FLOODS
OF NOVEMBER AND DECEMBER 1965 IN SOUTHERN CALIFORNIA

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COVER PICTURE.--Cars lay awash off El Cielo Road in Palm Springs area after flood of November 22, 1965. (United Press International photo.)

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DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division

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By

E. R. Hedman and E. G. Pearson

OPEN-FILE REPORT

Menlo Park, California
May 12, 1966

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FLOODS OF NOVEMBER AND DECEMBER 1965 IN SOUTHERN CALIFORNIA

By E. R. Hedman and E. G. Pearson

ABSTRACT

Severe flooding occurred in southern California in late November and late December 1965 as a result of three heavy storms. Rain occurred on most days during the period November 13-26 and December 28-31, with major amounts distributed in three periods: November 13-19, 21-26, and December 28-31. More than 12 inches of precipitation was reported at Mount Baldy and Big Bear Lake on November 23, 1965; and more than 15 inches was reported at Mount Baldy on December 29, 1965.

Peak discharges at streamflow stations were generally the highest since 1943. The Los Angeles River at Sepulveda Dam and the Santa Clara River at the Los Angeles-Ventura County line had peak discharges greater than those of March 1938, the highest previously known.

Eleven deaths were attributed to the storm and the resulting floods, and preliminary estimates indicate damage in excess of $11 million in the foothill and valley areas. Flood-control, water-conservation, and power-production reservoirs effected a substantial reduction in the magnitude of the floods in many areas and thus prevented more extensive damage.

INTRODUCTION

Purpose and Scope

The floods of November and December 1965 brought damage to large areas in southern California. The major flood-affected area, as shown in figure 1, includes the basins of many streams that have their source in the coastal ranges. Agencies concerned with flood control or with the design of structures within the reach of floodwaters are now planning measures for further reduction of damage from future floods of similar magnitude. It is in the public interest that these agencies be furnished data for the 1965 floods, with as little delay as possible, to expedite their task. In recognition of the pressing need for flood information, this interim report presents a summary of appropriate flood data obtained by the U.S. Geological Survey as of February 15, 1966.

The streamflow data presented are provisional, and the areal coverage is not complete. Many streamflow-gaging stations were inoperative after the flood, and there was insufficient time before the deadline date for this report to compute discharge hydrographs for many of the stations. Consequently, detailed flood-hydrograph data are tabulated only for the selected streamflow stations shown in figure 2. Values of peak stage, peak discharge, and recurrence interval, however, are listed for these and other gaging stations. The list of peak discharges is not complete because indirect measurements of peak flow were necessary at many sites, and some computations still remained to be completed.

To facilitate presentation of the data, the flood-affected area has been divided into four hydrographic regions, as outlined in figure 1. These regions are: Coastal basins south of the Santa Ana River, coastal basins from the Santa Ana River to the Los Angeles River, coastal basins north of the Los Angeles River, and The Great Basin. The gaging stations for which data are tabulated are numbered in downstream order, in accordance with the permanent numbering system adopted by the Geological Survey in 1958. Flood data for The Great Basin normally would be given before those for the Pacific slope basins in California, but, because the floods in the coastal (Pacific slope) basins were more extensive, the data for these floods precede those for The Great Basin in this report.

Acknowledgments

The data in this report were collected as part of the cooperative programs between the U.S. Geological Survey and several Federal, State, county, and municipal agencies. The report was prepared under the supervision of L. C. Dutcher, chief of the Garden Grove subdistrict office, and under the general direction of Walter Hofmann, chief of the California District.

The cooperation of the U.S. Weather Bureau, U.S. Army Corps of Engineers, and county flood-control districts of southern California in furnishing unpublished precipitation and streamflow data and estimates of flood damage is gratefully acknowledged.

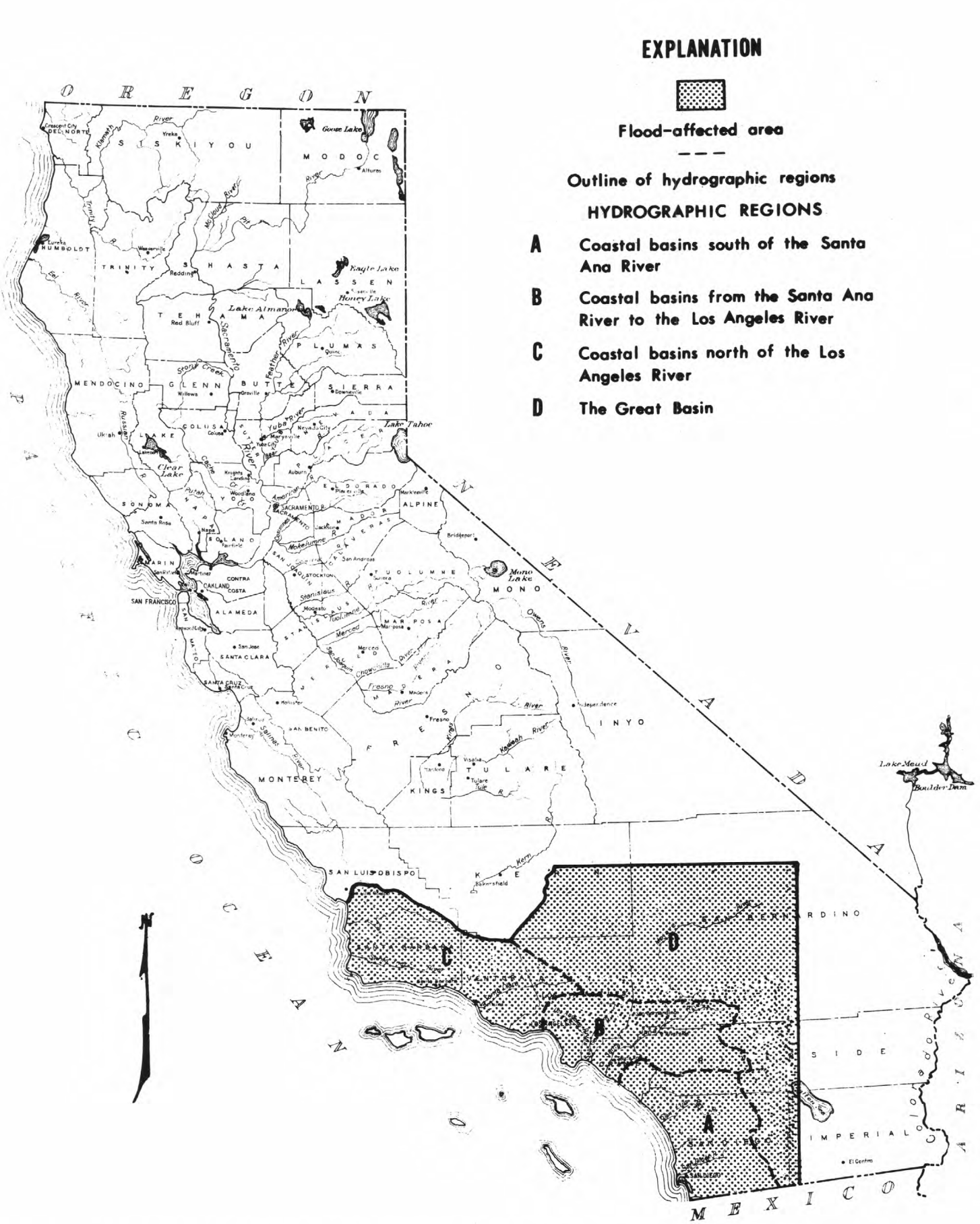


FIGURE 1.--LOCATION OF AREA AFFECTED BY FLOODS OF NOVEMBER AND DECEMBER 1965

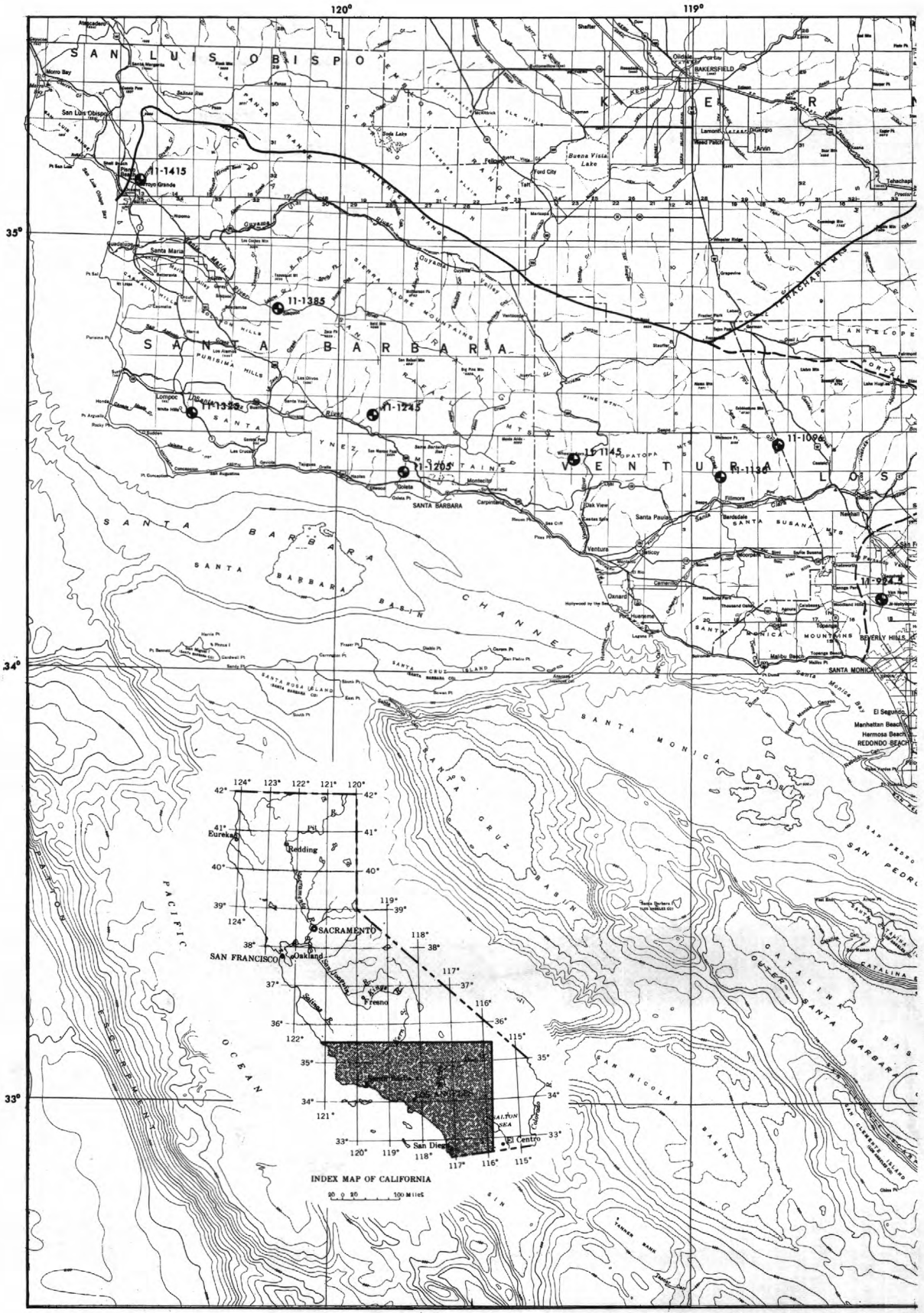
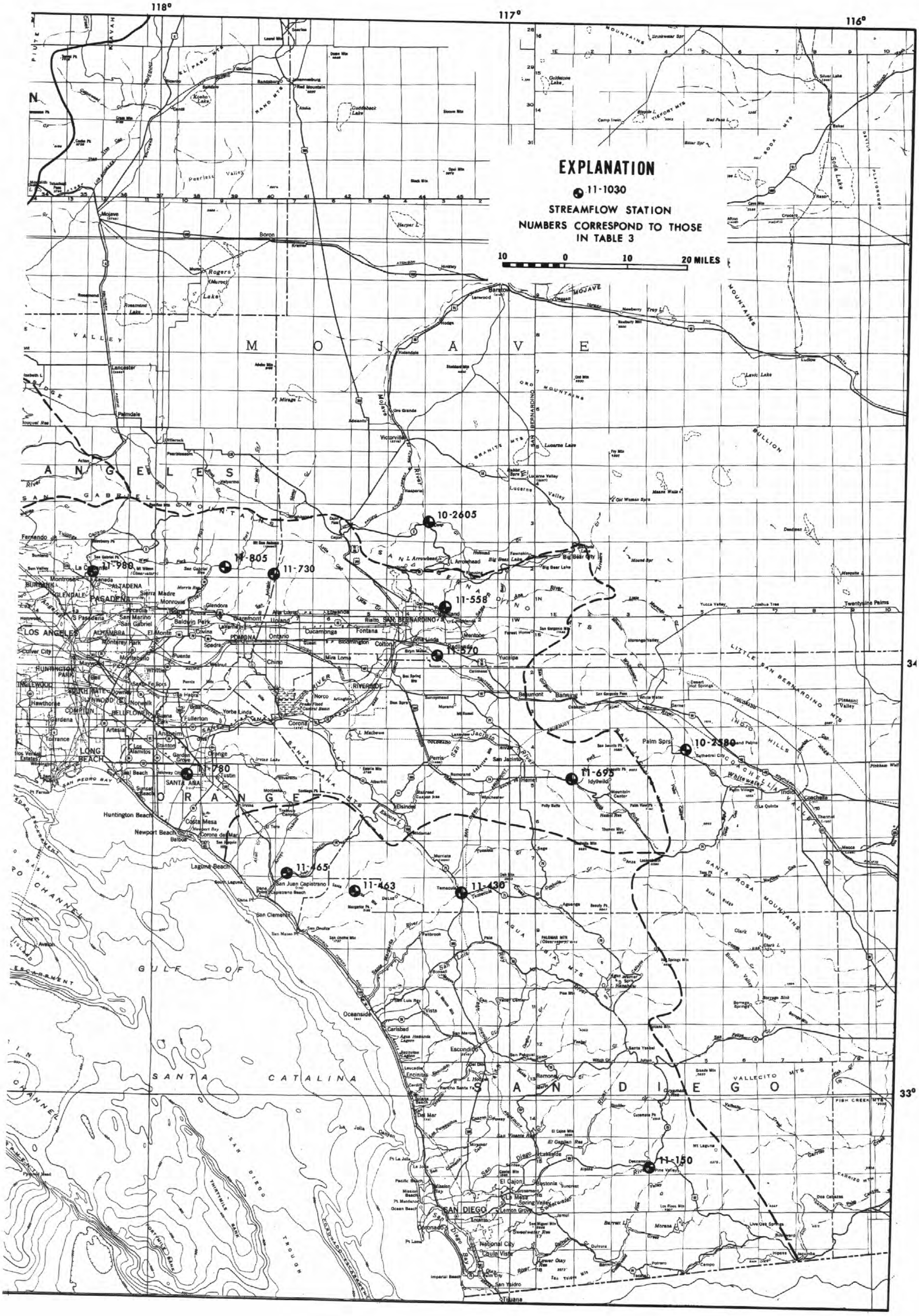


FIGURE 2.--LOCATION OF STREAMFLOW STATIONS FOR WHICH DETAILED DISCHARGE DATA ARE GIVEN IN THIS REPORT


EXPLANATION
11-1030
STREAMFLOW STATION
NUMBERS CORRESPOND TO THOSE
IN TABLE 3
10 0 10 20 MILES
118°
117°
116°
34
33°
M O J A V E
A N G E L E S
O R A N G E
S A N D I E G O
SANTA CATALINA
GULF OF
10-2605
11-805
11-730
11-780
11-558
11-570
10-2580
11-695
11-780
11-465
11-463
11-430
11-150
LOS ANGELES
PASADENA
SAN BERNARDINO
RIVERSIDE
SANTA ANA
SAN DIEGO
Palm Sprs
Oceanside
Escondido
Victorville
Barstow
Lancaster
Palmdale
Mojave

DESCRIPTION OF THE STORMS

November Storms

Rainfall was substantially above normal throughout southern California, including the desert areas, for the month of November 1965. Precipitation was generally 4 to 8 times the average, and record totals for the month occurred at many stations, particularly in the mountain areas. Total precipitation for November of more than 30 inches was reported by the U.S. Weather Bureau at several stations in the San Gabriel Mountains, with a maximum of 37.92 inches reported at Opids Camp (FC 57 BE); and precipitation of about 40 inches was reported by several other observers. Precipitation during November totaling more than 20 inches was reported at many stations in the mountain areas north and east of Los Angeles and Santa Ana. New record totals for the month were reported at Los Angeles Civic Center (9.68 inches), Long Beach (7.69 inches), and San Diego (5.82 inches). New records for precipitation in November were established at Burbank, including the greatest total precipitation for the month, the greatest for 1 day, the greatest number of days in the month with 1 inch or more, and the greatest number with 0.1 inch or more.

Precipitation occurred on most of the days during the period November 13-26, with major amounts distributed between the two periods November 13-19 and 21-26. The first period of rain began late November 13 and spread throughout the area November 14. This was the first significant rainfall of the 1965-66 season. Daily rainfall increased through November 17, and most reporting stations indicated heavy precipitation November 17 and 18. Daily amounts ranged from less than 1 inch at some stations, especially those in desert areas, to more than 8 inches in the upper San Gabriel Canyon area. The distribution of precipitation is shown in figure 3, an isohyetal map for the storm period November 13-19, 1965. Because of the small scale of the map and great variation in precipitation over small areas as a result of orographic influences, the isohyets necessarily are highly generalized. The precipitation for November 13-19 and for the two subsequent storms at selected stations in the report area is summarized in table 1, which includes data on the maximum daily precipitation, the total for each storm, and the totals for November and December 1965.

During the second storm, November 21-26, substantial precipitation occurred November 22-24 with storm totals of more than 20 inches at some mountain locations. The precipitation distribution is shown in figure 4, the isohyetal map for the storm period November 21-26, 1965, and data for selected stations are listed in table 1. Most stations reported the greatest 24-hour totals for the month November 22 or 23. At Big Bear Lake and Mount Baldy more than 12 inches fell November 23, and a number of other foothill and mountain areas received 1-day totals exceeding 8 inches. Most areas, however, received from 2 to 5 inches of rain.

December Storm

Rainfall was above normal in southern California again in December. A total of 19.65 inches of precipitation for the month was reported at Mount Baldy Notch. At Burbank and San Diego the month was the wettest December since 1943, and the total precipitation July-December 1965 was the greatest of record for a corresponding period. Los Angeles and Long Beach also experienced the wettest December since 1951, and at Los Angeles the July-December 1965 total was the greatest since 1889. The station at Burbank reported 5.30 inches of rain on December 29, a new record 1-day rainfall in December at that station. A new record 1-hour rainfall of 1.36 inches for San Diego occurred there on December 10.

The first period of rain occurred December 8-17, but amounts were generally light and fairly well distributed throughout the 10-day period. Runoff was light except at a few scattered areas in the desert and in San Diego County, where thundershowers on December 14 damaged utility lines and caused local flooding that closed highways.

During the period December 28-31, substantial precipitation occurred throughout most of the area. Storm totals ranged from a trace in the desert areas to 15.15 inches at Mounty Baldy Notch.

The precipitation distribution during the storm period December 28-31, 1965, is shown by the isohyets in figure 5, and data for selected stations are listed in table 1.

