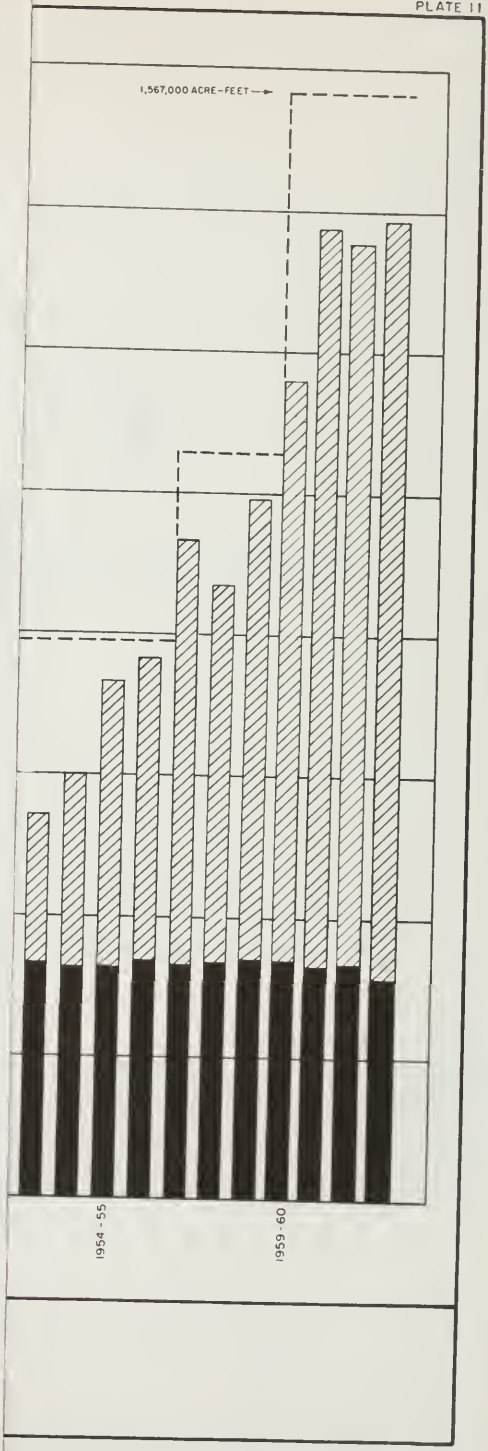


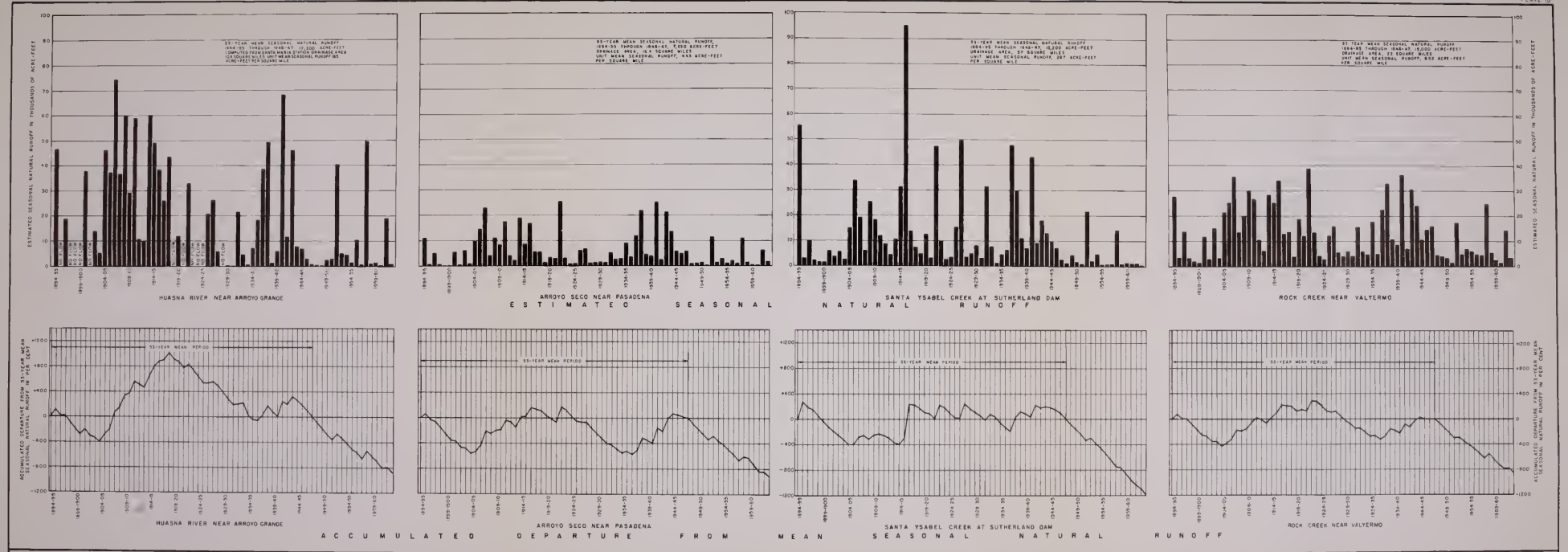
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