Table 1.--Precipitation, in inches, at selected stations during November and December 1965

[Data from U.S. Weather Bureau and Riverside County Flood Control and Water Conservation District. Dates shown refer to those in Climatological Data reports of the U.S. Weather Bureau]

Precipitation station and subbasin	Altitude (feet)	November 13-19		November 21-26		November total	December 28-31		December total
		Maximum 1-day	Storm total	Maximum 1-day	Storm total		Maximum 1-day	Storm total	
Coastal basins south of the Santa Ana River									
Descanso Ranger Station (Sweetwater River)	3,500	0.90	1.18	6.85	8.94	10.12	1.75	1.79	5.50
Cuyamaca (San Diego River)	4,650	1.22	2.76	9.60	12.73	15.49	3.36	3.59	10.29
Julian Wynola (San Diego River)	3,650	1.02	2.49	4.47	9.26	11.75	1.34	2.11	6.08
Escondido (Escondido Creek)	660	1.05	3.24	2.45	4.94	8.18	.30	.67	5.77
Henshaw Dam (San Luis Rey)	2,700	1.55	4.09	9.22	11.25	15.34	2.00	2.20	6.35
Temecula (Santa Margarita River)	970	1.13	3.12	4.44	5.75	8.87	1.85	2.02	5.05
Coastal basins from the Santa Ana River to the Los Angeles River									
Big Bear Lake Dam (Santa Ana River)	6,815	3.92	9.65	12.40	17.26	26.91	6.85	7.93	12.03
Idyllwild Ranger Station (San Jacinto River)	5,395	1.36	4.17	4.34	9.42	13.59	1.65	2.09	6.02
Mount Baldy FC-85G-28 (Santa Ana River)	4,275	4.95	12.23	12.38	18.07	30.30	11.02	13.23	16.58
Riverside Fire Station #3 (Santa Ana River)	840	.72	2.32	1.46	3.40	5.72	.51	.83	3.03
Arroyo Seco RSFC 508C (Los Angeles River)	1,220	4.12	9.39	4.57	9.76	19.15	5.81	5.90	8.17
Los Angeles Civic Center (Los Angeles River)	270	1.79	5.25	3.51	4.43	9.68	3.84	4.02	5.73

Coastal basins north of the Los Angeles River									
Topanga Patrol Station FC6 (Topanga Creek)	745	4.30	11.23	3.74	7.39	18.62	6.83	6.95	8.71
Piedra Blanca Guard Station (Santa Clara River)	3,065	3.91	10.79	5.43	9.79	20.58	7.52	8.00	8.42
Piru 2 ESE (Santa Clara River)	730	3.84	6.91	3.92	5.79	12.70	2.89	5.07	6.48
Juncal Dam (Santa Ynez River)	2,075	4.39	10.64	3.90	8.22	18.86	8.14	8.61	9.62
Cuyama (Santa Maria River)	2,255	.72	.92	.39	.92	1.84	1.04	1.41	1.82
Arroyo Grande (Arroyo Grande)	105	1.45	4.38	1.18	1.87	6.25	1.65	2.34	3.40
The Great Basin									
Borrego Springs 3NNE (San Felipe Creek)	625	.62	1.16	1.28	1.40	2.56	.03	.03	1.06
Beaumont 1E (Whitewater River)	2,605	1.42	3.40	2.85	5.62	9.02	.66	1.14	3.55
South Fork Cabin (Whitewater River)	7,120	3.67	8.09	9.16	19.16	27.25	2.55	5.05	10.08
Mount San Jacinto WSP (Whitewater River)	8,417	2.25	5.95	9.35	16.00	21.95	--	--	--
Palm Springs (Whitewater River)	411	1.27	2.27	2.75	4.08	6.35	.22	.26	2.68
Squirrel Inn 2 (Mojave River)	5,680	5.55	11.53	4.95	13.09	24.62	4.66	7.58	14.46

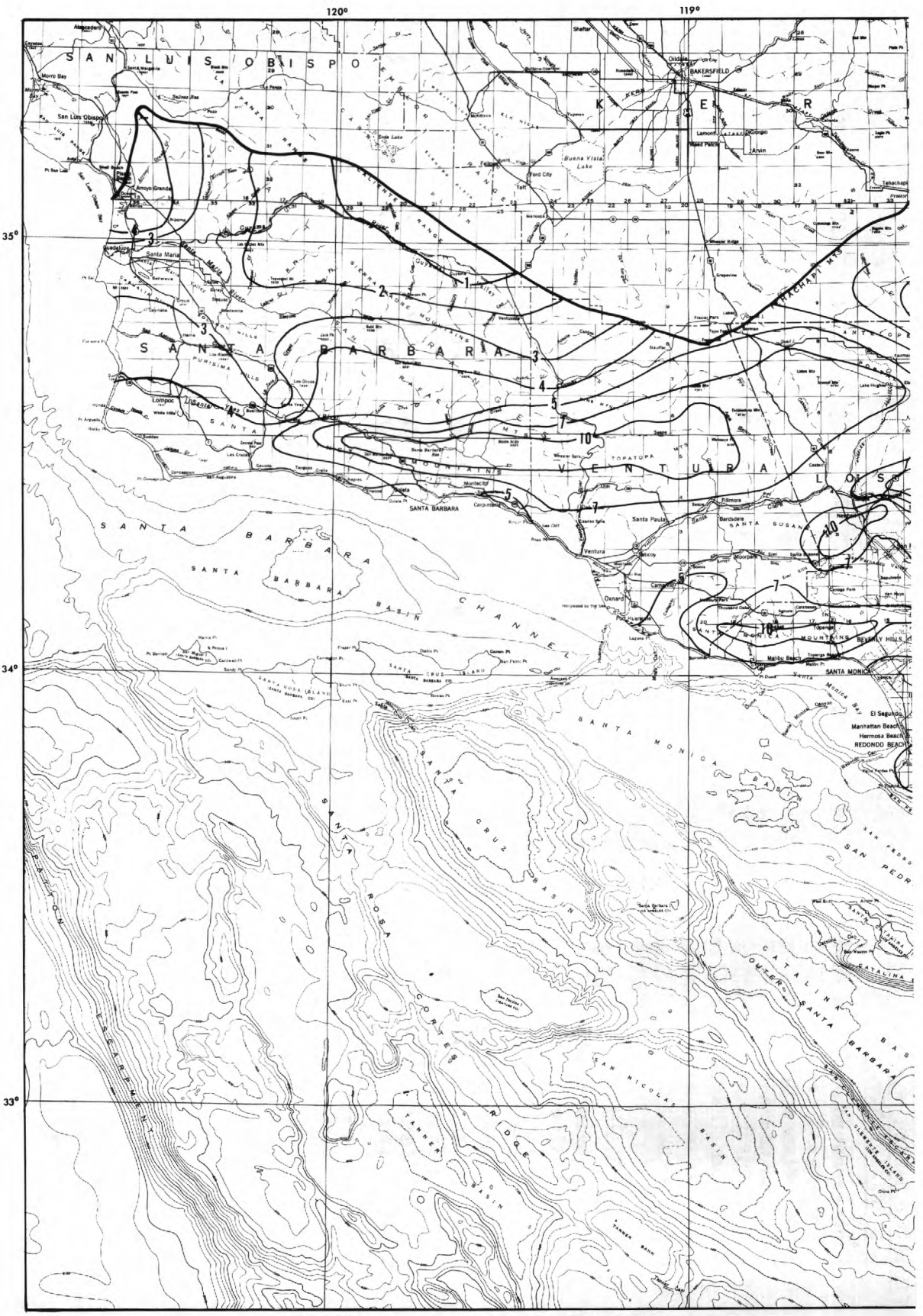
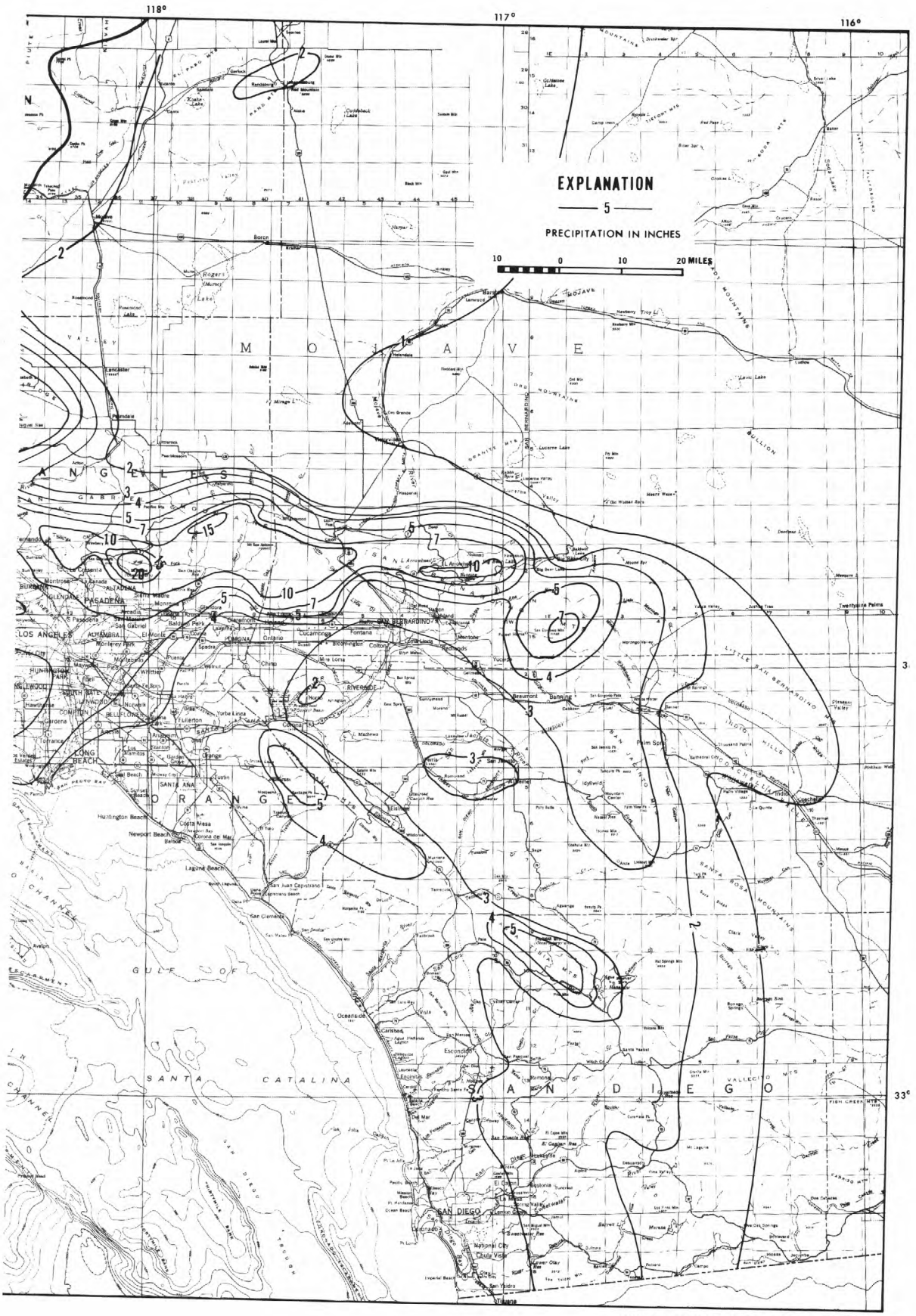


FIGURE 3.--ISOHYETAL MAP FOR STORM PERIOD NOVEMBER 13-19, 1965



ISOHYETS PREPARED BY U.S. GEOLOGICAL SURVEY

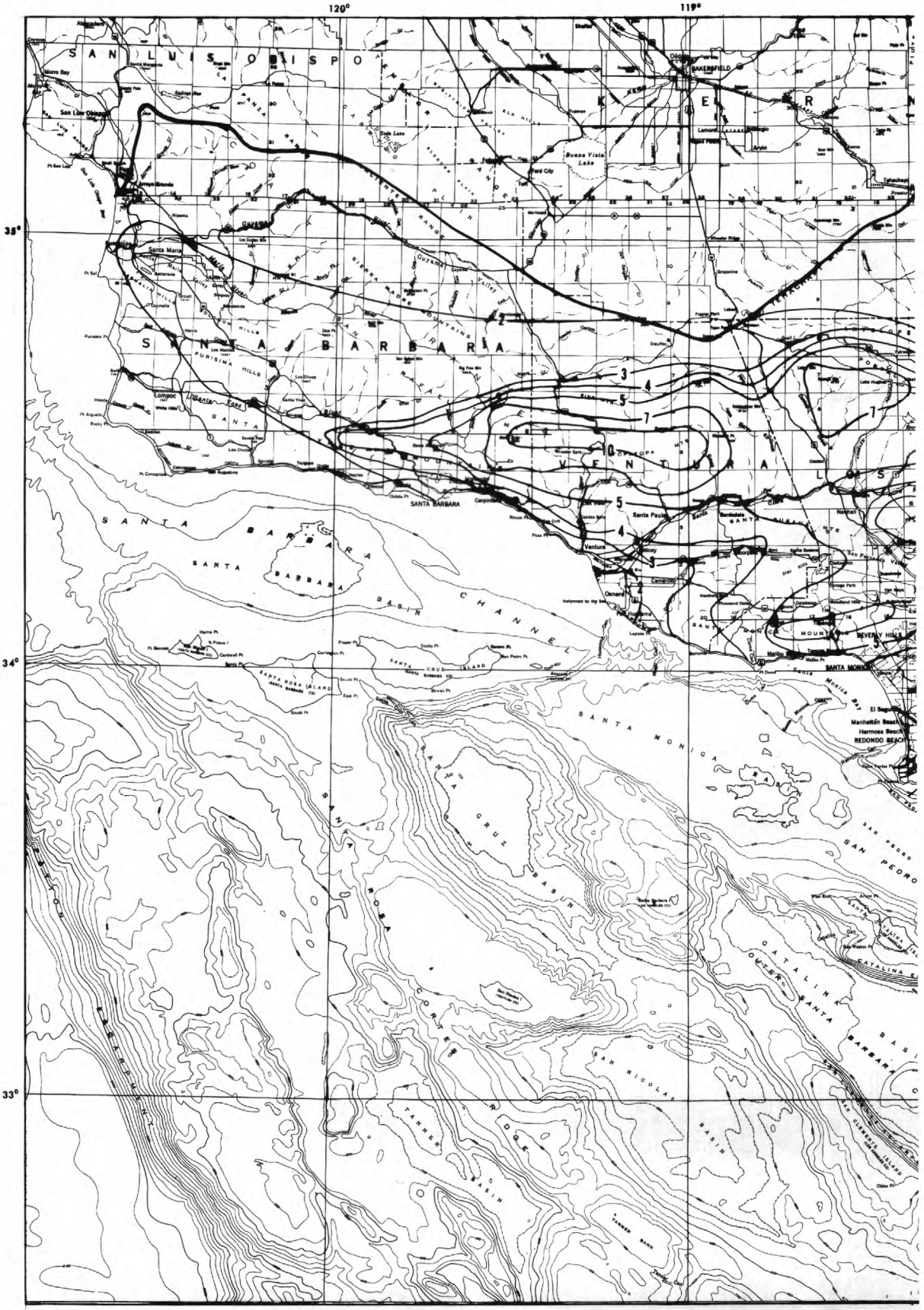
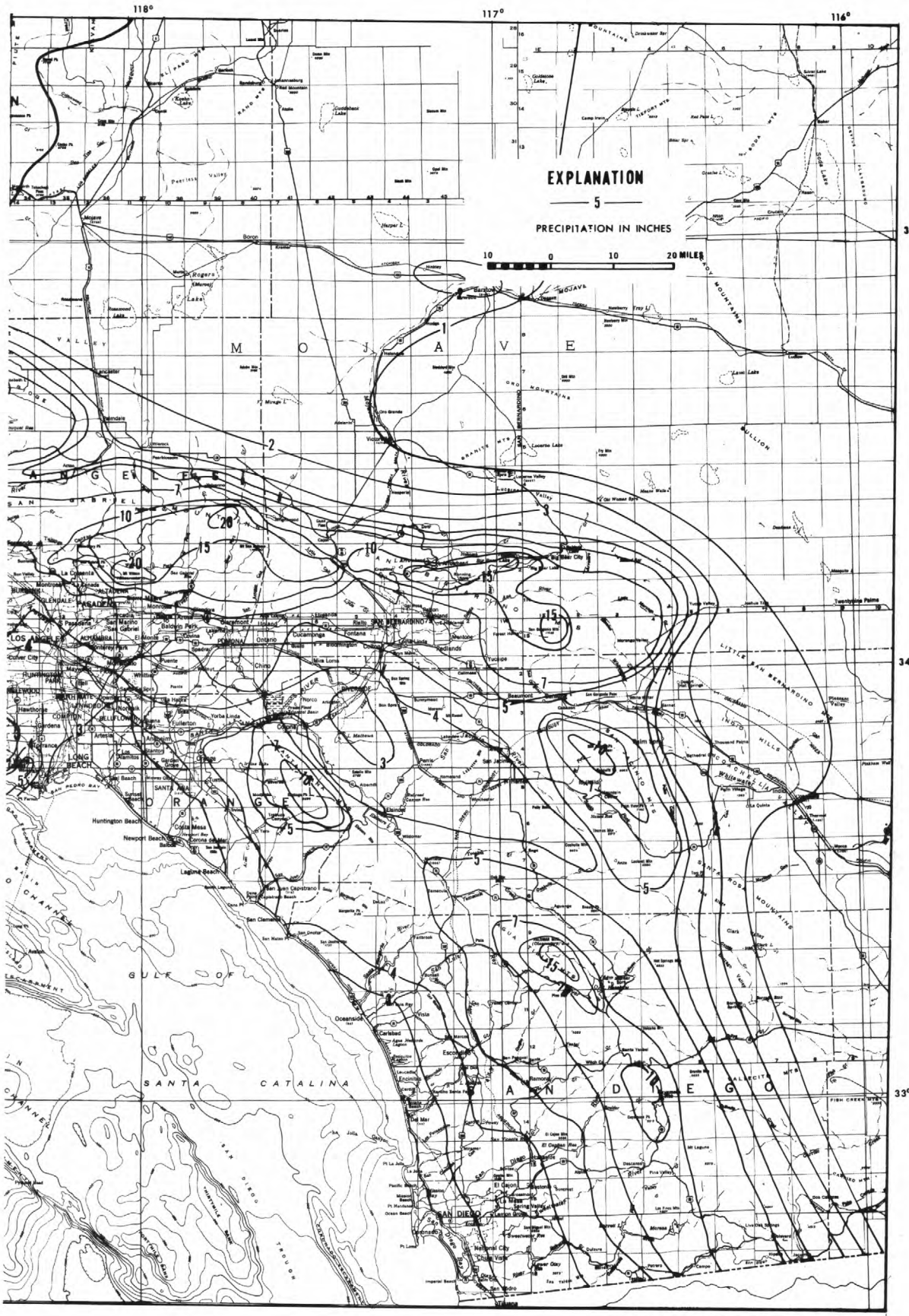