HYDROLOGIC DATA, 1963

LOCATION OF WELLS AT WHICH WATER LEVEL FLUCTUATIONS ARE SHOWN SAN DIEGO DRAINAGE PROVINCE (Z)

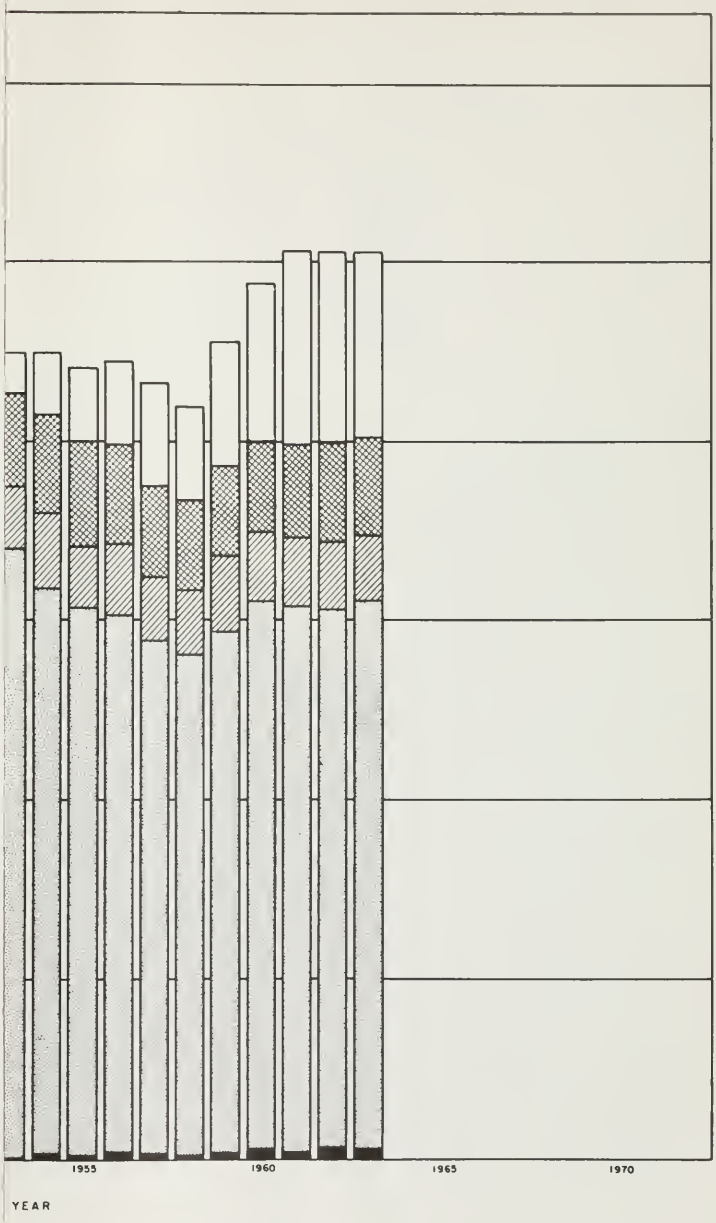
PLATE 11



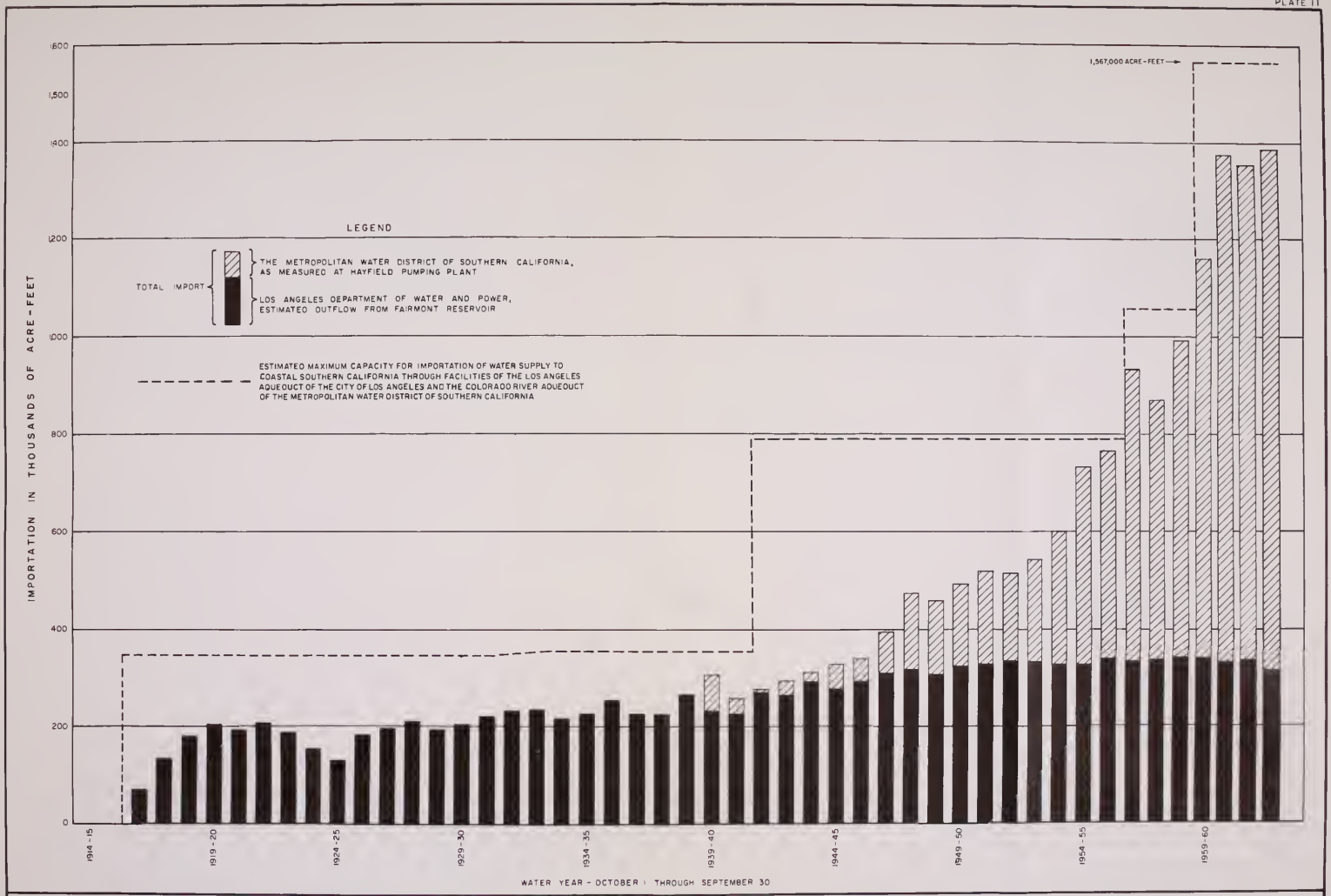


REPRESENTATIVE RUNOFF CHARACTERISTICS IN SOUTHERN CALIFORNIA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1965

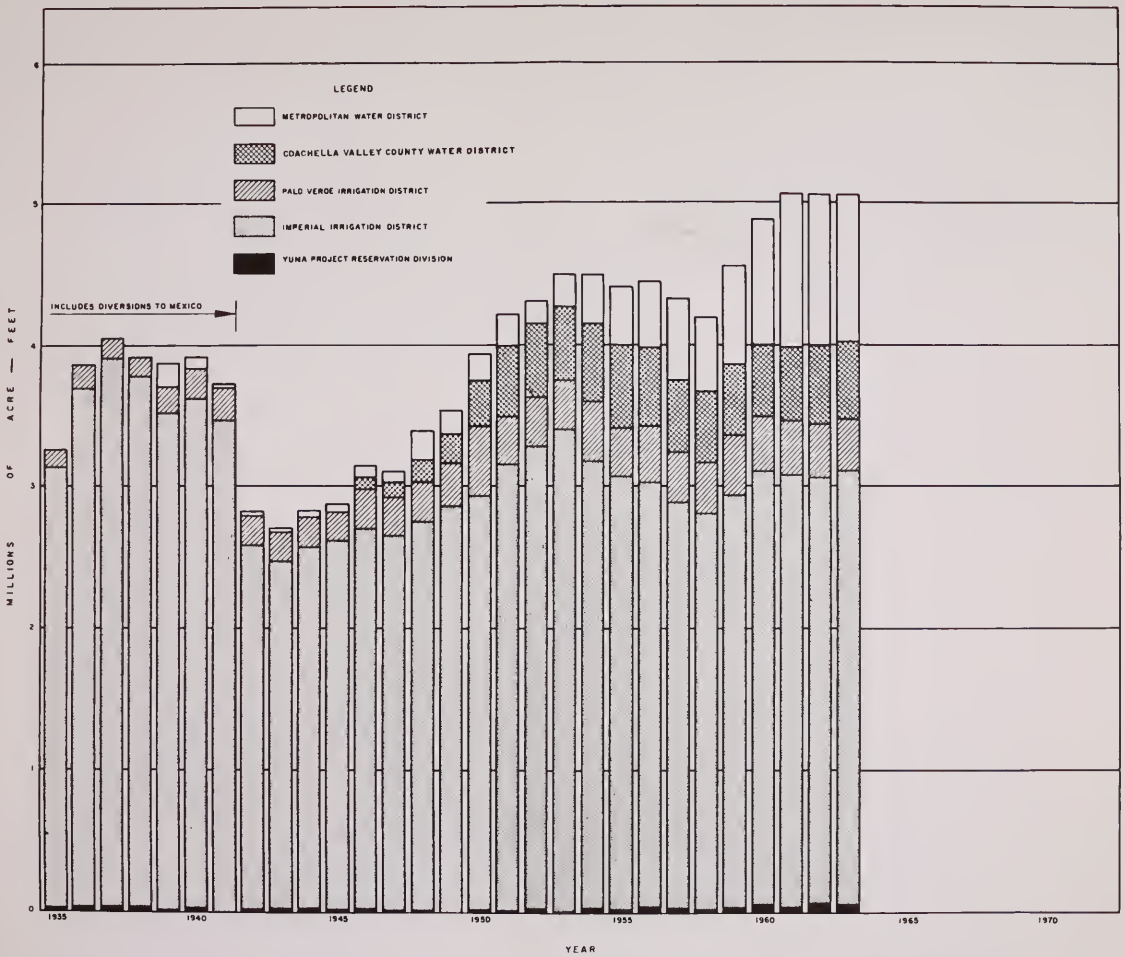


FORNIA FROM THE COLORADO RIVER



HISTORICAL IMPORTATIONS OF WATER TO COASTAL SOUTHERN CALIFORNIA

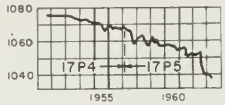
DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1965



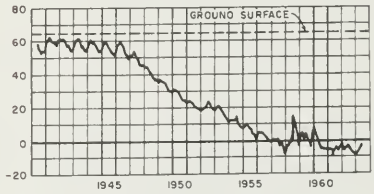
NET DIVERSIONS OF WATER TO CALIFORNIA FROM THE COLORADO RIVER

DEPARTMENT OF WATER RESOURCES SOUTHERN DISTRICT, 1965

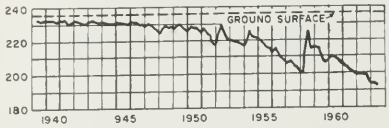
MURRIETA HYDROLOGIC SUBUNIT (Z-02.C0)
MURRIETA HYDROLOGIC SUBAREA (Z-02.C2)
WELLS 7S/3W-17P4, 17P5, S.B.B. & M



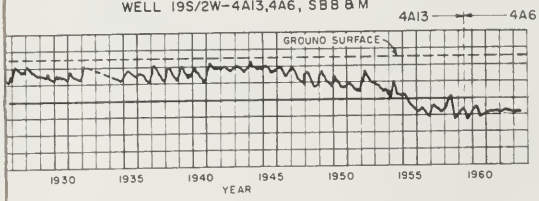
BONSALL HYDROLOGIC SUBUNIT (Z-03.A0)
MISSION HYDROLOGIC SUBAREA (Z-03.A1)
WELL 11S/4W-9E1, S.B.B. & M.