FIGURE 4.--ISOHYETAL MAP FOR STORM PERIOD NOVEMBER 21-26, 1965



ISOHYETS PREPARED BY U.S. GEOLOGICAL SURVEY

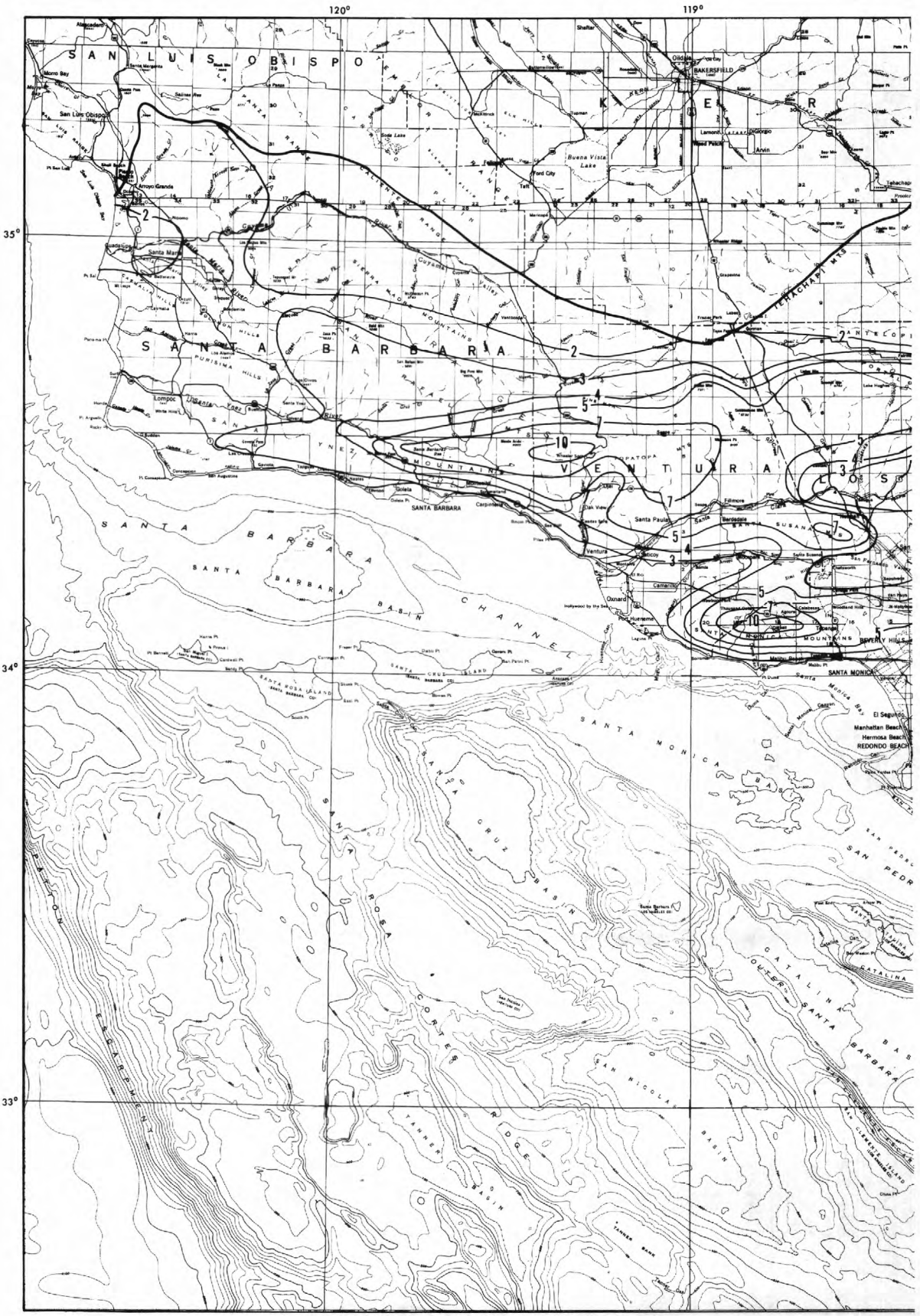
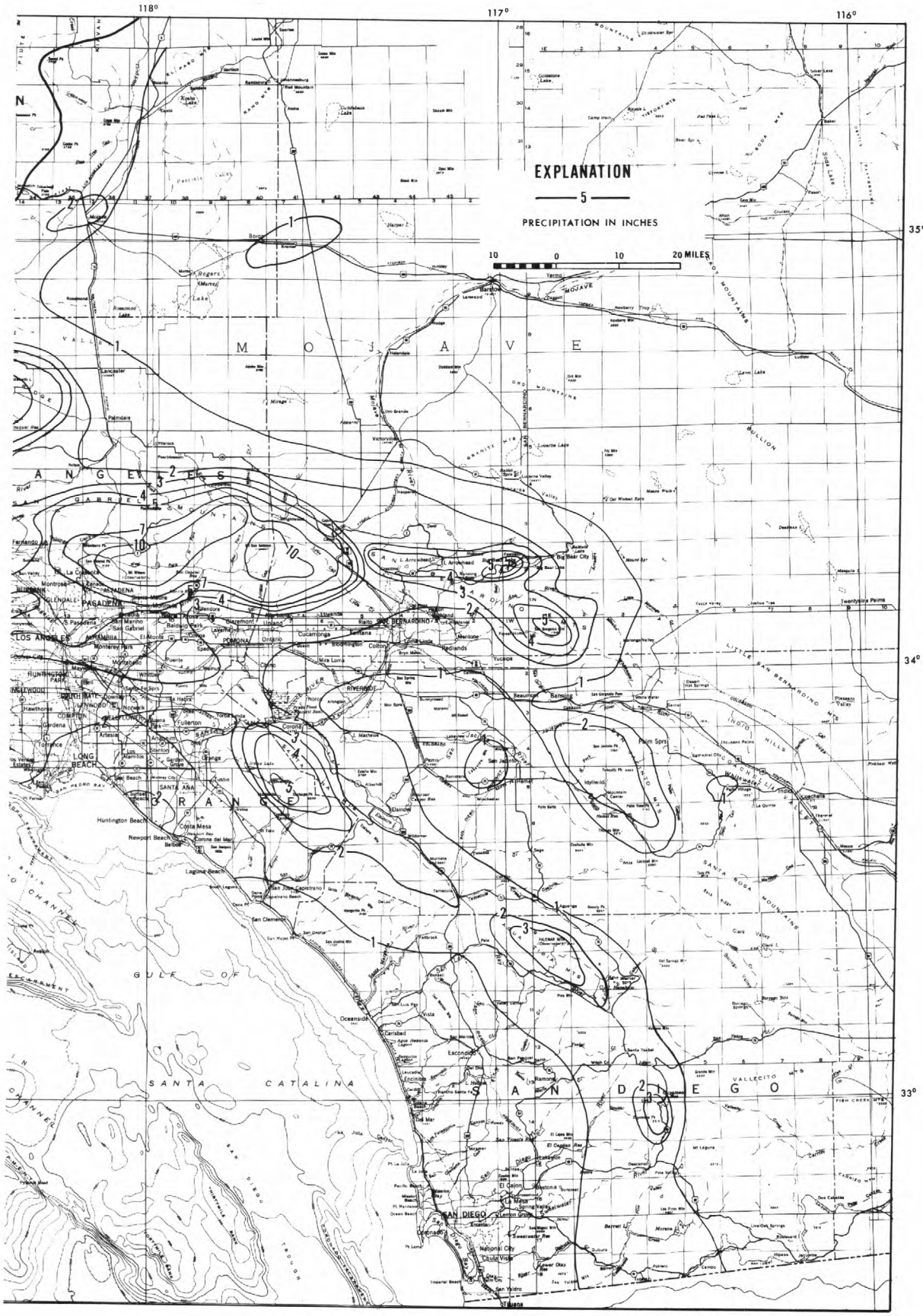


FIGURE 5.--ISOHYETAL MAP FOR STORM PERIOD DECEMBER 28-31, 1965



ISOHYETS PREPARED BY U.S. GEOLOGICAL SURVEY

DESCRIPTION OF THE FLOODS

The heavy rain of November 13-19 was the first significant precipitation of the July 1965-June 1966 season. Most of the rain infiltrated the soil and was retained as soil moisture. As a result, only minor runoff occurred despite the copious rainfall. However, this storm created antecedent conditions highly favorable for heavy runoff from subsequent storms.

The runoff from the storm of November 21-26 was in sharp contrast to that from the November 13-19 storm. The November 21-26 storm produced immediate and intense runoff when rain fell on ground having a high soil-moisture content.

Precipitation between December 8 and 17 was generally light and served largely to replenish soil moisture that had been reduced by evapotranspiration or downward percolation. Thus, conditions again were conducive to heavy runoff when the storm of December 28-31 occurred, and the resulting runoff was intense in many basins.

The floods in each hydrographic region of the flood-affected area are discussed briefly in the sections that follow.

Coastal Basins South of the Santa Ana River

The streams in the coastal basins south of the Santa Ana River drain the Pacific slope basins between the Mexican boundary and the Santa Ana River.

In this hydrographic region the precipitation of November 21-26 was generally greater than that during the November 13-19 storm. The ground had been partially saturated by the earlier storm and therefore substantial runoff occurred throughout the area during the second storm. In general, the resulting peak discharges in the streams south of the Santa Ana River did not exceed those of previous maximum floods.

Peak discharge of Murrieta Creek at Temecula on November 23 was 3,700 cfs (cubic feet per second), which was only about 20 percent of the peak of record, in 1943, while the peak discharge of 4,080 cfs on November 22 on San Juan Creek near San Juan Capistrano was the second highest recorded since March 1938. Figure 6 shows the discharge hydrographs for the November and December 1965 floods in Murrieta Creek at Temecula and San Juan Creek at San Juan Capistrano. All other streams in this hydrographic region produced peak discharges that were much smaller than the record floods of March 2, 1938, which occurred after heavy warm rains that melted a deep snow cover in the mountain areas.

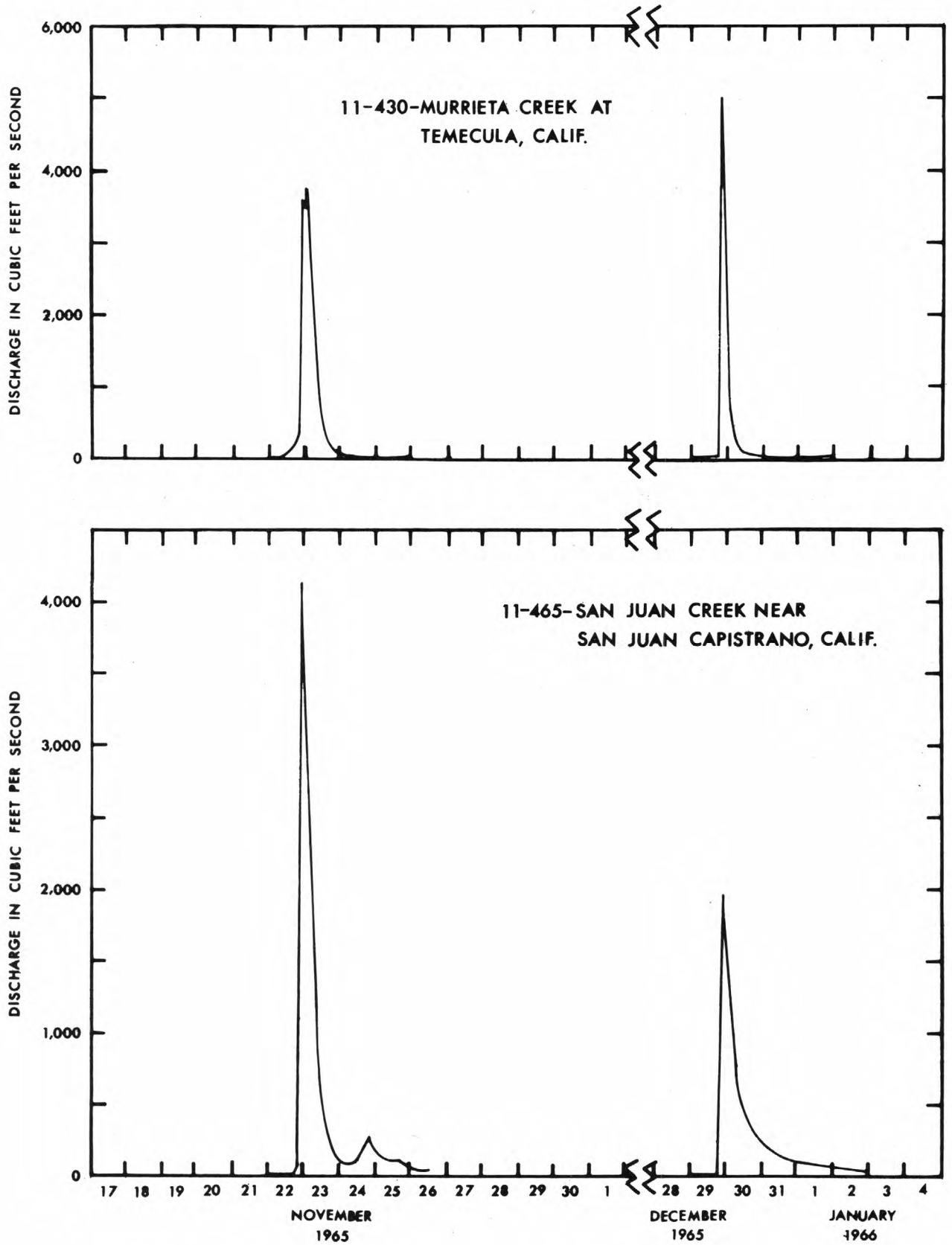


FIGURE 6.--DISCHARGE HYDROGRAPHS FOR SELECTED STREAMS IN THE COASTAL BASINS SOUTH OF THE SANTA ANA RIVER.

The storm of December 28-31 caused floods throughout the region that varied widely in magnitude. The peak discharge of 5,020 cfs on December 29 on Murrieta Creek at Temecula exceeded the November peak by about 35 percent, whereas the discharge of 1,950 cfs on December 29 on San Juan Creek near San Juan Capistrano, was less than one-half of the November peak discharge. With the exception of the streams in the Santa Margarita basin, the discharges for the December storm were generally much less than those for November.

Some snow accumulated at the higher altitudes in the mountains during the later storms, and reservoir levels rose throughout the area. In San Diego County, the contents of seven reservoirs increased from an average 4.3 percent of capacity on October 31 to an average 8.5 percent of capacity on December 31.

Coastal Basins from the Santa Ana River to the Los Angeles River

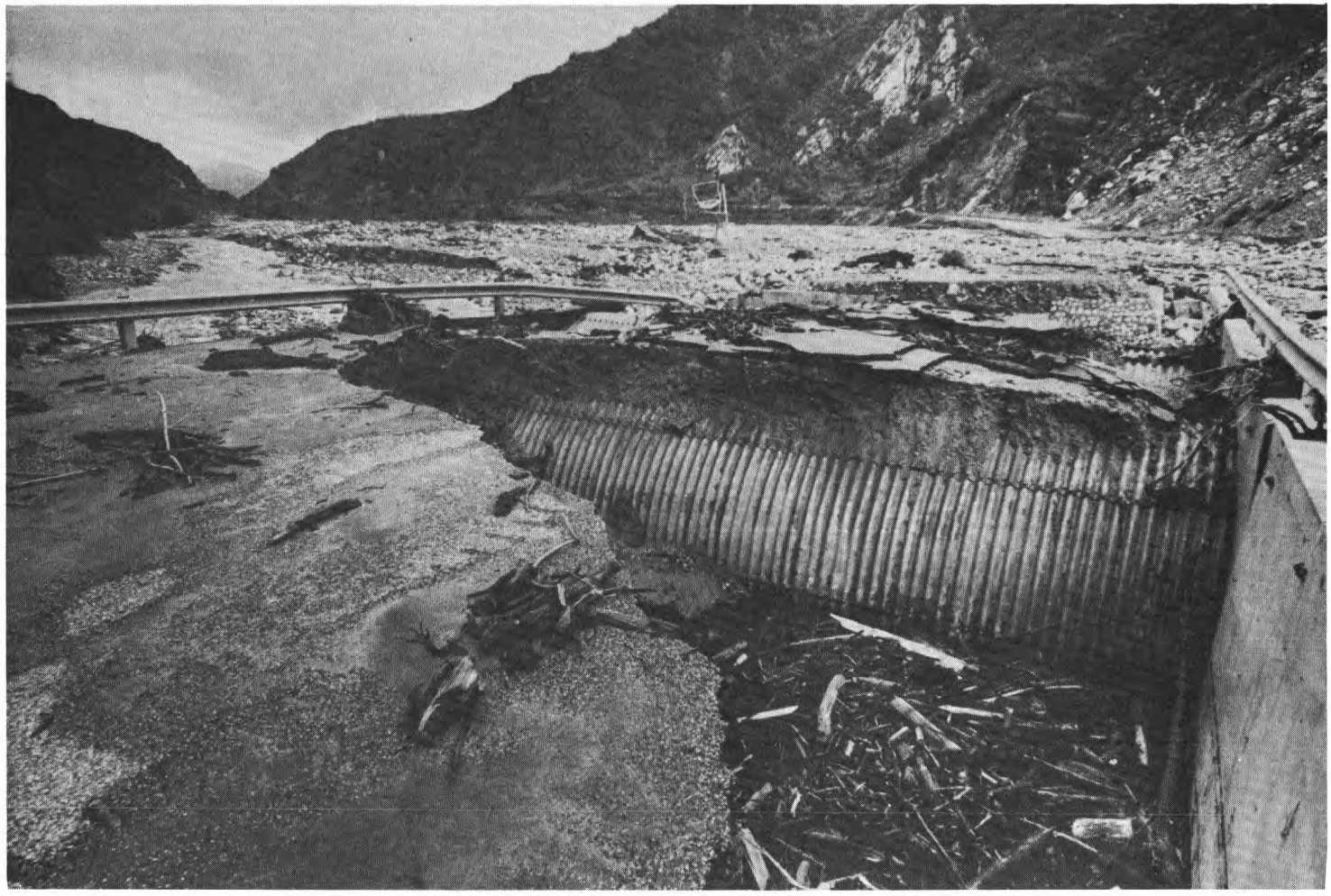
The streams in this hydrographic region drain the Pacific slopes between and including the Santa Ana River and the Los Angeles River. The Santa Ana River basin, with an area of about 2,400 square miles, is the largest of the coastal basins.

Precipitation during the second major storm in November, occurring November 21-26, equaled or exceeded that for the November 13-19 storm over most of the area. The resulting intense runoff caused landslides and washouts that blocked two major roads to Big Bear Lake and virtually cut off travel to the resort area. The road into Lytle Creek northwest of San Bernardino Canyon was destroyed, and many homes in the canyon were damaged by floodwaters and debris. (See fig. 7.)

Residents in some localities in Simi Valley and San Fernando Valley were evacuated as heavy runoff caused overflow of storm drains. Residents witnessed rivers of mud flowing into yards and streets. A 200-foot stretch of Pacific Coast Highway (U.S. Alt. 101) was buried by a landslide. In Los Angeles the surging floodwaters closed streets at many locations throughout the city, paralyzing traffic. Rainfall at the Los Angeles Civic Center on November 22 totaled 3.51 inches.

The peak discharge of City Creek near Highland on November 22 was 1,310 cfs, about 20 percent of the March 1938 record peak discharge. The December peak was slightly less, with 1,120 cfs on December 29. Other streams in the Upper Santa Ana River basin produced peaks of similar magnitude; that is, about 20 percent of those for the March 1938 flood. Figure 8 shows the discharge hydrographs for the November and December floods in City Creek near Highland and Arroyo Seco near Pasadena.

The Los Angeles River at Sepulveda Dam reached peak discharges of 11,250 cfs on November 17 and 12,800 cfs on December 29. The December peak was the highest of record, greater than the March 1938 peak discharge of 12,000 cfs.



Photo, courtesy San Bernardino Sun Telegram

FIGURE 7.--Damage to road and to gaging station on Lytle Creek near Fontana, Calif., by flood of November 22, 1965.

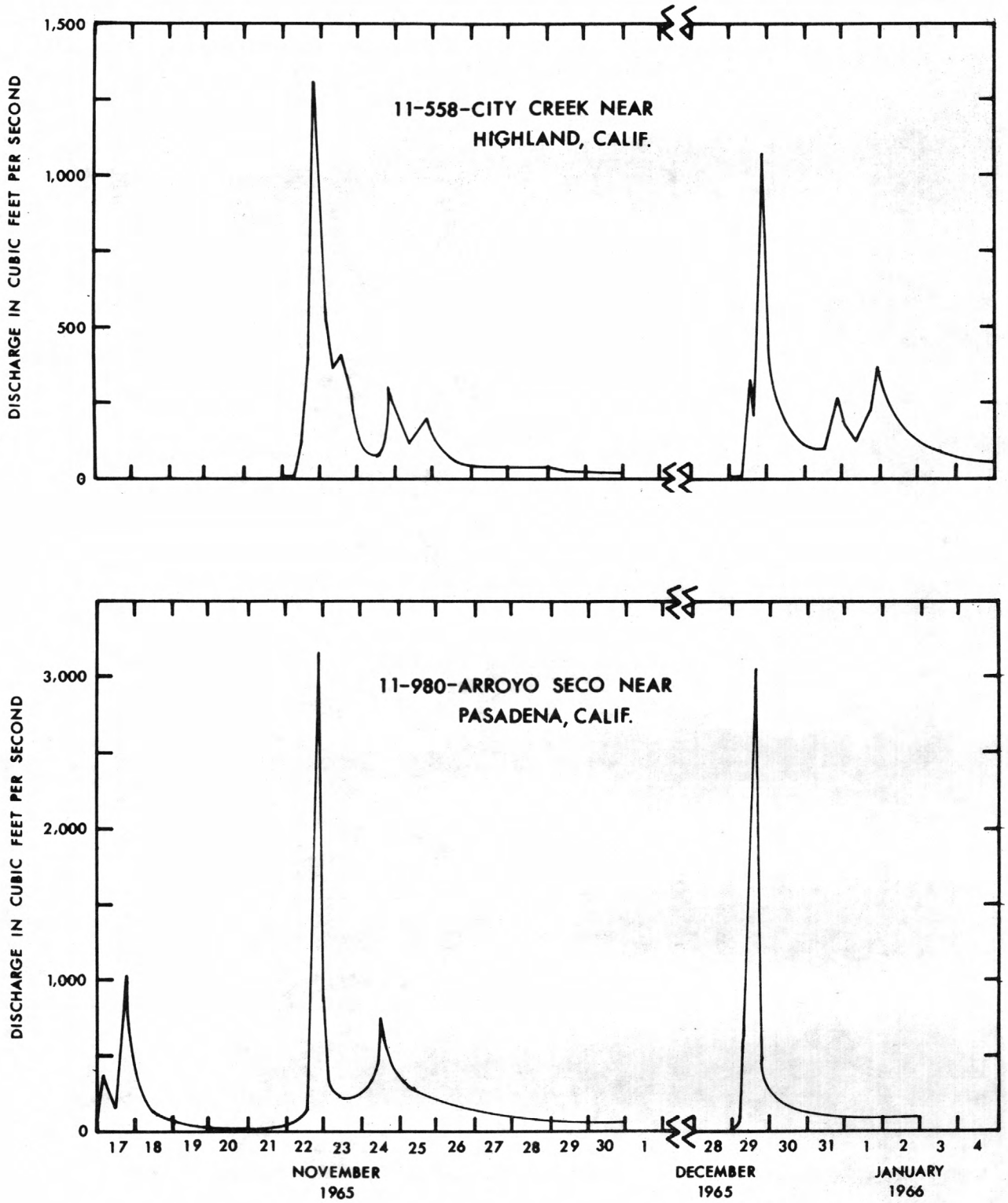


FIGURE 8.--DISCHARGE HYDROGRAPHS FOR SELECTED STREAMS IN THE COASTAL BASINS FROM THE SANTA ANA RIVER TO THE LOS ANGELES RIVER.

Arroyo Seco near Pasadena in the Los Angeles River basin had a peak discharge of 3,160 cfs on November 22 (fig. 8), the second highest since March 1938. The peak discharge of 3,050 cfs on December 29 was almost as great and was the third highest since March 1938.

The effect of urbanization can be detected in the discharge from the Los Angeles River basin. During the late December flood, the unit runoff at the time of the peak discharge in the Los Angeles River at Los Angeles, on December 29, was 62.3 cfs per sq mi (cubic feet per second per square mile). During the same flood the unit runoff during the peak discharge in Los Angeles River at Long Beach was 73.3 cfs per sq mi, reflecting a contribution of 91.2 cfs per sq mi from the intervening urbanized area of 318 square miles, despite the smaller precipitation in this low-lying valley area.

Coastal Basins North of the Los Angeles River

The streams in this hydrographic region drain the Pacific slopes north and west of the Los Angeles River up to and including the Arroyo Grande basin.

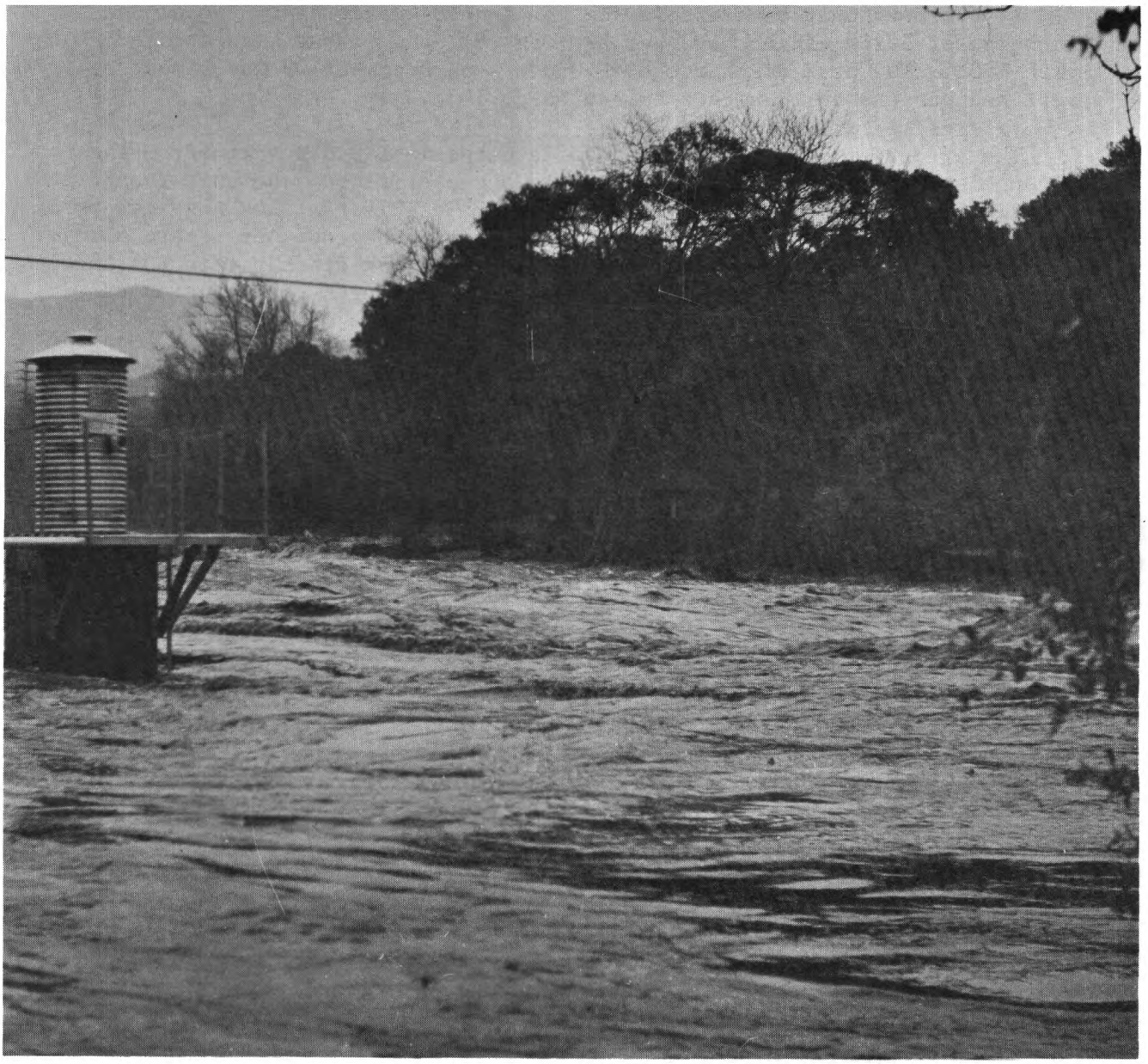
Precipitation November 13-19 generally was greater than that during the period November 21-26, although only minor peak discharges occurred November 16 or 17. Substantial peak flows occurred in late November and again in late December, as a result of the intense runoff from the saturated area following the storms of November 21-26 and December 28-31.

A record peak discharge of 20,600 cfs occurred December 29 in Malibu Creek at Crater Camp near Calabasas. Figure 9 presents a picture of the floodwaters at the gaging station. Flooding at Las Virgines Road in Calabasas isolated the Malibu Canyon tract and marooned 400 families.

The peak discharge in the Santa Clara River at the Los Angeles-Ventura County line was 12,200 cfs on November 24 and 34,100 cfs on December 29. The December peak is the highest of record, 40 percent greater than that in March 1938, the previous highest. Two Ventura County hydrographers were drowned while attempting to measure the discharge during this record peak. Figure 10 shows the gaging station at this site and the damaged cableway.

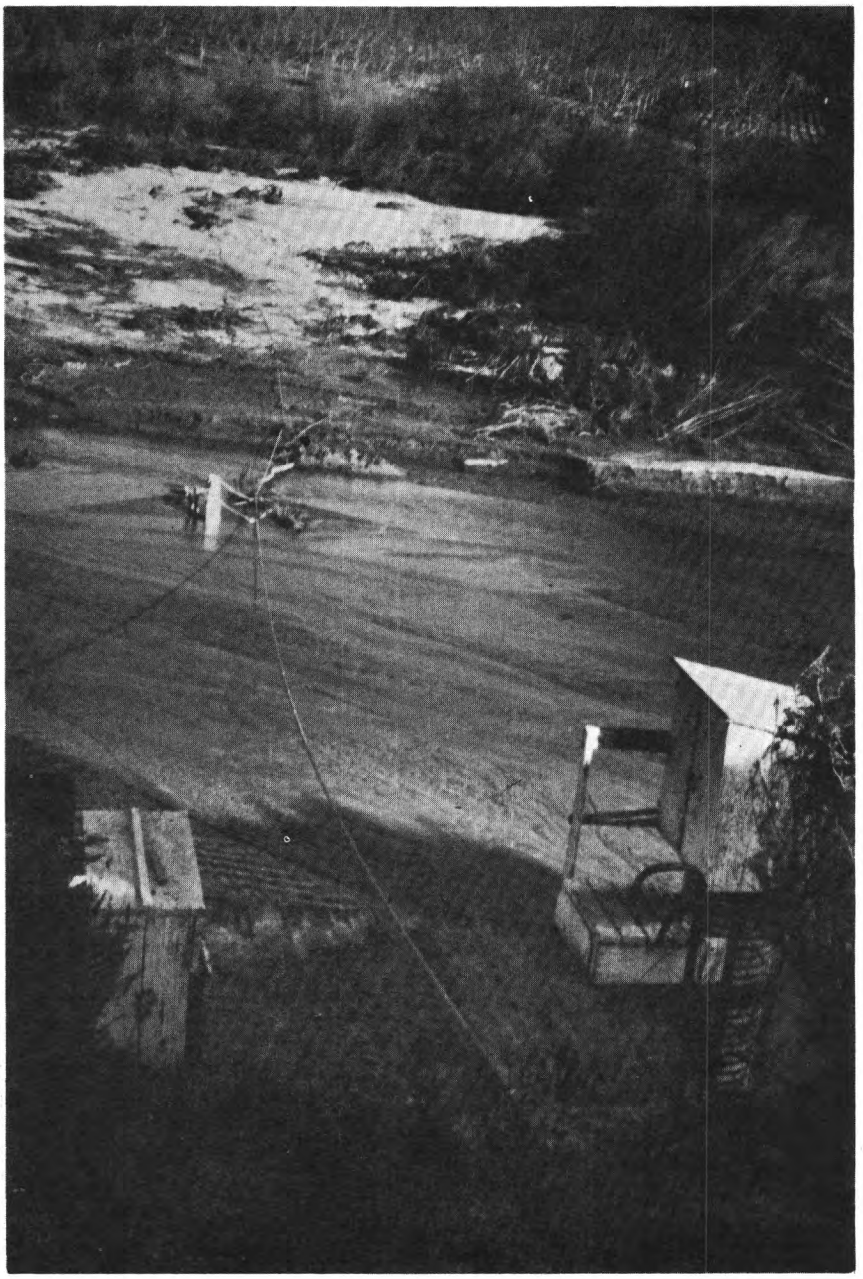
The peak discharge in Sespe Creek near Fillmore was 19,600 cfs on November 24, about 35 percent of the peak of record, 56,000 cfs, that occurred in March 1938. The peak discharge December 29 was 21,600 cfs, about 40 percent of the March 1938 peak. Figure 11 shows the discharge hydrographs for the November and December floods in Sespe Creek near Fillmore and Sisquoc River near Sisquoc.

The December 29 peak discharge of 3,020 cfs in Sisquoc River near Sisquoc, as shown in figure 11, was almost twice the peak discharge of 1,760 cfs on November 24. The December peak discharge generally exceeded that in November throughout most of this hydrographic region.



Photo, courtesy Los Angeles County
Flood Control District

FIGURE 9.--Floodwaters December 29, 1965, at gaging station on Malibu Creek near Calabasas, Calif.



Photo, U.S. Geological Survey

FIGURE 10.--Damaged cableway at gaging station on Santa Clara River at Los Angeles-Ventura County line, flood of December 29, 1965.

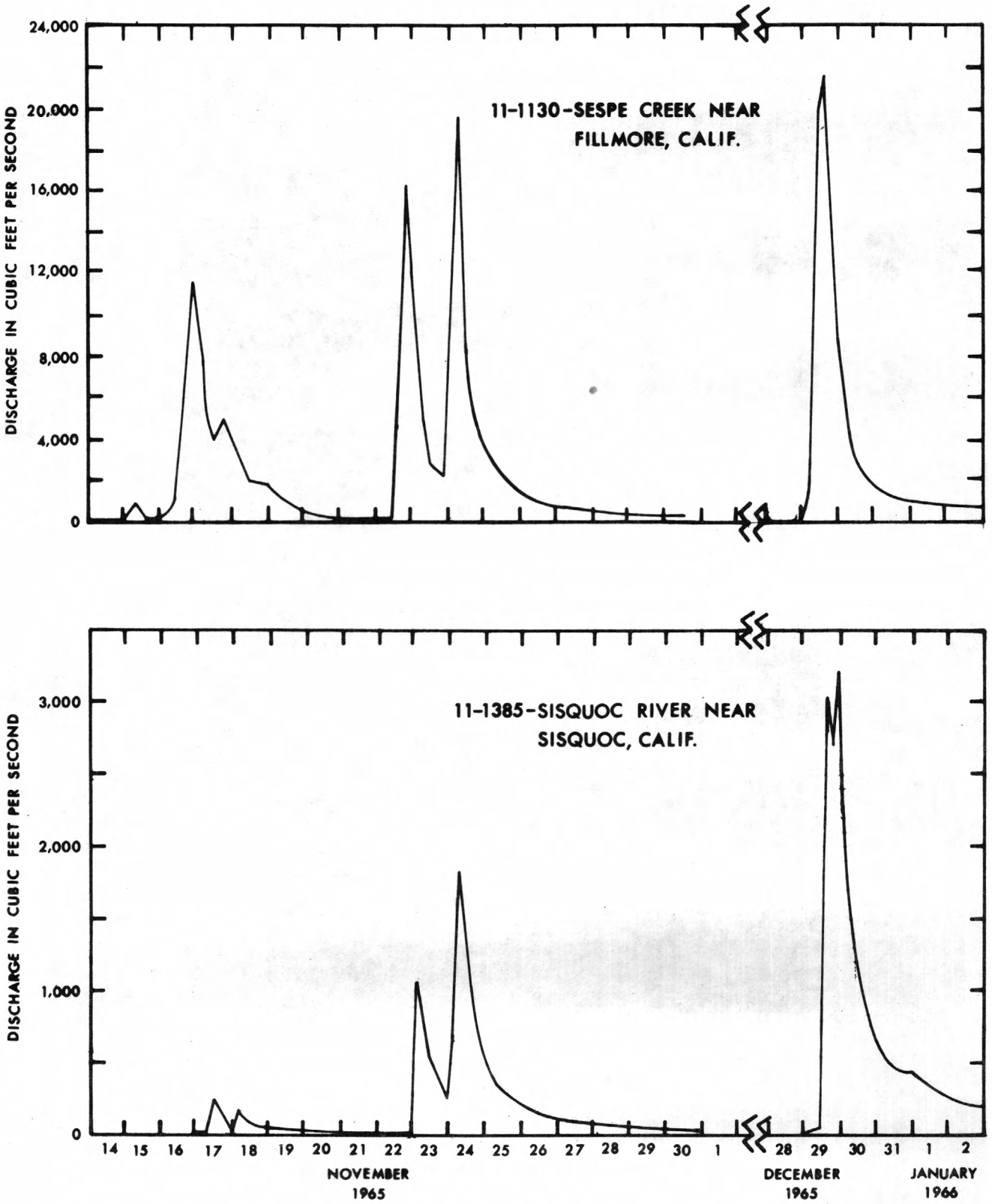


FIGURE 11.--DISCHARGE HYDROGRAPHS FOR SELECTED STREAMS IN THE COASTAL BASINS NORTH OF THE LOS ANGELES RIVER.

The Great Basin

The Great Basin streams that experienced flooding are those that drain the interior slopes of the coastal ranges and the Tehachapi Mountains.

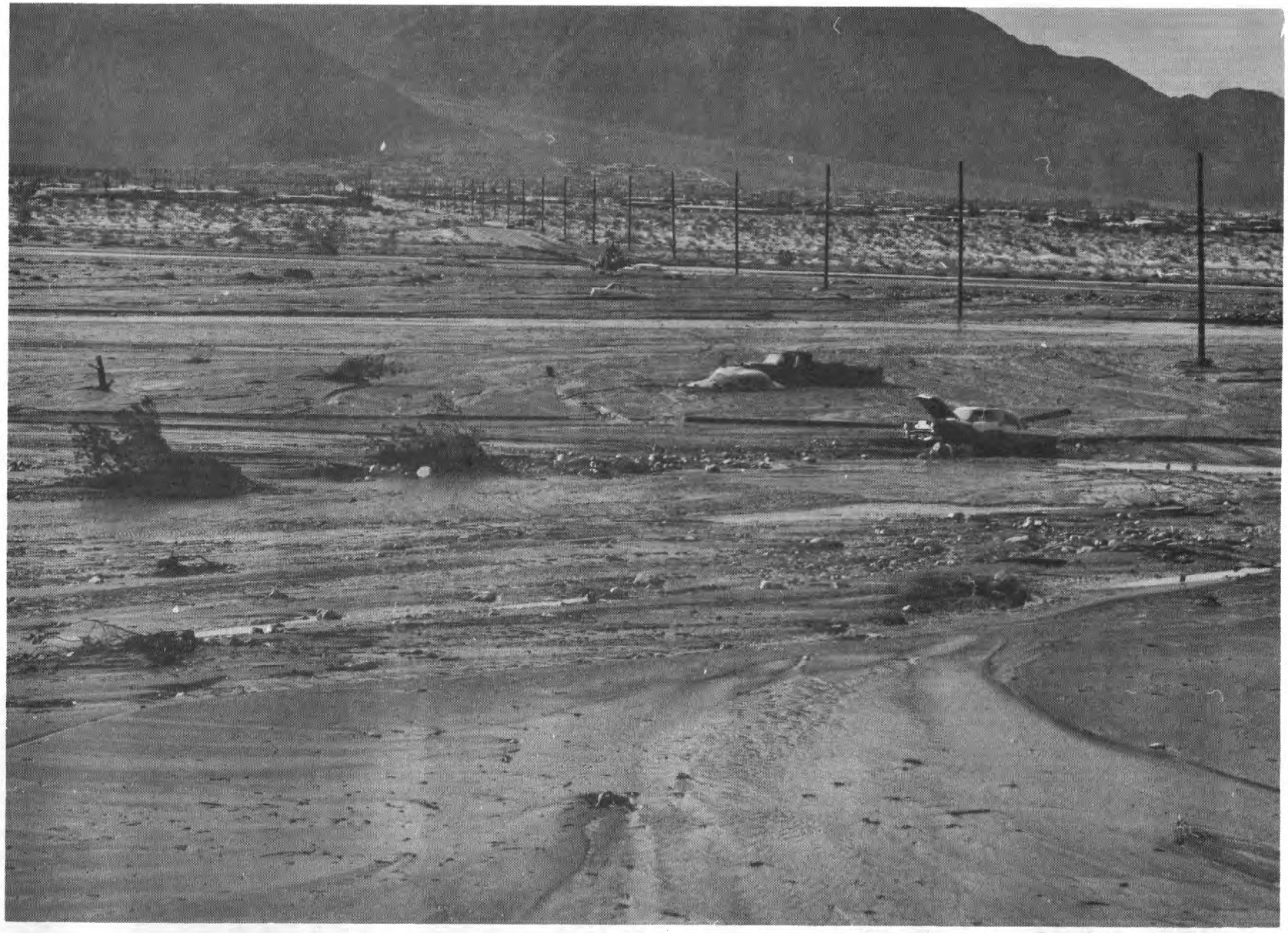
The near-record November 13-19 rains produced only very minor runoff. The second major rainstorm of the month moved into the area on November 22, and the resulting intense runoff filled normally dry washes with turbulent and debris-laden water and caused them to overflow their banks.

Serious flooding occurred in the Palm Springs area. By the evening of November 22, the community of Palm Springs was isolated from Interstate Highway 10 and State Highway 111 was washed out by the Whitewater River about 10 miles east. (See figs. 12 and 13.) The heavy rains caused flooding of downtown streets in Palm Springs; similar conditions existed in Desert Hot Springs where a man was drowned. Estimates indicate that more than 50 cars were swept into the streams and drainage channels in the Tahquitz Creek and Whitewater River basins.