BONSALL HYDROLOGIC SUBAREA (Z-03.A2)
WELL 10S/3W-11G1, S.B.B. & M.



TIA JUANA HYDROLOGIC SUBUNIT (Z-11.A0)
TIA JUANA HYDROLOGIC SUBAREA (Z-11.A1)
WELL 19S/2W-4A13, 4A6, SBB & M

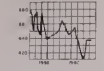


NOTE LOCATION OF WELLS SHOWN ON PLATES 6, 7, 8 AND 9

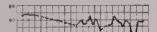
HYDROGRAPHS OF GROUND WATER
SELECTED WELLS IN SOUTHERN CALIFORNIA

ELEVATION IN FEET — USGS DATUM

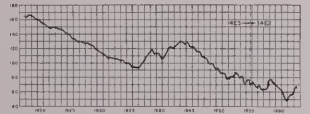
SALINAS HYDROLOGIC UNIT (T-09.00)
PASO ROBLES HYDROLOGIC SUBUNIT (T-09.01)
WELL 23S/12E-28H1, M & D B M



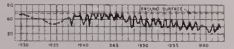
ARROYO GRANDE HYDROLOGIC SUBUNIT (T-10.00)
ARROYO GRANDE HYDROLOGIC SUBAREA (T-10.01)
WELL 32S/13E-28S1, M & D B M



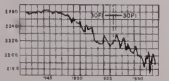
SANTA MARIA HYDROLOGIC SUBUNIT (T-12.00)
WELLS 10N/34W-14E3, E2, S B & M



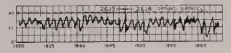
WELL 10N/35W-7F1, S B & M



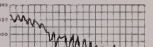
CUYAMA VALLEY HYDROLOGIC SUBUNIT (T-12.00)
WELLS 10N/25W-30F1, F1, S B & M



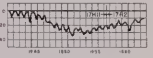
SANTA YNEZ HYDROLOGIC UNIT (T-14.00)
LOMPOC HYDROLOGIC SUBUNIT (T-14.01)
WELLS 7N/35W-26 J3, J4, S B & M



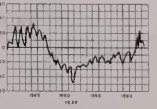
SANTA YNEZ HYDROLOGIC SUBUNIT (T-14.00)
WELL 6N/30W-6A1, S B & M



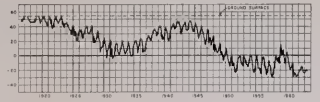
SOUTH COAST HYDROLOGIC SUBUNIT (T-15.00)
GOLETA HYDROLOGIC SUBAREA (T-15.01)
WELLS 4N/28W-17H1, H2, S B & M



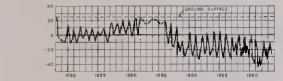
CARPINTERIA HYDROLOGIC SUBAREA (T-15.04)
WELL 4N/25W-27Q2, S B & M



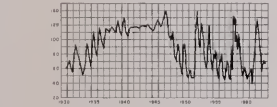
OXNARD PLAIN HYDROLOGIC SUBUNIT (U-03.00)
OXNARD HYDROLOGIC SUBAREA (U-03.01)
WELL 1N/22W-3F4, S B & M



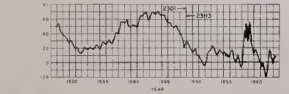
WELL 1N/22W-23J1, S B & M



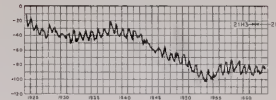
OXNARD HYDROLOGIC SUBAREA (U-03.01)
WELL 2N/21W-8P1, S B & M



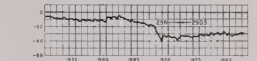
WELLS 2N/22W-23D1, H3, S B & M



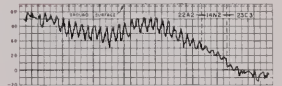
COASTAL PLAIN OF LOS ANGELES COUNTY
HYDROLOGIC SUBUNIT (U-05.00)
WEST COAST HYDROLOGIC SUBAREA (U-05.02)
WELLS 4S/17W-21H1, 21H2, S B & M