A peak discharge of 2,900 cfs was recorded November 22 at Tahquitz Creek near Palm Springs, the highest since records were started in 1947. The peak discharge in Palm Canyon Creek near Palm Springs on the same date was 1,520 cfs, the second highest on record. Discharge hydrographs for the November and December floods for Tahquitz Creek near Palm Springs and Deep Creek near Hesperia are shown in figure 14.

Deep Creek near Hesperia, tributary to the Mojave River, had a peak discharge of 21,700 cfs on November 22, the highest discharge since the record peak of 46,600 cfs in March 1938.

Heavy rains December 29-30 from one of the most intense storms of the season again caused severe floods in streams draining the eastern slopes of the mountains. Deep Creek near Hesperia had a peak discharge December 29 of 20,800 cfs, a little less than that of November 22. The peak discharge in West Fork Mojave River near Hesperia was 21,200 cfs on December 29, more than two and a half times greater than that of the November 22 flood. The peak discharge in the Mojave River at Afton, 4,150 cfs on December 31, was the peak of record, although it was undoubtedly exceeded in March 1938. Many persons were forced from their homes in the Mojave River lowlands, and all bridges and crossings between Victorville and Barstow were impassable. The Mojave River flows were discharged ultimately into East Cronise Lake, a rare occurrence.



Photo, courtesy Riverside County Flood Control
and Water Conservation District

FIGURE 12.--Whitewater River near Palm Springs, Calif., after flood of November 22, 1965.

Photo, courtesy Riverside County Flood Control
and Water Conservation District

FIGURE 13.--Damage to State Highway 111 at Tahquitz Creek near Palm Springs, flood of November 22, 1965.

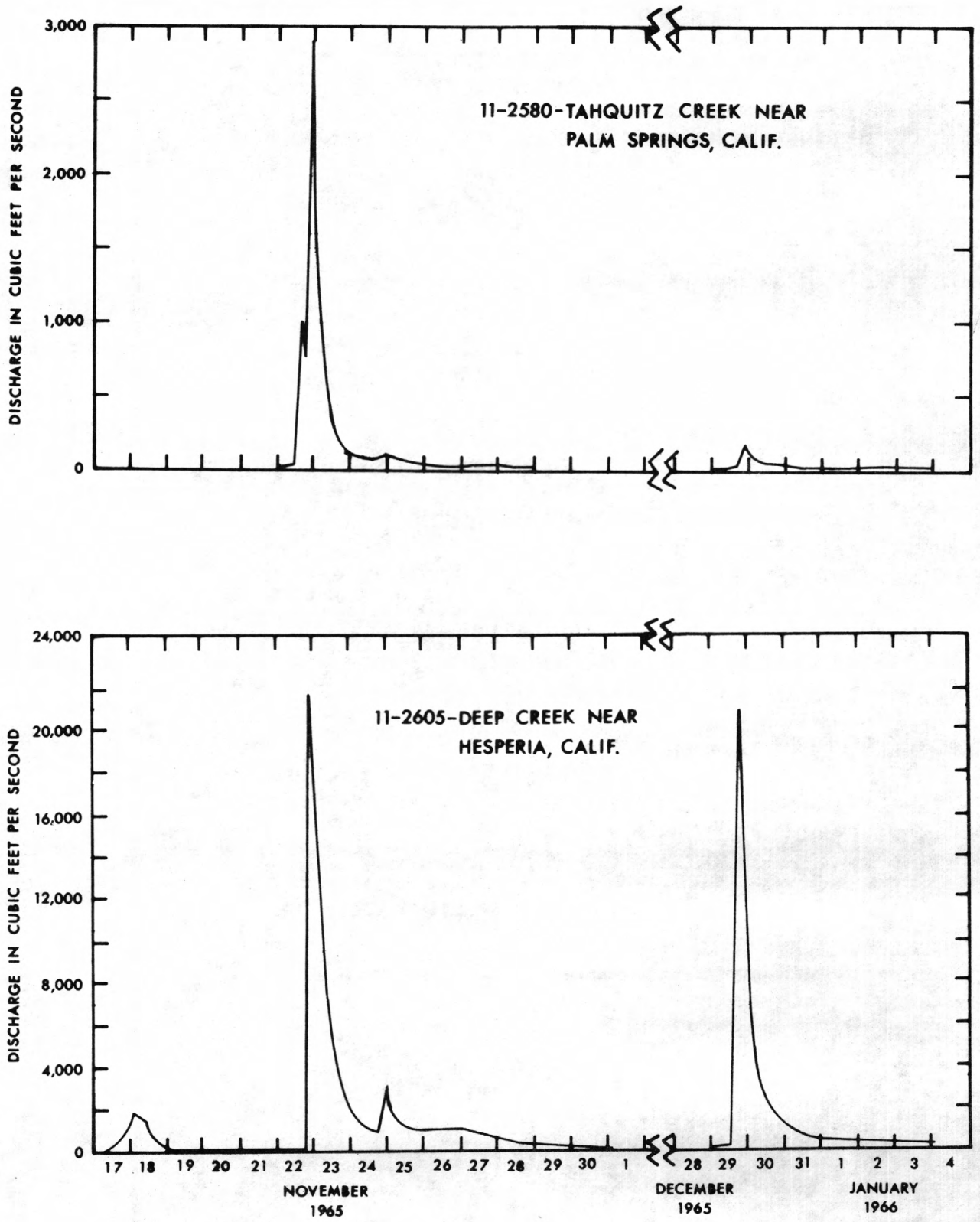


FIGURE 14.--DISCHARGE HYDROGRAPHS FOR SELECTED STREAMS IN THE GREAT BASIN.

STORAGE REGULATION

Reservoir storage effected substantial reduction in the magnitude of peak flows on many streams. These benefits were obtained from reservoirs constructed for flood-control, as well as from others constructed primarily for water-conservation purposes. Accurate peak inflow data based on change in contents of reservoirs were not available for the report. However, the effectiveness of the reservoirs in reducing the magnitudes of peak flows is evident from the volumes of water detained in the reservoirs and the reduced peak discharges below the reservoirs in relation to those in the same streams above the reservoirs.

The seven principal reservoirs in the hydrographic region south of the Santa Ana River basin (Morena, Barrett, Lower Otay, El Capitan, Hodges, Lake Henshaw, and Sutherland) have a combined capacity of 522,000 acre-feet. The peak flows in the individual basins were reduced by storage in these reservoirs, but the combined reservoir contents increased only a small amount, from 4.3 percent on October 31 to 8.5 percent on December 31.

Peak flow in the Santa Ana River basin is regulated by Prado flood-control reservoir (capacity, 222,800 acre-ft), Big Bear Lake (capacity, 72,200 acre-ft), Santiago Reservoir (capacity, 25,000 acre-ft), and three small flood-control reservoirs (combined capacity, 31,900 acre-ft). Prado Reservoir, with peak storage of 15,400 acre-feet on November 23 and 8,350 acre-feet on December 30, effected a substantial reduction in peak discharge downstream.

Flows in the San Gabriel River basin are regulated by San Gabriel and Cogswell flood-control reservoirs (combined capacity, 54,500 acre-ft), Morris Reservoir (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir (capacity, 36,800 acre-ft), Whittier Narrows flood-control reservoir (36,160 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Santa Fe Reservoir had a peak storage of 7,280 acre-feet on November 23 and 5,560 acre-feet on December 30. Contents of Whittier Narrows Reservoir was only about 5 percent of capacity during the flood periods.

Hansen and Sepulveda flood-control reservoirs, with a combined capacity of 49,400 acre-feet, and several small flood-control reservoirs provide peak-flow regulation in the Los Angeles River basin. Storage in the two main flood-control reservoirs substantially reduced the peak discharge, but the maximum storage at any one time was only 30 percent of the capacity of the reservoirs.

Lake Piru, capacity 101,000 acre-feet, provides partial regulation of peak flows in the Santa Clara River basin. The contents of Lake Piru increased from 5,890 acre-feet on November 12 to 53,600 acre-feet on January 25, 1966.

Peak flows in the Ventura River basin are regulated principally by Casitas Reservoir (capacity, 267,000 acre-ft).

The flow in the Santa Ynez River basin is regulated by Jameson Lake (capacity, 6,600 acre-ft), Gibraltar Reservoir (capacity 14,800 acre-ft), and Lake Cachuma (capacity, 205,000 acre-ft). Jameson Lake and Gibralter Reservoir were filled by the runoff from the November storms, and the contents of Lake Cachuma increased from 118,000 acre-feet on November 15 to 188,000 acre-feet on February 15, 1966.

FLOOD DAMAGE

Eleven deaths were attributed to the storms and floods. Six of these occurred in the Upper Santa Ana River basin. Damage to roads, bridges, and property was widespread. A number of Geological Survey streamflow-measurement facilities also were destroyed or damaged by the floods.

Preliminary flood-damage estimates by the U.S. Army Corps of Engineers, county flood-control districts, and county Civil Defense offices indicated damage in valley and foothill areas caused by the three floods to be almost $11 million. Table 2 summarizes the flood damage by basins. The damage figures, though great, would have been much larger had it not been for the operation of flood-control facilities.

Table 2.--Summary of flood damage

Basin or area	Preliminary estimates by	Damage, in thousands of dollars	
Coastal basins south of the Santa Ana River			
San Diego River	Agencies of San Diego County	145	
San Dieguito River		2	
San Marcos Creek		127	
San Luis Rey River		27	
Subtotal			301
Coastal basins from the Santa Ana River to the Los Angeles River			
Santa Ana River	U.S. Army Corps of Engineers	4,800	
Subtotal			4,800
Coastal basins north of the Los Angeles River			
Calleguas, Santa Clara, and Ventura Rivers	Agencies of Ventura and Santa Barbara Counties	2,020	
Santa Barbara area		250	
Subtotal			2,270
The Great Basin			
Whitewater River	U.S. Army Corps of Engineers	3,000	
Mojave River		100	
Wrightwood area		450	
Subtotal			3,550
Total			10,921

STREAMFLOW DATA

Streamflow data in the files of the Geological Survey as of February 15, 1966, are presented in this section of the report. The discharge figures are provisional and subject to revision. Because of the time limitation for assembling the data, the areal coverage is not complete.

Table 3 presents detailed data for the flood hydrographs at 22 selected gaging sites. These sites are shown with identifying station numbers in figure 2. The prefixes "10" and "11" in the station numbers are those used by the Geological Survey to designate the following major drainage regions: Part 10--The Great Basin; Part 11--Pacific slope basins in California. Table 4 presents all available peak stages, discharges, and estimated recurrence intervals for stations in the flood-affected area. Table 4 is not complete; indirect measurements of peak discharge were necessary at many sites, and some computations remained to be completed at the time of the writing of this report. The station numbers in tables 3 and 4 are in downstream order and are the same as those used in annual Geological Survey streamflow reports. Data for streams in The Great Basin, however, are listed following those for streams in the Pacific slope basins.

The recurrence interval, as applied to flood events, is the number of years, on the average, within which a given flood event will be equaled or exceeded once. It is inversely related to the chance of a specific flood being equaled or exceeded in any one year. Thus, a 20-year flood would have 1 chance in 20 of being equaled or exceeded in any one year.

The recurrence intervals for peak discharge have been computed on the basis of the data and methods reported by Young and Cruff (1966).[1] Their report presents a method for estimating the recurrence interval of a given peak discharge. The procedure is not applicable to sites where the usable storage within the basin exceeds 4.5 million cubic feet (103 acre-feet) per square mile; or where the site is just downstream from a large reservoir, even though the storage limitation is not exceeded; or where the drainage areas are less than 10 square miles. The procedure is used for recurrence intervals ranging between 1.2 and 50 years. The ratio of the peak discharge to the 50-year flood has been given for sites where the recurrence interval is greater than 50 years.

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[1]Young, L. E., and Cruff, R. W., 1966, Magnitude and frequency of floods in the United States, Part 11, Pacific slope basins in California--coastal basins south of the Klamath River basin and Central Valley drainage from the west: U.S. Geol. Survey open-file rept., 70 p.

Table 3.--Flood-hydrograph data for selected gaging stations

[Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1965. Underscored discharge values indicate maximums for November and December floods]

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Sweetwater River near Descanso, Calif. (11-150)								
Nov. 21			Nov. 23--Continued			Dec. 28		
2400		0	0600	6.30	1,070	2400	2.83	4.0
			0700	6.53	1,230			
Nov. 22 (mean, 67 cfs)			0900	6.16	976	Dec. 29 (mean, 26 cfs)		
			1200	5.60	650			
0800		0	1500	4.73	319	1500	2.85	4.5
0900	2.26	.1	1800	4.13	159	1900	3.11	20
1100	2.27	.1	2000	3.85	106	2000	3.28	35
1200	2.33	.2	2400	3.56	59	2100	3.61	73
1300	2.55	2.9				2200	3.82	101
1400	2.68	5.8	Nov. 24 (mean, 15 cfs)			2300	4.14	161
1500	2.78	9.2				2400	4.54	264
1600	2.95	18	0400	3.38	30			
1700	2.93	16	1200	3.21	4.7	Dec. 30 (mean, 331 cfs)		
1800	3.08	26	2400	3.08	.6			
1900	3.34	46				0200	4.68	304
2000	3.78	95	Nov. 25 (mean, 33 cfs)			0300	5.24	486
2100	4.23	181				0400	5.60	650
2200	4.65	296	0400	3.08	.6	0500	5.70	700
2300	5.39	546	1000	3.26	14	0600	5.60	650
2400	5.73	718	1400	3.59	71	0900	5.09	427
			1700	3.41	51	1200	4.65	296
Nov. 23 (mean, 548 cfs)			2400	3.53	63	1500	4.40	224
						1900	4.20	174
0200	5.38	542	Nov. 26 (mean, 36 cfs)			2400	4.04	140
0400	5.72	712						
0500	6.46	1,180	1200	3.24	31	Dec. 31 (mean, 111 cfs)		
			2400	3.09	18			

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Murrieta Creek at Temecula, Calif. (11-430)								
Nov. 21			Nov. 23--Continued			Dec. 29--Continued		
2400	0.29	0.2	2100	1.58	32	2300	6.10	2,690
			2400	1.38	22	2400	5.25	1,810
Nov. 22 (mean, 447 cfs)						Dec. 30 (mean, 295 cfs)		
			Nov. 24 (mean, 8.4 cfs)					
0700	.35	.4				0100	4.75	1,360
0900	.55	1.9	0600	1.10	10	0200	4.20	952
1200	.53	1.7	1200	.90	6.5	0300	3.80	706
1600	.73	4.5	1800	.78	4.5	0400	3.43	550
1800	1.17	20	2400	.71	3.3	0500	3.20	454
1900	1.60	54				0700	2.78	289
2000	2.41	200	Nov. 25 (mean, 4.1 cfs)			0900	2.45	198
2100	5.08	1,700				1200	2.10	117
2200	6.59	3,350	1200	.66	4.0	1400	1.90	83
2300	6.81	3,630	2400	.64	3.6	1700	1.66	54
2400	6.69	3,480				2100	1.43	34
			Dec. 28			2400	1.28	23
Nov. 23 (mean, 940 cfs)								
			2400	0.34	0.6	Dec. 31 (mean, 9.7 cfs)		
0100	6.87	3,700						
0200	6.59	3,350	Dec. 29 (mean, 798 cfs)			0700	.98	10
0300	6.09	2,750				1500	.83	6.0
0400	5.86	2,410	1000	.35	.6	2400	.82	5.8
0500	5.69	2,190	1300	.44	1.2			
0700	4.69	1,250	1500	.44	1.2			
0900	3.74	620	1700	.53	2.1	Jan. 1 (mean, 4.8 cfs)		
1100	3.10	330	1800	4.70	1,330			
1300	2.60	178	1900	5.20	1,770	0500	.88	7.3
1600	2.09	80	2000	6.75	3,480	1100	.74	4.3
1800	1.84	53	2100	7.84	5,020	1400	.75	4.5
			2200	7.10	3,930	1900	.68	3.5
						2400	.62	2.6

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

San Mateo Creek near San Clemente, Calif. (11-463)

Hour	Gage height	Discharge
Nov. 21 (mean, zero)		
2400		0
Nov. 22 (mean, 1,200 cfs)		
1100		0
1200	5.01	117
1300	5.43	208
1400	6.68	738
1600	6.82	824
1700	7.23	1,110
1800	8.25	2,100
1900	8.75	2,740
2000	9.71	4,320
2100	9.92	4,740
2200	9.77	4,440
2300	10.10	5,100
2400	8.92	2,980
Nov. 23 (mean, 619 cfs)		
0200	8.57	2,500
0400	7.62	1,470
0600	6.70	768
0800	6.03	426
1000	5.36	212
1200	5.05	149
1500	4.71	94
1900	4.50	68
2400	4.30	50
Nov. 24 (mean, 42 cfs)		
0600	4.17	40
Nov. 24--Continued		
1200	4.06	33
1400	4.03	30
1800	4.21	43
2000	4.44	56
2400	4.30	47
Nov. 25 (mean, 46 cfs)		
0800	4.27	42
1300	4.43	56
2400	4.23	34
Nov. 26 (mean, 24 cfs)		
1200	4.10	22
2400	4.02	16
Nov. 27 (mean, 14 cfs)		
Dec. 28 (mean, 6.9 cfs)		
2400	3.85	6.9
Dec. 29 (mean, 646 cfs)		
1000	3.85	6.9
1400	3.99	12
1600	5.92	362
1700	6.60	690
1800	7.18	1,080
1900	8.12	1,970
2000	8.79	2,790
2100	9.24	3,460
Dec. 29--Continued		
2200	8.76	2,750
2300	7.67	1,470
2400	7.43	1,280
Dec. 30 (mean, 208 cfs)		
0200	6.41	576
0400	5.86	344
0600	5.42	218
0800	5.01	137
1000	4.85	115
1100	4.65	92
1700	4.45	70
2400	4.40	64
Dec. 31 (mean, 74 cfs)		
1200	4.45	74
2400	4.50	86
Jan. 1 (mean, 84 cfs)		
1200	4.45	84
2400	4.40	80
Jan. 2 (mean, 76 cfs)		
1200	4.37	78
2400	4.29	69
Jan. 3 (mean, 69 cfs)		

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
San Juan Creek near San Juan Capistrano, Calif. (11-465)								
Nov. 21 (mean, zero)			Nov. 24 (mean, 106 cfs)			Dec. 29--Continued		
2400		0	0400	1.42	78	2400	4.05	1,800
Nov. 22 (mean, 253 cfs)			1100	1.31	70	Dec. 30 (mean, 617 cfs)		
1600		0	1800	1.40	100	0100	3.78	1,530
1700	1.35	.2	2000	1.67	170	0200	3.42	1,170
1900	1.28	.1	2200	1.86	255	0400	3.22	978
1900	1.72	2.8	2400	1.68	163	0600	3.02	798
2100	2.09	29	Nov. 25 (mean, 123 cfs)			0900	2.77	596
2200	2.27	79	0700	1.48	100	1200	2.64	492
2300	6.60	4,180	1300	1.53	108	1500	2.50	385
2400	6.00	3,660	1800	1.38	66	1900	2.39	314
Nov. 23 (mean, 998 cfs)			2400	1.31	50	2400	2.28	255
0100	5.31	3,050	Nov. 26 (mean, 36 cfs)			Dec. 31 (mean, 163 cfs)		
0200	4.69	2,440	Dec. 28 (mean, 4.1 cfs)			0400	2.19	210
0300	4.78	2,530	2400	1.30	3.8	0700	2.10	170
0400	4.50	2,250	Dec. 29 (mean, 205 cfs)			1500	2.01	140
0600	3.92	1,670	1700	1.35	6.0	2400	1.95	120
0800	3.40	1,150	1900	1.80	50	Jan. 1 (mean, 87 cfs)		
1100	2.96	748	2100	1.68	39	0900	1.84	89
1200	2.92	724	2200	4.20	1,950	0900	1.71	89
1300	2.60	484	2300	4.08	1,820	2400	1.64	64
1500	2.25	270				Jan. 2 (mean, 50 cfs)		
1800	1.86	140						
2400	1.52	83						
City Creek near Highland, Calif. (11-558)								
Nov. 21			Nov. 22--Continued			Nov. 22--Continued		
2400	2.09	2.5	0800	2.14	3.9	1800	4.28	422
Nov. 22 (mean, 322 cfs)			1000	2.96	62	2000	5.86	1,310
0400	2.08	2.5	1200	3.31	122	2200	5.40	1,010
			1400	3.56	180	2400	4.93	705
			1600	4.22	398			