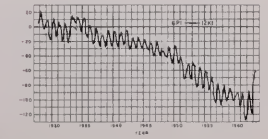
WELLS 3S/14W-25N1, D3, S B & M



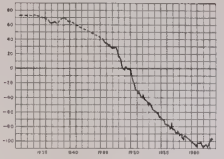
CENTRAL HYDROLOGIC SUBAREA (U-05.05)
WELLS 3S/12W-22A2, 14N2, 23C3, S B & M



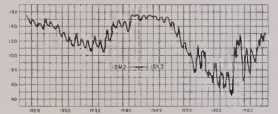
WELLS 4S/12W-8P1, 4S/13W-12K1, S B & M



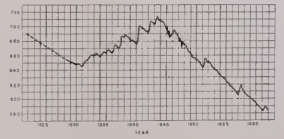
COASTAL PLAIN OF LOS ANGELES COUNTY
HYDROLOGIC SUBUNIT (U-05.00)
CENTRAL HYDROLOGIC SUBAREA (U-05.05)
WELL 2S/17W-19A1, S B & M



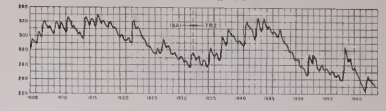
CENTRAL HYDROLOGIC SUBAREA (U-05.05)
WELLS 2S/16W-18M2, K3, S B & M



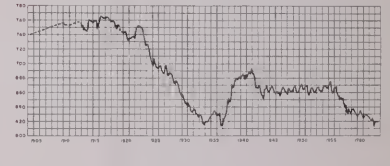
SAN FERNANDO HYDROLOGIC SUBUNIT (U-05.80)
SAN FERNANDO HYDROLOGIC SUBAREA (U-05.81)
WELL 2N/15W-22C1, S B & M



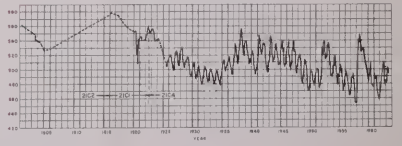
SAN GABRIEL VALLEY HYDROLOGIC SUBUNIT (U-05.00)
MAIN SAN GABRIEL HYDROLOGIC SUBAREA (U-05.01)
WELLS 1S/10E-18A1, TR2, S B & M



RAYMOND HYDROLOGIC SUBUNIT (U-05.00)
PASADENA HYDROLOGIC SUBAREA (U-05.01)
WELL 1N/12W-20B1, S B & M



SANTA ANITA HYDROLOGIC SUBAREA (U-05.03)
WELLS 1N/11W-8E2, C1, C4, S B & M



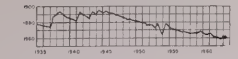
NOTE: LOCATION OF WELLS SHOWN ON PLATES 4 AND 5

HYDROGRAPHS OF GROUND WATER
AT SELECTED WELLS IN SOUTHERN CALIFORNIA

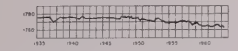
DEPARTMENT OF WATER RESOURCES SOUTHERN DISTRICT 1955

ELEVATION IN FEET — USGS DATUM

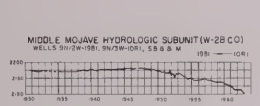
LOWER MOJAVE HYDROLOGIC SUBUNIT (W-2B EO)
WELL 9N/1E-13E2, S B & M



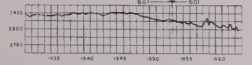
WELL 9N/3E-12G1, S B & M



MIDDLE MOJAVE HYDROLOGIC SUBUNIT (W-2B CO)
WELLS 9N/2W-19B1, 9N/3W-10R1, S B & M

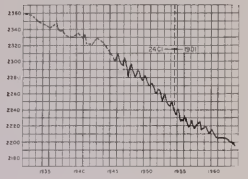


UPPER MOJAVE HYDROLOGIC SUBUNIT (W-2B BO)
WELLS 4N/3W-6A1, 6D1, S B & M

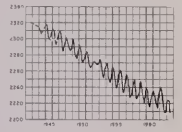


ANTELOPE HYDROLOGIC SUBUNIT (W-26 AO)
WILLOW SPRINGS HYDROLOGIC SUBAREA (W-26 A3)
WELL 1N/3W-29H1, S B & M

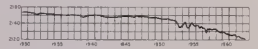
ANTELOPE HYDROLOGIC SUBUNIT (W-26-AO)
LANCASTER HYDROLOGIC SUBAREA (W-26-A5)
WELLS 7N/11W-24C1, 7N/10W-19D1, S B & M