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
City Creek near Highland, Calif. (11-558) - Continued								
Nov. 23 (mean, 409 cfs)			Nov. 26--Continued			Dec. 29--Continued		
0200	5.08	770	0400	3.76	104	1800	4.57	545
0400	4.64	520	0600	3.62	90	1900	5.59	1,120
0600	4.48	438	0800	3.50	75	2000	5.23	908
0800	4.35	372	1000	3.22	45	2200	4.98	758
1000	4.48	406	1200	3.09	43	2400	4.35	450
1200	4.51	402	1800	3.00	42			
1800	4.41	352	2400	2.99	41	Dec. 30 (mean, 195 cfs)		
2000	4.23	275						
2200	4.01	193	Nov. 27 (mean, 39 cfs)			0200	4.18	366
2400	3.82	136				0400	4.07	310
			1200	2.81	39	0600	3.99	264
Nov. 24 (mean, 144 cfs)			2400	2.72	38	0800	3.91	208
						1000	3.85	178
0200	3.71	106	Nov. 28 (mean, 32 cfs)			1200	3.79	155
0400	3.64	88				1400	3.66	132
0800	3.58	74	1200	2.58	30	1800	3.55	114
1200	3.61	72	2400	2.48	29	2400	3.46	100
1400	3.70	86						
1600	3.90	124	Nov. 29 (mean, 25 cfs)			Dec. 31 (mean, 144 cfs)		
1800	4.44	268						
2000	4.48	292	1200	2.42	24	0600	3.37	90
2200	4.41	278	2400	2.38	22	1200	3.34	88
2400	4.31	241				1400	3.48	116
			Nov. 30 (mean, 20 cfs)			1600	3.81	199
Nov. 25 (mean, 137 cfs)						1800	3.91	235
			1200	2.33	20	2000	4.02	278
0200	4.09	152	2400	2.30	18	2200	3.81	217
0400	3.74	100				2400	3.57	182
0600	3.69	91	Dec. Dec. 28					
0800	3.81	112				Jan. 1 (mean, 192 cfs)		
1000	3.70	91	2400	2.11	7.9			
1200	3.62	78				0200	3.48	140
1400	3.84	112	Dec. 29 (mean, 276 cfs)			0800	3.40	124
1600	4.11	170				1400	3.36	116
1800	4.24	208	0200	2.11	7.9	1600	3.79	223
2000	4.13	180	0600	2.16	9.3	1800	3.92	264
2400	3.97	145	0800	2.24	12	2000	4.07	316
			1000	2.60	31	2200	4.19	358
Nov. 26 (mean, 65 cfs)			1200	3.00	74	2400	4.15	344
			1400	4.01	324			
0200	3.85	124	1600	3.67	211			

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
City Creek near Highland, Calif. (11-558) - Continued								
Jan. 2 (mean, 197 cfs)			Jan. 2--Continued			Jan. 3--Continued		
0200	4.03	306	2400	3.37	120	1800	3.18	88
0600	3.89	257				2400	3.11	78
0800	3.71	202	Jan. 3 (mean, 98 cfs)					
1200	3.63	180				Jan. 4 (mean, 68 cfs)		
1600	3.51	150	0600	3.30	108			
2000	3.43	132	1200	3.25	98	1200	3.02	67
						2400	2.95	58
San Timoteo Creek near Redlands, Calif. (11-570)								
Nov. 15 (mean, zero)			Nov. 18--Continued			Nov. 23--Continued		
2400		0	1200		0	0200	3.50	842
			2400		0	0400	3.27	712
Nov. 16 (mean, 8.5 cfs)						0600	3.00	565
			Nov. 21 (mean, zero)			0900	2.68	408
1800		0				1200	2.34	264
1900	1.07	2.6	2400		0	1500	2.02	151
2000	1.15	6.4				1800	1.70	65
2100	1.33	22	Nov. 22 (mean, 310 cfs)			2100	1.40	15
2300	1.65	84				2400	1.12	.9
2400	1.61	74	0700		0			
			0800	1.24	13	Nov. 24 (mean, 6.7 cfs)		
Nov. 17 (mean, 5.3 cfs)			1000		50			
			1100	1.93	164	0300	.90	.1
0200	1.35	24	1200	1.80	124	0900		0
0400	1.05	2.1	1400	2.13	222	1500	.90	.1
0600	.80	.1	1500	1.87	130	1600	1.08	.6
0800		0	1600	2.01	167	1900	1.08	.6
2400		0	1700	2.30	264	2000	1.74	74
			1900	2.70	426	2100	1.67	59
Nov. 18 (mean, 0.2 cfs)			2000	3.05	596	2200	1.37	13
			2100	3.75	1,010	2400	1.19	2.6
0200		0	2400	4.22	1,360			
0200	.80	.1				Nov. 25 (mean, 4.0 cfs)		
0600	.92	.4	Nov. 23 (mean, 357 cfs)					
0900	1.02	1.5				0900	1.04	0.3
1100	.75	.1	0100	3.85	1,080	1100	1.40	15

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
San Timoteo Creek near Redlands, Calif. (11-570) - Continued								
Nov. 25--Continued			Dec. 28			Dec. 29--Continued		
1300	1.26	5.3	2400	0.97	0.2	2400	1.70	65
1500	1.10	.8						
1500	1.28	6.4	Dec. 29 (mean, 46 cfs)			Dec. 30 (mean, 9.1 cfs)		
2100	1.25	4.8						
2400	1.07	.6	1700	.97	.2	0500	1.31	7.9
			1800	1.45	21	1200	1.10	.8
Nov. 26 (mean, zero)			1900	1.70	65	2400		0
			2000	2.15	194			
0100		0	2100	2.87	500			
2400		0	2200	2.10	177			
San Jacinto River near San Jacinto, Calif. (11-695)								
Nov. 21 (mean, 1.1 cfs)			Nov. 23--Continued			Nov. 25--Continued		
2400	2.88	1.0	0600	9.47	4,440	2400	4.34	192
			0800	8.64	3,570			
Nov. 22 (mean, 1,170 cfs)			1000	7.74	2,760	Nov. 26 (mean, 137 cfs)		
			1200	6.84	2,010			
0800	2.88	1.0	1400	6.20	1,610	1200	4.15	130
1100	3.00	3.0	1600	5.57	1,000	2400	4.01	92
1200	3.23	10	1800	5.03	595			
1300	3.28	14	2100	4.90	505	Nov. 27 (mean, 73 cfs)		
1400	3.95	76	2400	4.80	440			
1500	4.50	188				1200	3.94	70
1600	7.34	1,870	Nov. 24 (mean, 332 cfs)			2400	3.88	63
1700	8.69	3,210						
1800	8.34	2,860	0600	4.63	372	Nov. 28 (mean, 53 cfs)		
2000	8.26	2,780	1200	4.52	328			
2100	8.92	3,440	1800	4.44	276	Nov. 29 (mean, 37 cfs)		
2200	9.34	3,930	2400	4.40	260			
2300	9.58	4,220				Nov. 30 (mean, 29 cfs)		
2400	10.4	5,320	Nov. 25 (mean, 334 cfs)					
						Dec. 28		
Nov. 23 (mean, 2,380 cfs)			0300	4.65	360			
			0600	5.00	480	2400	2.72	0.3
0100	9.64	4,410	1200	4.75	380			
0400	9.60	4,480	1800	4.50	255			

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
San Jacinto River near San Jacinto, Calif. (11-695) - Continued								
Dec. 29 (mean, 95 cfs)			Dec. 30--Continued			Jan. 1 (mean, 55 cfs)		
1100	2.72	0.3	0400	4.83	292	1200	3.85	54
1400	3.20	7.2	0700	4.61	213	2400	3.76	45
1800	3.62	31	1200	4.42	160			
2100	4.32	135	1800	4.28	126	Jan. 2 (mean, 45 cfs)		
2200	5.55	605	2400	4.16	102			
2300	6.05	890				Jan. 3 (mean, 37 cfs)		
2400	5.83	758	Dec. 31 (mean, 81 cfs)					
Dec. 30 (mean, 211 cfs)			1200	4.03	78			
			2400	3.95	66			
0200	5.09	396						
San Antonio Creek near Claremont, Calif. (11-730)								
Nov. 16			Nov. 20 (mean, 12 cfs)			Nov. 23 (mean, 469 cfs)		
2400	1.38	2.5	1200	1.67	12	0200	4.18	1,000
			2400	1.56	7.4	0400	3.52	564
Nov. 17 (mean, 31 cfs)						0600	3.50	552
			Nov. 21 (mean, 5.2 cfs)			0800	3.58	597
0200	1.74	13				1000	3.09	356
0600	2.10	37	1200	1.44	4.9	1200	3.18	394
1200	1.84	18	2400	1.39	3.7	1400	3.09	356
1600	1.98	27				1600	2.77	238
2000	2.25	53	Nov. 22 (mean, 648 cfs)			2400	2.74	228
2400	2.28	57						
			0400	1.39	3.7	Nov. 24 (mean, 425 cfs)		
Nov. 18 (mean, 44 cfs)			0800	1.52	7.0			
			1000	1.99	34	0200	2.65	216
0300	2.53	94	1200	2.27	67	0400	2.74	244
0600	2.30	58	1400	3.05	248	0600	2.91	304
1200	2.08	34	1600	4.04	726	0800	3.05	360
1800	1.96	25	1800	5.31	1,760	1000	3.12	390
2400	1.96	25	1900	6.08	2,300	1200	3.24	445
			2000	5.88	2,220	1400	3.47	563
Nov. 19 (mean, 22 cfs)			2200	5.24	1,790	1600	3.48	569
			2400	4.89	1,520	1800	3.38	515
1200	1.91	24				2000	3.55	609
2400	1.79	16				2200	3.30	474

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
San Antonio Creek near Claremont, Calif. (11-730) - Continued								
Nov. 24--Continued			Nov. 29 (mean, 190 cfs)			Dec. 30--Continued		
2400	3.53	597	0800	2.52	185	1200	2.89	316
Nov. 25 (mean, 435 cfs)			1400	2.50	179	1600	3.05	381
0200	3.31	505	1600	2.57	198	1800	2.73	257
0800	3.28	489	2400	2.50	179	2000	2.59	213
1000	3.02	368	Nov. 30 (mean, 167 cfs)			2200	2.87	308
1200	3.22	460	1200	2.46	166	2400	2.56	177
1400	3.07	390	1400	2.42	156	Dec. 31 (mean, 246 cfs)		
1600	3.12	412	1800	2.44	162	0200	2.93	312
2000	3.07	390	2400	2.44	162	0400	2.77	254
2400	2.88	312	Dec. 28			0600	2.40	149
Nov. 26 (mean, 227 cfs)			2400	1.71	15	0800	2.60	201
0200	2.68	240	Dec. 29 (mean, 943 cfs)			1000	2.68	225
1400	2.58	210	0200	1.74	17	1200	2.87	289
1600	2.67	238	0400	1.77	21	1600	2.79	261
1800	2.46	177	0600	1.88	33	1800	2.82	271
2000	2.52	193	0800	2.00	51	2400	2.73	241
2200	2.76	268	1000	2.29	124	Jan. 1 (mean, 188 cfs)		
2400	2.68	240	1200	3.06	364	0200	2.37	131
Nov. 27 (mean, 229 cfs)			1400	4.17	996	0300	2.78	241
0400	2.59	216	1600	6.24	2,460	0400	2.50	262
0600	2.66	238	1800	6.27	2,500	0600	2.38	133
0800	2.69	247	1900	6.36	2,590	0800	2.67	207
1000	2.59	216	2000	5.82	2,160	1000	2.61	190
1400	2.67	241	2200	5.16	1,760	1200	2.65	201
2200	2.57	210	2400	4.69	1,380	1400	2.62	193
2400	2.69	247	Dec. 30 (mean, 320 cfs)			1600	2.70	216
Nov. 28 (mean, 213 cfs)			0200	3.27	484	1800	2.46	152
0200	2.59	210	0400	2.92	327	2000	2.53	169
0600	2.65	228	0600	3.02	368	2200	2.51	164
1600	2.55	198	0800	3.06	386	2400	2.60	188
2400	2.60	213	1000	3.08	394	Jan. 2 (mean, 231 cfs)		
						0400	2.76	250
						0600	2.66	219

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
San Antonio Creek near Claremont, Calif. (11-730) - Continued								
Jan. 2--Continued			Jan. 3 (mean, 222 cfs)			Jan. 4 (mean, 192 cfs)		
0800	2.40	149	0400	2.73	241	1200	2.59	185
1000	2.60	201	0600	2.63	210	2400	2.54	172
1200	2.75	248	0800	2.70	231			
1400	2.68	225	1400	2.61	204			
1600	2.79	261	1600	2.71	234			
1800	2.81	268	1800	2.59	198			
2200	2.74	244	2000	2.58	196			
2400	2.82	271	2400	2.68	225			
Santa Ana River at Santa Ana, Calif. (11-780)								
Nov. 13			Nov. 15--Continued			Nov. 17 (mean, 7.3 cfs)		
2400		0	1700	1.85	20	0600	1.65	6.3
			1800	2.14	57	0700	1.67	7.3
Nov. 14 (mean, 30 cfs)			1900	2.34	96	0800	2.01	38
			2000	2.25	77	0900	1.83	18
1600	2.22	71	2100	2.03	40	1000	1.72	10
1700	2.14	57	2400	1.88	23	1200	1.56	2.7
1800	2.02	39				1300	1.58	3.4
1900	2.16	61	Nov. 16 (mean, 13 cfs)			1500	1.54	2.4
2000	2.35	98				1500	1.66	7.9
2100	2.45	124	0100	1.99	35	1800	1.59	4.3
2200	2.56	156	0200	2.03	40	2100	1.58	3.9
2300	2.40	110	0300	2.03	40	2300	1.61	5.3
2400	2.15	59	0400	1.85	20	2400	1.69	9.7
			0500	1.73	11			
Nov. 15 (mean, 26 cfs)			0600	1.73	11	Nov. 18 (mean, 2.1 cfs)		
			0700	1.64	5.8			
0200	1.93	28	0800	1.64	5.8	0400	1.54	2.7
0400	1.79	15	0900	1.69	8.5	1200	1.47	1.2
0600	1.72	10	1000	1.65	6.3	2400	1.43	.5
0900	1.64	5.8	1200	1.75	12			
1000	1.75	12	1300	1.88	23	Nov. 19 (mean, 0.4 cfs)		
1200	1.68	7.9	1500	1.72	10			
1400	1.65	6.3	1700	1.64	5.8	1300	1.43	0.5
1400	1.93	28	2400	1.63	5.3	2400	1.39	.1
1500	1.85	20						
1600	1.75	12						

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Santa Ana River at Santa Ana, Calif. (11-780) - Continued

Hour	Gage height	Discharge
Nov. 20 (mean, 0.1 cfs)		
1200	1.37	0.1
2400	1.37	.1
Nov. 21 (mean, 0.1 cfs)		
1100	1.37	.1
2400	1.35	.1
Nov. 22 (mean 252 cfs)		
0300	1.37	.1
0500	1.50	2.0
0600	1.85	25
0600	1.80	20
0700	1.84	24
0800	2.20	77
0900	2.73	230
1000	2.92	307
1100	2.75	238
1300	2.85	278
1300	2.96	325
1400	2.93	312
1400	3.07	380
1600	2.82	278
1700	2.70	230
1800	3.21	492
1900	3.35	582
2000	3.44	645
2100	3.36	589
2200	3.11	456
2400	3.04	415
Nov. 23 (mean, 72 cfs)		
0100	3.16	504
0200	2.96	390
0300	2.68	262
0400	2.33	150
0500	1.97	64
0700	1.76	36
Nov. 23--Continued		
0800	1.60	19
1000	1.46	11
1200	1.32	4.8
1400	1.17	.4
1600	1.05	0
2400		0
Nov. 24 (mean, 470 cfs)		
0800		0
1000	1.15	.8
1100	1.48	18
1200	1.89	81
1300	2.15	147
1300	3.50	901
1400	3.25	715
1500	5.77	3,300
1500	4.85	2,900
1600	4.05	1,600
1700	3.57	1,040
1800	3.27	792
1900	2.96	575
2100	3.08	659
2200	2.91	540
2300	2.95	568
2300	2.80	474
2400	3.95	1,440
Nov. 25 (mean, 580 cfs)		
0100	3.43	1,000
0200	3.07	708
0300	2.89	582
0500	2.83	540
0700	2.81	528
1200	2.83	540
2400	2.79	516
Nov. 26 (mean, 625 cfs)		
0300	2.79	575
0600	2.77	624
1200	2.75	610
1800	2.73	659
2400	2.69	694
Nov. 27 (mean, 650 cfs)		
1000	2.60	631
1200	2.63	652
1500	2.78	757
1600	2.67	680
1800	2.59	624
2400	2.50	561
Nov. 28 (mean, 563 cfs)		
0400	2.40	596
0500	2.65	701
0600	2.53	617
0800	2.40	596
1200	2.36	504
1800	2.44	554
2400	2.43	547
Nov. 29 (mean, 586 cfs)		
0600	2.46	582
1000	2.47	589
1500	2.54	638
1800	2.44	568
2100	2.46	582
2400	2.44	568
Nov. 30 (mean, 562 cfs)		
0600	2.41	561
0800	2.36	528
1100	2.24	456
1300	2.40	544

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Santa Ana River at Santa Ana, Calif. (11-780) - Continued

Hour	Gage height	Discharge
Nov. 30--Continued		
1500	2.59	673
1700	2.50	624
1900	2.42	568
2400	2.41	561
Dec. 29 (mean, 70 cfs)		
Dec. 30 (mean, 198 cfs)		
2400		17
1300		2
1400	1.55	27
1400	4.00	1,400
1500	1.85	77
1600	3.00	575
1700	2.26	222
1800	2.22	226
1900	2.27	266
2000	3.65	1,250
2100	2.45	370
Dec. 30--Continued		
2400	2.40	370
Dec. 31 (mean, 659 cfs)		
0800	2.26	325
0900	4.20	2,550
1000	2.42	729
1400	2.46	757
1500	2.36	687
1900	2.39	708
2400	2.35	680
Jan. 1 (mean, 713 cfs)		
1200	2.45	750
2400	2.34	673
Jan. 2 (mean, 700 cfs)		
1200	2.35	680
Jan. 2--Continued		
1800	2.45	750
2400	2.40	715
Jan. 3 (mean, 698 cfs)		
1200	2.41	722
1800	2.36	687
2400	2.25	610
Jan. 4 (mean, 386 cfs)		
0600	2.19	415
1200	2.31	350
1800	2.31	350
2400	2.23	250

East Fork San Gabriel River near Camp Bonita, Calif. (11-805)

Hour	Gage height	Discharge
Nov. 13		
2400	7.73	11
Nov. 14 (mean, 14 cfs)		
1200	7.74	12
1500	7.76	13
2300	7.88	20
2400	7.88	20
Nov. 15 (mean, 27 cfs)		
0200	7.88	20
0400	7.92	24
1200	7.93	23
Nov. 15--Continued		
1500	8.00	29
1600	8.06	34
2000	8.05	32
2400	8.13	38
Nov. 16 (mean, 50 cfs)		
1000	8.08	34
1300	8.17	39
1530	8.18	33
1600	8.47	69
1600	8.23	39
2300	8.53	102
2400	8.66	134
Nov. 17 (mean, 684 cfs)		
0030	8.90	200
0100	8.75	163
0130	8.87	175
0200	8.84	173
0230	9.00	257
0300	9.27	359
0400	9.62	548
0500	9.97	784
0530	10.33	973
0600	10.19	988
0700	10.83	2,260
0730	10.43	1,370
0800	10.03	966
0900	9.53	652

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

East Fork San Gabriel River near Camp Bonita, Calif. (11-805) - Continued

Hour	Gage height	Discharge
Nov. 17--Continued		
1000	9.35	553
1100	9.18	472
1300	9.07	428
1500	8.89	359
1700	9.06	437
1800	9.12	472
1900	9.46	658
2000	9.47	664
2030	9.44	652
2100	9.64	778
2200	10.04	1,050
2230	10.60	1,960
2300	10.36	1,460
2330	10.24	1,280
2400	10.30	1,360
Nov. 18 (mean, 599 cfs)		
0100	10.28	1,330
0200	9.96	1,010
0300	9.72	848
0400	9.54	747
0500	9.56	759
0600	9.62	803
0900	9.50	747
1000	9.39	687
1200	9.19	580
1400	9.04	507
1500	9.14	451
1700	9.22	329
1900	9.22	267
2400	9.29	277
Nov. 19 (mean, 239 cfs)		
0900	9.34	264
1600	9.26	221
1700	9.25	213
2400	9.19	184
Nov. 20 (mean, 147 cfs)		
1200	9.08	140
2400	9.00	123
Nov. 21 (mean, 114 cfs)		
1200	897	114
2400	8.93	106
Nov. 22 (mean, 2,280 cfs)		
0130	8.90	101
0500	8.92	104
0600	8.94	110
0800	9.07	178
1000	9.38	325
1130	9.76	548
1200	9.69	574
1230	10.00	741
1300	9.57	522
1330	10.17	914
1400	11.14	1,960
1500	11.50	2,840
1530	11.97	4,160
1600	11.42	3,250
1700	11.98	4,740
1800	12.25	5,330
1830	12.84	6,900
1930	13.26	8,200
2000	12.82	6,960
2030	12.39	5,820
2130	11.97	4,950
2200	11.88	4,770
2330	12.17	5,350
2400	11.92	4,840
Nov. 23 (mean, 2360)		
0030	11.90	4,810
0100	11.90	4,810
Nov. 23--Continued		
0130	11.65	4,280
0200	11.33	3,640
0300	11.27	3,530
0330	10.90	2,890
0400	11.13	3,270
0500	10.89	2,840
0700	10.82	2,730
0900	10.61	2,400
1100	10.44	2,170
1300	10.33	2,020
1530	10.11	1,760
1700	10.01	1,650
1900	9.98	1,610
2200	9.91	1,530
2400	9.89	1,510
Nov. 24 (mean, 1,930 cfs)		
0400	9.87	1,490
0500	9.90	1,520
0800	10.02	1,660
1230	10.07	1,720
1430	10.57	2,790
1530	10.93	3,400
1600	10.61	2,780
1630	10.80	3,000
1700	10.63	2,700
1800	10.48	2,400
2030	10.32	2,040
2130	10.17	1,810
2400	10.15	1,700
Nov. 25 (mean, 1,520 cfs)		
0130	10.13	1,670
0300	10.07	1,580
0400	10.06	1,570
0500	10.10	1,610
0630	10.22	1,750

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

East Fork San Gabriel River near Camp Bonita, Calif. (11-805) - Continued

Hour	Gage height	Discharge
Nov. 25--Continued		
0700	10.15	1,670
0900	10.23	1,760
1000	9.92	1,410
1100	9.98	1,480
1200	10.08	1,590
1430	10.06	1,570
1600	9.98	1,480
2400	9.73	1,210
Nov. 26 (mean, 996 cfs)		
1200	9.44	938
1230	9.42	920
1400	9.53	1,020
1600	9.50	994
1800	9.53	1,020
2200	9.17	739
2400	9.23	816
Nov. 27 (mean, 697 cfs)		
1200	9.30	682
2400	9.35	609
Nov. 28 (mean, 560 cfs)		
1200	9.29	554
2400	9.24	521
Nov. 29 (mean, 506 cfs)		
1200	9.24	521
Nov. 29--Continued		
1400	9.34	588
1630	9.17	470
2200	9.42	402
2300	9.78	581
2400	9.86	588
Nov. 30 (mean, 490 cfs)		
1200	9.98	463
2400	9.95	446
Dec. 28		
2400	9.05	127
Dec. 29 (mean, 2,600 cfs)		
0400	9.11	134
0600	9.18	142
0800	9.61	229
0830	9.88	316
0900	10.28	518
1000	10.31	539
1030	10.77	953
1200	11.25	1,700
1330	11.65	2,470
1400	11.97	3,160
1500	12.95	5,870
1600	13.88	9,760
1630	13.30	7,340
1700	13.53	8,470
1730	13.21	7,170
Dec. 29--Continued		
1800	13.39	8,000
1900	12.63	5,300
2100	11.96	3,830
2200	11.58	3,140
2400	11.35	2,870
Dec. 30 (mean, 1,970 cfs)		
0400	11.35	2,780
0500	10.99	2,640
0800	10.49	2,090
0900	10.35	1,830
1000	10.26	1,520
1030	10.37	1,610
1230	10.34	1,580
1400	10.38	1,620
2200	10.37	1,610
2300	10.35	1,590
2400	10.35	1,590
Dec. 31 (mean, 1,140 cfs)		
0100	10.35	1,590
0400	10.06	1,280
0730	9.92	1,158
1100	9.85	1,090
1400	9.88	1,070
1930	9.78	905
2000	9.89	992
2100	9.99	1,060
2400	9.91	944

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Los Angeles River at Sepulveda Dam, Calif. (11-924.5)								
Nov. 13			Nov. 16 (mean, 1,960 cfs)			Nov. 18 (mean, 569 cfs)		
2400	0.35	12	0100	2.75	1,580	0300	1.47	469
Nov. 14 (mean, 495 cfs)			0300	2.05	920	0400	2.20	1,050
0300	0.38	14	0500	1.80	720	0500	2.61	1,440
0500	.54	30	0600	1.79	712	0600	2.29	1,130
0700	1.00	165	0700	1.47	469	0700	2.15	1,000
1000	.90	115	1000	1.39	413	0800	1.80	720
1300	.67	54	1100	2.08	944	0900	1.48	476
1400	.67	54	1300	3.50	2,350	2400	1.32	364
1500	.90	115	1430	4.27	3,220			
1600	1.73	664	1630	3.70	2,570	Nov. 19 (mean, 247 cfs)		
1700	2.23	1,080	1800	3.26	2,090			
1900	1.84	752	2000	3.17	2,000	1200	1.15	250
2000	2.35	1,180	2130	2.78	1,610	2400	.92	125
2100	2.80	1,630	2300	6.25	5,740			
2200	3.44	2,280	2400	9.65	10,880	Nov. 20 (mean, 68 cfs)		
2300	2.95	1,780	Nov. 17 (mean, 3,670 cfs)					
2400	2.05	920				1200	.70	60
Nov. 15 (mean, 982 cfs)			0100	9.75	11,020	2400	.53	28
			0200	9.83	11,100	Nov. 21 (mean, 13 cfs)		
0200	1.54	518	0300	9.90	11,200			
0400	3.11	1,940	0400	9.00	9,800	1200	.33	10
0500	2.80	1,710	0500	6.20	5,670	2400	.16	2.4
0600	2.25	1,100	0600	4.20	3,140			
0700	1.74	672	0700	3.40	2,240	Nov. 22 (mean, 3,820 cfs)		
0900	1.50	490	0800	3.51	2,360			
1100	1.25	315	1000	2.16	1,010	0600	.08	0.6
1200	1.11	226	1200	2.06	928	0800	2.35	1,180
1500	1.17	262	1500	3.12	1,950	0900	3.50	2,350
1700	1.05	192	1600	4.03	2,940	1000	5.58	4,860
1900	1.24	308	1800	4.35	3,320	1100	5.19	4,360
2000	1.25	315	2000	2.94	1,770	1200	6.08	5,510
2100	3.70	2,570	2100	2.23	1,080	1300	6.64	6,280
2200	4.36	3,330	2200	1.98	864	1400	8.64	9,260
2300	4.86	3,930	2400	1.59	553	1600	7.99	8,280
2400	3.80	2,680				1700	7.68	7,820
						1800	6.88	6,620
						1900	7.34	7,310

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Los Angeles River at Sepulveda Dam, Calif. (11-924.5) - Continued

Hour	Gage height	Discharge
Nov. 22--Continued		
2000	6.50	6,080
2100	5.18	4,340
2200	5.39	4,620
2300	3.75	2,620
2400	2.98	1,810
Nov. 23 (mean, 811 cfs)		
0100	2.38	1,210
0300	1.78	704
0700	1.95	840
0800	3.40	2,240
0900	3.96	2,860
1000	2.55	1,380
1100	1.90	800
1200	1.52	504
1500	1.32	364
1600	2.08	944
1700	1.50	490
1800	1.20	280
2100	1.07	204
2300	1.07	204
2400	2.60	1,430
Nov. 24 (mean, 1,410 cfs)		
0100	2.46	1,290
0200	3.75	2,620
0300	2.60	1,430
0500	2.01	888
0600	2.45	1,280
0700	3.70	2,570
0800	6.53	6,120
0900	5.45	4,700
1000	4.02	2,920
1100	2.95	1,780
1300	2.33	1,170
1500	1.64	592
2000	1.02	176
2400	.87	106
Nov. 25 (mean, 335 cfs)		
0500	0.83	94
0600	1.85	760
0700	3.66	2,530
0800	2.35	1,180
0900	1.65	600
1000	1.36	392
1200	1.12	232
1800	.90	115
2400	.75	72
Nov. 26 (mean, 42 cfs)		
Nov. 27 (mean, 19 cfs)		
Nov. 28 (mean, 12 cfs)		
Nov. 29 (mean, 11 cfs)		
Nov. 30 (mean, 21 cfs)		
Dec. 27		
2400	0.27	6.9
Dec. 28 (mean, 15 cfs)		
1800	0.29	7.9
2100	.30	8.5
2200	.60	40
2300	.75	72
2400	1.05	192
Dec. 29 (mean, 6,570 cfs)		
0100	1.85	760
0200	2.15	1,000
0300	2.66	1,490
0400	2.75	1,580
0500	3.45	2,300
0600	4.75	3,800
Dec. 29--Continued		
0700	7.50	7,550
0800	9.09	9,940
0900	9.51	10,600
1000	10.90	12,800
1100	10.54	12,200
1200	10.98	13,000
1300	10.39	12,000
1400	10.75	12,500
1500	10.73	12,500
1600	10.11	11,600
1700	9.81	11,120
1800	8.55	9,120
1900	5.40	4,630
2000	3.65	2,520
2100	2.95	1,780
2200	2.48	1,310
2300	2.20	1,050
2400	1.95	840
Dec. 30 (mean, 322 cfs)		
0200	1.60	560
0300	1.50	490
0900	1.42	434
1200	1.19	274
1800	.95	140
2100	.90	115
2400	.90	115
Dec. 31 (mean, 105 cfs)		
0200	.93	130
0800	.83	94
1200	.91	120
1800	.85	100
2400	.76	75

Table 3.--Flood hydrograph data for selected gaging stations--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Los Angeles River at Sepulveda Dam, Calif. (11-924.5) - Continued								
Jan. 1 (mean, 54 cfs)			Jan. 2 (mean, 30 cfs)			Jan. 3 (mean, 24 cfs)		
1200	.66	52	1200	.51	28	1200	.47	24
2400	.58	36	2400	.48	26	2400	.46	22
Arroyo Seco near Pasadena, Calif. (11-980)								
Nov. 15			Nov. 18 (mean, 175 cfs)			Nov. 22--Continued		
2400	1.10	13	0100	3.56	358	1000	1.93	55
			0200	3.76	445	1100	2.23	83
Nov. 16 (mean, 29 cfs)			0600	3.28	263	1200	2.50	113
			0900	2.73	145	1300	3.10	216
0400	1.07	12	1400	2.34	94	1400	4.42	862
1100	.98	9.6	1900	2.18	78	1500	5.32	1,800
1300	1.20	16	2400	1.98	59	1500	4.26	741
1500	1.63	35				1600	4.82	1,230
1800	2.00	61	Nov. 19 (mean, 42 cfs)			1700	5.21	1,670
2100	1.93	55				1900	5.57	2,110
2200	1.77	44	0600	1.84	49	2000	6.33	3,160
2300	1.90	53	1200	1.72	40	2100	5.42	1,920
2400	2.25	85	1800	1.63	36	2200	4.97	1,400
			2400	1.53	30	2300	4.80	1,210
Nov. 17 (mean, 359 cfs)						2400	4.42	862
			Nov. 20 (mean, 26 cfs)					
0100	2.60	126				Nov. 23 (mean, 280 cfs)		
0200	3.15	228	1200	1.41	25			
0400	3.63	387	2400	1.32	22	0100	3.95	543
0600	3.25	255				0200	3.65	396
1000	2.78	153	Nov. 21 (mean, 18 cfs)			0400	3.27	261
1100	2.88	170				0600	3.08	212
1300	2.80	156	1200	1.22	18	0700	3.25	255
1600	3.15	228	2400	1.18	16	1000	3.35	284
1800	3.90	515				1600	3.17	234
1900	4.30	769	Nov. 22 (mean, 742 cfs)			1900	3.24	252
2000	4.60	1,020				2200	3.05	205
2200	4.23	719	0700	1.23	18	2400	3.08	212
2400	3.78	455	0900	1.55	32			

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Arroyo Seco near Pasadena, Calif. (11-980) - Continued								
Nov. 24 (mean, 373 cfs)			Nov. 28 (mean, 99 cfs)			Dec. 29--Continued		
0300	3.13	224	1200	2.18	93	2200	3.37	332
0500	3.05	205	1400	2.22	98	2400	3.18	261
0800	3.45	318	2400	2.18	93			
0900	3.90	515				Dec. 30 (mean, 165 cfs)		
1000	4.30	769	Nov. 29 (mean, 80 cfs)					
1100	3.94	595				0400	3.03	216
1300	3.71	521	1200	2.10	79	0800	2.80	165
1500	3.40	417	2400	2.00	69	1100	2.76	158
2000	3.13	328				1500	2.65	139
2100	3.24	370	Nov. 30 (mean, 63 cfs)			2000	2.57	127
2400	3.17	343				2400	2.53	122
			1400	2.09	62			
Nov. 25 (mean, 288 cfs)			2400	2.05	59	Dec. 31 (mean, 118 cfs)		
0500	3.06	307	Dec. 28			0300	2.57	125
0700	3.18	351				0600	2.48	113
1200	2.98	281	2400	1.05	12	1000	2.58	126
1800	2.87	249				1900	2.47	112
2400	2.82	236	Dec. 29 (mean, 701 cfs)			2100	2.49	114
						2400	2.42	106
Nov. 26 (mean, 192 cfs)			0200	1.05	12			
			0400	1.58	36	Jan. 1 (mean, 98 cfs)		
1200	2.63	178	0600	2.17	87			
1600	2.65	182	0800	2.70	174	0600	2.33	96
2400	2.58	169	1000	3.30	391	1400	2.38	101
			1200	3.83	672	2400	2.31	93
Nov. 27 (mean, 134 cfs)			1400	5.10	1,920			
			1500	5.70	2,620	Jan. 2 (mean, 92 cfs)		
1200	2.38	126	1600	6.06	3,050			
2400	2.28	113	1700	5.15	1,840	0500	2.32	94
			1800	4.50	1,190	0500	2.38	94
			2000	3.68	479	2400	2.33	87

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Piru Creek above Lake Piru, Calif. (11-1096)

Hour	Gage height	Discharge
Nov. 14		
2400	1.31	2.6
Nov. 15 (mean, 64 cfs)		
0200	1.38	4.6
0400	1.66	18
0500	2.13	66
0700	2.41	115
0900	2.27	94
1100	2.10	65
1200	2.18	77
1600	2.03	57
2300	1.96	49
2400	3.37	374
Nov. 16 (mean, 862 cfs)		
0200	3.00	258
0400	2.77	200
0900	2.60	163
1200	3.00	270
1400	3.49	456
1600	3.88	645
1800	5.02	1,360
2000	5.58	1,840
2200	6.51	2,810
2400	7.15	3,550
Nov. 17 (mean, 2,170 cfs)		
0200	6.90	3,280
0400	6.65	3,050
0600	6.46	2,910
0800	5.99	2,490
1000	5.46	2,010
1200	4.96	1,670
1400	4.86	1,550
1400	5.01	1,630
2000	5.16	1,700
2200	4.96	1,550
2400	4.70	1,300
Nov. 18 (mean, 837 cfs)		
0300	4.48	1,130
0800	4.17	942
1200	3.81	735
1600	3.89	750
2400	3.59	600
Nov. 19 (mean, 406 cfs)		
0400	3.20	420
0700	3.50	540
1200	3.06	372
1400	3.53	552
1500	2.97	340
2400	2.75	255
Nov. 20 (mean, 188 cfs)		
1200	2.51	178
2400	2.37	139
Nov. 21 (mean, 109 cfs)		
2400	2.17	90
Nov. 22 (mean, 1,090 cfs)		
0600	2.12	83
1000	2.35	125
1200	2.74	222
1400	3.32	410
1500	4.85	1,200
1700	5.50	1,730
1900	5.98	2,180
2100	6.08	2,280
2200	6.25	2,450
2300	8.60	5,620
2400	8.77	5,960
Nov. 23 (mean, 2,490 cfs)		
0100	8.85	6,100
Nov. 23--Continued		
0200	8.70	5,850
0300	8.51	5,640
0400	7.90	4,700
0600	6.45	2,900
0800	5.93	2,430
1100	5.38	1,890
1400	4.91	1,510
1700	4.47	1,180
2100	4.23	1,040
2300	4.47	1,180
2400	5.07	1,640
Nov. 24 (mean, 3,870 cfs)		
0200	5.94	2,440
0400	6.56	3,060
0600	8.05	5,180
0700	8.60	6,000
0800	9.10	7,000
0900	9.80	8,400
1000	9.70	8,200
1100	9.50	7,800
1300	7.80	4,800
1500	6.51	2,960
1700	5.99	2,380
1900	5.68	2,030
2100	5.52	1,830
2400	5.25	1,580
Nov. 25 (mean, 1,150 cfs)		
0400	5.06	1,390
0800	4.88	1,220
1200	4.73	1,100
1800	4.60	990
2400	4.43	858
Nov. 26 (mean, 690 cfs)		
1200	4.21	685
2400	4.00	560

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Piru Creek above Lake Piru, Calif. (11-1096) - Continued								
Nov. 27 (mean, 462 cfs)			Dec. 29--Continued			Dec. 31 (mean, 912 cfs)		
1200	3.84	476	1100	6.08	2,230	0600	4.12	942
2400	3.72	357	1300	6.55	2,750	1200	4.02	882
			1400	7.00	3,340	1800	4.07	882
Nov. 28 (mean, 303 cfs)			1500	9.05	6,700	2400	4.01	846
			1600	9.75	8,300			
Nov. 29 (mean, 189 cfs)			1700	10.1	9,000	Jan. 1 (mean, 726 cfs)		
			1900	9.85	8,540			
Nov. 30 (mean, 173 cfs)			2200	9.35	7,560	1200	3.84	725
			2400	8.25	5,550	2400	3.66	610
Dec. 28 (mean, 45 cfs)								
			Dec. 30 (mean, 1,880 cfs)			Jan. 2 (mean, 503 cfs)		
2400	2.36	54						
			0200	6.80	3,300	0600	3.58	552
Dec. 29 (mean, 3,930 cfs)			0400	5.80	2,390	1200	3.46	484
			0600	5.50	2,100	2400	3.37	428
0300	2.56	89	0900	5.22	1,840			
0500	3.95	188	1200	4.89	1,570	Jan. 3 (mean, 388 cfs)		
0700	5.10	1,260	1800	4.48	1,220			
0900	6.30	2,400	2400	4.24	1,040			
Sespe Creek near Fillmore, Calif. (11-1130)								
Nov. 13			Nov. 15 (mean, 390cfs)			Nov. 16--Continued		
2400	2.46	0.2	0300	3.99	142	1000	5.70	1,120
			0400	4.82	490	1100	6.22	1,650
Nov. 14 (mean, 16 cfs)			0600	5.27	810	1200	6.65	2,200
			0800	5.42	940	1300	7.15	2,900
0600	2.55	.5	1000	5.00	571	1400	7.65	3,690
1100	2.53	.4	1200	4.60	322	1500	8.05	4,460
1500	2.63	1.1	1600	4.46	266	1600	8.55	5,460
1600	2.81	3.6	2400	4.35	222	1700	9.12	6,850
1800	2.96	7.6				1900	9.32	7,350
1900	3.26	25	Nov. 16 (mean, 3,800 cfs)			2000	9.75	8,390
2000	3.48	47				2100	10.05	9,290
2100	3.69	78	0700	4.27	195	2200	10.52	10,700
2300	3.61	65	0800	4.70	370	2300	10.89	11,620
2400	4.05	159	0900	5.25	714	2400	10.74	11,360