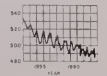
WELL 7N/12W-15F1, S B & M



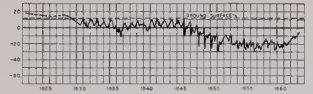
MIDDLE MOJAVE HYDROLOGIC SUBUNIT (W-2B CO)
WELL 10N/2W-19P1, S B & M



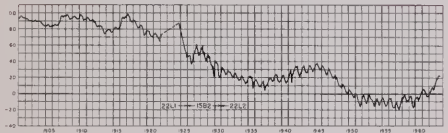
BORREGO HYDROLOGIC SUBUNIT (X-22 AO)
BORREGO HYDROLOGIC SUBAREA (X-22 A3)
WELL 10S/6E-21A1, S B & M



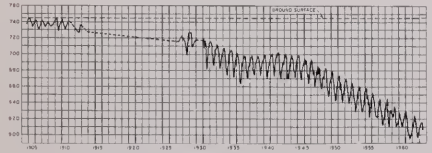
LOWER SANTA ANA RIVER HYDROLOGIC SUBUNIT (Y-01 AO)
EAST COASTAL PLAIN HYDROLOGIC SUBAREA (Y-01 A1)
WELL 6S/10W-6L2, S B & M



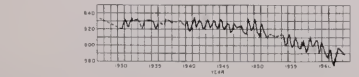
EAST COASTAL PLAIN HYDROLOGIC SUBAREA (Y-01 A1)
WELLS 4S/10W-22L1, 1S82, 22L2, S B & M



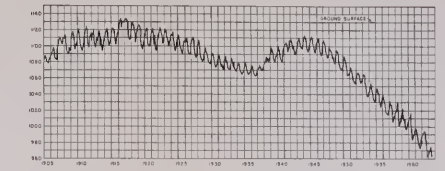
MIDDLE SANTA ANA RIVER HYDROLOGIC SUBUNIT (Y-01 BO)
CHINO HYDROLOGIC SUBAREA (Y-01 B1)
WELL 2S/8W-4P1, S B & M



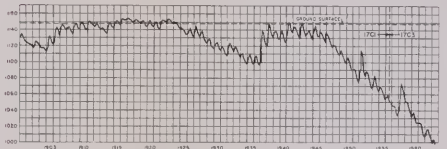
WELL 2S/7W-22K1, S B & M



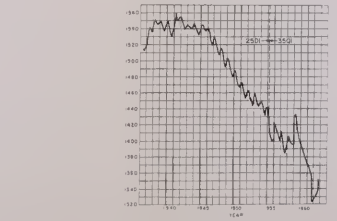
UPPER SANTA ANA HYDROLOGIC SUBUNIT (Y-01 EO)
BUNKER HILL HYDROLOGIC SUBAREA (Y-01 E2)
WELL 1N/4W-35L1, S B & M



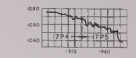
WELLS 1S/3W-17C1, C3, S B & M



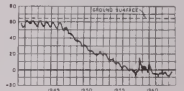
SAN JACINTO HYDROLOGIC SUBUNIT (Y-02 BO)
SAN JACINTO HYDROLOGIC SUBAREA (Y-02 B1)
WELLS 4S/1W-25J1, 3S Q1, S B & M



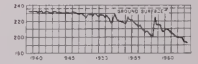
MURRIETA HYDROLOGIC SUBUNIT (Z-02 CO)
MURRIETA HYDROLOGIC SUBAREA (Z-02 C2)
WELLS 7S/3W-17P4, 17P5, S B & M



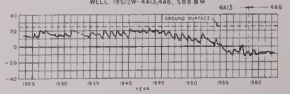
BONSALL HYDROLOGIC SUBUNIT (Z-03 AO)
MISSION HYDROLOGIC SUBAREA (Z-03 A1)
WELL 11S/4W-9E1, S B & M



BONSALL HYDROLOGIC SUBAREA (Z-03 A2)
WELL 10S/3W-11D1, S B & M



TIA JUANA HYDROLOGIC SUBUNIT (Z-11 AO)
TIA JUANA HYDROLOGIC SUBAREA (Z-11 A1)
WELL 19S/2W-4A13, 4A6, S B & M



NOTE: LOCATION OF WELLS SHOWN ON PLATES 6, 7, 8 & 9-B

HYDROGRAPHS OF GROUND WATER
AT SELECTED WELLS IN SOUTHERN CALIFORNIA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1965

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