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Sespe Creek near Fillmore, Calif. (11-1130) - Continued								
Nov. 17 (mean, 6,130 cfs)			Nov. 20 (mean, 295 cfs)			Nov. 23--Continued		
0100	10.62	11,000	0600	4.55	355	1100	7.60	3,280
0200	10.68	11,180	1200	4.38	282	1200	7.40	2,870
0300	10.58	10,880	1800	4.23	222	1300	7.24	2,650
0400	10.20	9,710	2400	4.08	174	1500	7.00	2,310
0500	9.74	8,300				1700	6.88	2,150
0600	9.12	6,800	Nov. 21 (mean, 122 cfs)			2000	6.95	2,240
0700	8.74	5,800				2100	7.23	2,640
0800	8.39	5,060	0800	3.93	132	2200	8.26	4,340
1000	7.99	4,260	1600	3.81	105	2300	9.04	5,980
1200	7.92	4,120	2400	3.72	87	2400	10.00	8,330
1400	8.33	4,940						
1500	8.56	5,400	Nov. 22 (mean, 4,900 cfs)			Nov. 24 (mean, 9,540 cfs)		
1600	8.29	4,860						
1700	7.99	4,260	1000	3.70	80	0100	10.46	9,680
1900	8.36	5,000	1100	4.30	234	0200	10.86	10,900
2000	8.56	5,400	1200	5.59	1,070	0300	11.66	13,300
2100	8.45	5,180	1300	6.09	1,550	0400	12.66	16,700
2400	7.91	4,100	1400	7.49	3,460	0500	13.10	18,600
			1500	9.04	6,700	0600	13.40	19,600
Nov. 18 (mean, 2,500 cfs)			1600	9.74	8,420	0700	13.30	19,300
			1700	9.77	8,510	0800	12.40	15,800
0200	7.56	3,510	1800	9.99	9,170	0900	11.75	13,600
0400	7.25	3,020	1900	11.30	13,100	1000	11.15	11,800
0600	7.31	3,180	2000	12.06	15,600	1100	10.79	10,600
0900	6.99	2,710	2100	12.30	16,300	1200	10.10	8,540
1100	6.68	2,330	2200	11.66	13,900	1300	9.73	7,620
1400	6.40	2,000	2300	11.26	12,700	1400	9.43	6,880
1500	6.41	2,020	2400	11.10	12,200	1500	9.11	6,120
1900	6.30	1,870				1600	8.90	5,620
2100	6.38	2,000	Nov. 23 (mean, 4,740 cfs)			1700	8.68	5,200
2400	6.16	1,720				1900	8.18	4,200
			0100	10.80	11,200	2000	.8.09	4,020
Nov. 19 (mean, 1,050 cfs)			0200	10.24	9,470	2200	7.78	3,480
			0300	9.90	8,300	2400	7.54	3,100
0500	5.79	1,330	0400	9.56	7,500			
1000	5.88	1,420	0500	9.10	6,350	Nov. 25 (mean, 2,100 cfs)		
1500	5.16	738	0700	8.58	5,160			
1900	4.97	599	0900	8.06	4,020	0600	7.10	2,500
2400	4.76	466						

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Sespe Creek near Fillmore, Calif. (11-1130) - Continued

Hour	Gage height	Discharge
Nov. 25--Continued		
1200	6.78	2,060
1800	6.42	1,610
2400	6.17	1,350
Nov. 26 (mean, 1,040 cfs)		
0600	5.98	1,180
1200	5.81	1,000
1800	5.68	895
2400	5.55	794
Nov. 27 (mean, 664 cfs)		
0600	5.44	712
1200	5.36	662
1800	5.28	606
2400	5.21	557
Nov. 28 (mean, 502 cfs)		
Nov. 29 (mean, 405 cfs)		
Nov. 30 (mean, 340 cfs)		
Dec. 28		
2400	4.17	121
Dec. 29 (mean, 11,900 cfs)		
0200	4.29	148
0300	4.65	266
0400	6.75	2,070
0500	8.50	4,940
0600	9.75	7,880
0700	10.50	9,950
0800	11.10	11,700
0900	10.80	10,800
1000	12.50	16,200
1100	13.07	18,500
1200	13.50	20,000
1300	13.15	18,800
1400	13.37	19,400
1500	13.95	21,600
1600	13.50	20,000
1800	12.95	17,700
2000	11.90	14,000
2200	10.80	10,800
2400	10.05	8,750
Dec. 30 (mean, 3,790 cfs)		
0200	9.45	7,220
0400	8.80	5,600
0600	8.38	4,760
0800	8.03	4,060
1000	7.73	3,530
Dec. 30--Continued		
1200	7.45	3,080
1400	7.25	2,790
1600	7.08	2,550
2000	6.80	2,160
2400	6.60	1,900
Dec. 31 (mean, 1,430 cfs)		
0600	6.30	1,600
1200	6.08	1,370
1800	5.91	1,250
2400	5.77	1,110
Jan. 1 (mean, 950 cfs)		
1200	5.55	940
2400	5.35	810
Jan. 2 (mean, 752 cfs)		
1200	5.22	746
2400	5.12	706

Matilija Creek above reservoir near Matilija Hot Springs, Calif. (11-1145)

Hour	Gage height	Discharge
Nov. 15		
2400	2.68	10
Nov. 16 (mean, 1,280 cfs)		
0200	2.91	26
0400	3.01	33
0800	2.99	30
1000	3.09	37
1200	3.24	45
1400	3.90	204
1600	4.99	1,530
1800	5.90	2,720
2000	6.57	3,460
2200	7.21	4,270
Nov. 16--Continued		
2300	8.00	5,400
2400	7.96	5,340
Nov. 17 (mean, 1,570 cfs)		
0200	5.88	2,700
0400	5.15	1,770

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Matilija Creek above reservoir near Matilija Hot Springs, Calif. (11-1145)- Cont.

Hour	Gage height	Discharge
Nov. 17--Continued		
0800	4.54	892
1000	4.65	980
1400	5.10	1,720
1800	4.85	1,340
2000	4.67	1,040
2400	4.68	1,040
Nov. 18 (mean, 452 cfs)		
0600	4.25	510
1200	4.09	356
1800	4.01	304
2400	3.80	240
Nov. 19 (mean, 185 cfs)		
0400	3.69	216
1200	3.54	172
2400	3.36	156
Nov. 20 (mean, 126 cfs)		
1200	3.25	123
2400	3.17	100
Nov. 21 (mean, 85 cfs)		
1200	3.11	84
2400	3.06	71
Nov. 22 (mean, 729 cfs)		
1000	3.09	78
1200	3.30	138
1400	3.97	288
1600	531	988
1800	586	1,430
2000	6.55	2,070
2200	6.77	2,390
2300	6.97	2,490
2400	5.98	1,560
Nov. 23 (mean, 944 cfs)		
0600	5.13	1,120
1200	4.56	712
2000	4.40	600
2200	4.92	956
2400	5.46	1,350
Nov. 24 (mean, 1,820 cfs)		
0200	7.17	2,640
0400	8.70	3,860
0500	9.09	4,390
0600	7.66	2,980
0800	6.85	2,420
1000	6.18	1,950
1200	5.58	1,440
1400	5.20	1,140
1800	5.00	1,020
2000	4.85	900
2400	4.60	740
Nov. 25 (mean, 533 cfs)		
0400	4.53	691
0800	4.39	594
1200	4.26	516
1800	4.08	408
2400	3.99	384
Nov. 26 (mean, 312 cfs)		
0800	3.84	316
1600	3.78	296
2400	3.70	264
Nov. 27 (mean, 216 cfs)		
1200	3.54	204
2400	3.50	193
Nov. 28 (mean, 178 cfs)		
1200	3.46	179
2400	3.39	159
Nov. 29 (mean, 144 cfs)		
1200	3.34	144
2400	3.28	129
Nov. 30 (mean, 122 cfs)		
1200	3.26	123
2400	3.22	115
Dec. 27		
2400	2.74	37
Dec. 28 (mean, 40 cfs)		
1700	2.74	37
2100	2.80	47
2300	2.86	58
2400	2.90	67
Dec. 29 (mean, 2,890 cfs)		
0200	3.34	147
0300	3.90	340
0400	5.18	1,140
0500	6.66	2,280
0600	8.18	3,480
0700	9.10	4,400
0800	9.89	5,540
0900	9.14	4,460
1000	9.10	4,400
1200	8.66	3,870
1300	8.54	3,790
1400	8.79	3,970
1500	8.53	3,780
1600	8.57	3,760
1800	8.07	3,340

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Matilija Creek above reservoir near Matilija Hot Springs, Calif. (11-1145) - Cont.

Hour	Gage height	Discharge
Dec. 29--Continued		
2000	7.34	2,810
2200	6.75	2,370
2400	6.39	2,060
Dec. 30 (mean, 1,290 cfs)		
0400	5.80	1,580
0800	5.43	1,320
1200	5.29	1,210
1600	5.04	1,050
Dec. 30--Continued		
2000	5.00	1,020
2400	5.01	1,030
Dec. 31 (mean, 844 cfs)		
0200	4.90	900
0600	4.99	932
1200	4.90	820
2400	4.86	748
Jan. 1 (mean, 710 cfs)		
1200	4.86	712
2400	4.85	670
Jan. 2 (mean, 597 cfs)		
0800	4.81	607
1000	4.70	540
1200	4.79	594
2400	4.74	564

San Jose Creek near Goleta, Calif. (11-1205)

Hour	Gage height	Discharge
Nov. 14		
2400	1.69	0.5
Nov. 15 (mean 1.6 cfs)		
2100	1.67	.4
2200	2.20	14
1400	2.02	7.0
Nov. 16 (mean 203 cfs)		
0100	2.97	100
0400	2.25	19
0800	2.03	7.4
1200	2.02	7.0
1400	2.18	14
1500	2.60	50
1600	4.00	310
1700	9.32	1,700
1800	6.50	935
1900	4.50	435
2000	3.95	298
2000	4.40	410
2100	3.75	255
2400	3.30	165
Nov. 17 (mean, 7.5 cfs)		
0600	2.98	102
1200	2.75	68
2400	2.38	28
Nov. 18 (mean, 32 cfs)		
1000	2.33	24
1100	2.95	98
1300	2.70	62
1500	2.45	35
1800	2.30	22
2400	2.13	12
Nov. 19 (mean, 6.4 cfs)		
1200	2.00	6.4
2400	1.92	4.0
Nov. 20 (mean, 3.2 cfs)		
1200	1.88	3.2
2400	1.85	2.4
Nov. 21 (mean, 1.8 cfs)		
1200	1.82	1.8
2400	1.80	1.5
Nov. 22 (mean, 30 cfs)		
1200	1.84	2.2
1400	2.15	13
1500	2.95	98
1800	2.64	55
2000	2.80	75
2200	2.64	55
2400	2.83	80
Nov. 23 (mean, 48 cfs)		
0200	2.78	72
0600	2.45	35
1200	2.27	20
1600	2.21	16
1900	2.22	17
2300	3.15	135
2300	3.00	105
2400	3.90	285

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

San Jose Creek near Goleta, Calif. (11-1205) - Continued

Hour	Gage height	Discharge
Nov. 24 (mean, 190 cfs)		
0100	8.50	1,450
0200	6.50	935
0300	4.40	410
0400	3.70	245
0500	3.35	175
0700	3.02	109
1000	2.87	86
1500	2.60	50
2400	2.35	26
Nov. 25 (mean, 22 cfs)		
0400	2.38	38
1200	2.30	22
2400	2.15	13
Nov. 26 (mean, 8.6 cfs)		
1200	2.06	8.6
2400	2.00	6.4
Dec. 28		
2400	1.80	1.5
Dec. 29 (mean, 324 cfs)		
0100	2.60	50
0200	3.70	245
0300	5.00	560
0400	5.60	710
0400	5.30	635
0500	6.50	935
0600	8.20	1,360
0600	7.30	1,140
0700	5.50	685
0800	4.50	435
1000	3.65	235
1500	3.60	225
1600	3.40	185
1800	3.30	165
2100	3.12	129
2400	2.95	98
Dec. 30 (mean, 46 cfs)		
0600	2.68	60
1200	2.43	33
1500	2.37	28
1900	2.40	30
2100	2.40	30
2400	2.35	26
Dec. 31 (mean, 24 cfs)		
1200	2.27	20
1300	2.35	26
1800	2.25	19
2400	2.20	16
Jan. 1 (mean, 12 cfs)		
1200	2.13	12
2400	2.10	10
Jan. 2 (mean, 8.6 cfs)		
1200	2.09	9.5
2400	2.04	7.4

Santa Cruz Creek near Santa Ynez, Calif. (11-1245)

Hour	Gage height	Discharge
Nov. 15		
2400		0
Nov. 16 (mean, 18 cfs)		
2300		0
2400	5.50	440
Nov. 17 (mean, 172 cfs)		
0200	5.30	360
0400	4.93	239
0700	4.43	132
1000	4.18	91
1200	4.15	87
1400	4.17	90
1500	4.50	145
1600	4.68	181
1900	4.80	205
2100	4.55	155
2400	4.30	110
Nov. 18 (mean, 64 cfs)		
0600	4.02	70
1200	3.80	46
1800	3.65	33
2000	4.12	83
2400	3.93	59
Nov. 19 (mean, 32 cfs)		
0600	3.75	42
1200	3.59	28
1800	3.47	20
2400	3.38	16

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Santa Cruz Creek near Santa Ynez, Calif. (11-1245) - Continued

Hour	Gage height	Discharge
Nov. 20 (mean, 11 cfs)		
1200	3.27	10
2400	3.15	6.2
Nov. 21 (mean, 4.6 cfs)		
1200	3.10	4.7
2400	3.01	2.7
Nov. 22 (mean, 73 cfs)		
1100	2.96	1.9
1600	2.99	2.3
2000	3.12	5.2
2100	5.19	317
2200	5.17	311
2300	5.97	665
2400	6.20	790
Nov. 23 (mean, 265 cfs)		
0100	5.97	665
0200	5.74	550
0300	5.50	440
0400	5.34	376
0500	5.29	356
0600	5.14	302
0700	4.97	251
0900	4.72	189
1100	4.54	153
1300	4.40	127
1500	4.27	105
1700	4.27	105
1800	4.47	140
1900	4.37	122
2200	4.87	222
2300	5.52	448
2400	5.92	640
Nov. 24 (mean, 613 cfs)		
0100	6.37	792
Nov. 24--Continued		
0200	6.52	982
0300	7.12	1,410
0400	7.35	1,590
0500	7.10	1,390
0600	6.85	1,200
0700	6.60	1,030
0800	6.40	910
0900	6.20	790
1000	6.00	680
1100	5.75	555
1200	5.50	440
1400	5.20	320
1600	5.00	260
1800	4.80	205
2000	4.68	181
2200	4.58	161
2400	4.48	141
Nov. 25 (mean, 96 cfs)		
0600	4.28	107
1200	4.22	97
2400	3.96	63
Nov. 26 (mean, 46 cfs)		
1200	3.74	41
2400	3.66	35
Nov. 27 (mean, 33 cfs)		
1200	3.62	33
2400	3.60	32
Nov. 28 (mean, 30 cfs)		
1200	3.58	30
2400	3.55	27
Nov. 29 (mean, 26 cfs)		
1200	3.53	26
Nov. 29--Continued		
2400	3.51	24
Nov. 30 (mean, 22 cfs)		
1200	3.48	22
2400	3.46	21
Dec. 28		
2400	3.27	10
Dec. 29 (mean, 894 cfs)		
0300	3.42	18
0400	3.80	46
0500	4.50	145
0600	6.00	680
0700	7.80	2,030
0800	7.35	1,590
0900	7.12	1,410
1000	6.98	1,300
1100	6.95	1,280
1200	6.70	1,100
1300	6.88	1,230
1400	6.78	1,160
1800	6.78	1,160
1900	6.48	958
2200	6.35	880
2300	6.20	790
2400	6.00	680
Dec. 30 (mean, 306 cfs)		
0200	5.67	515
0400	5.50	440
0600	5.30	360
0800	5.18	314
1000	5.07	281
1300	4.92	236
1600	4.85	218
2000	4.83	212

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Santa Cruz Creek near Santa Ynez, Calif. (11-1245) - Continued								
Dec. 30--Continued			Dec. 31 (mean, 165 cfs)			Jan. 2 (mean, 87 cfs)		
2400	4.73	191	Jan. 1 (mean, 118 cfs)					
Salsipuedes Creek near Lompoc, Calif. (11-1325)								
Nov. 13			Nov. 17 (mean, 253 cfs)			Nov. 22 (mean, 47 cfs)		
2400	1.11	0.3	0300	2.74	212	1600	1.33	8.8
			0500	3.42	375	1800	1.69	37
Nov. 14 (mean, 40 cfs)			0700	2.95	262	2000	2.73	219
			0800	3.11	300	2200	2.43	154
0800	1.18	1.2	1200	2.51	160	2400	2.16	102
1200	1.30	4.9	1400	3.59	421			
1500	1.57	22	1600	3.15	310	Nov. 23 (mean, 138 cfs)		
1800	1.72	35	1700	2.95	262			
1900	3.03	281	1900	3.05	286	1200	1.63	31
2000	2.64	189	2400	2.26	111	1400	2.39	146
2200	2.30	118				1600	2.77	231
2400	1.98	64	Nov. 18 (mean, 153 cfs)			1800	2.44	156
						2000	2.78	233
Nov. 15 (mean, 19 cfs)			0500	2.26	114	2200	3.12	315
			0600	3.99	564	2400	3.58	415
0200	1.79	42	0700	3.15	315			
0400	1.67	30	0800	3.27	344	Nov. 24 (mean, 121 cfs)		
0600	1.59	23	1200	2.44	150			
1000	1.44	12	1800	2.06	79	0400	2.54	176
1800	1.36	7.7	2400	2.02	73	1200	2.07	84
2400	1.51	17				2400	2.00	73
			Nov. 19 (mean, 42 cfs)					
Nov. 16 (mean, 454 cfs)						Nov. 25 (mean, 74 cfs)		
			1000	1.95	64			
0100	1.48	15	1200	1.57	25	1000	2.02	76
0400	1.96	62	2400	1.46	16	1600	2.00	73
1100	1.67	30				2400	1.99	72
1200	3.57	416	Nov. 20 (mean, 13 cfs)					
1300	4.45	745				Nov. 26 (mean, 39 cfs)		
1400	6.04	1,710	1200	1.41	13			
1500	6.87	2,200	2400	1.37	11	1000	1.84	52
1600	6.38	1,920				1200	1.53	22
1700	5.10	1,100	Nov. 21 (mean, 9.8 cfs)			2400	1.48	18
1900	3.49	393						
2100	3.13	305	1200	1.35	9.4	Nov. 27 (mean, 16 cfs)		
2400	2.75	214	2400	1.34	9.4			
						1200	1.46	16

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Salsipuedes Creek near Lompoc, Calif. (11-1325) - Continued

Hour	Gage height	Discharge
Nov. 27--Continued		
2400	1.43	14
Nov. 28 (mean, 13 cfs)		
1200	1.41	13
2400	1.40	12
Nov. 29 (mean, 12 cfs)		
1200	1.40	12
2400	1.39	12
Nov. 30 (mean, 12 cfs)		
1200	1.39	12
2400	1.39	12
Dec. 27		
2400	1.24	4.1
Dec. 28 (mean, 50 cfs)		
2000	1.30	4.9
2100	1.74	37
2200	2.07	78
2300	3.17	315
2400	5.19	1,150
Dec. 29 (mean, 681 cfs)		
0100	7.49	2,510
0200	7.16	2,340
0400	5.11	1,110
0700	4.33	692
1000	3.61	427
1500	2.99	272
1600	3.28	341
1800	3.66	443
2000	3.13	305
2400	2.76	216
Dec. 30 (mean, 133 cfs)		
1200	2.13	87
Dec. 30--Continued		
1500	2.39	136
1800	2.46	150
2100	2.50	158
2400	2.35	128
Dec. 31 (mean, 106 cfs)		
0600	2.18	96
1200	2.31	120
1400	2.24	107
2200	2.16	93
2400	2.09	80
Jan. 1 (mean, 58 cfs)		
1200	1.89	54
2400	1.79	45
Jan. 2 (mean, 41 cfs)		
1200	1.73	40
2400	1.70	38

Sisquoc River near Sisquoc, Calif. (11-1385)

Hour	Gage height	Discharge
Nov. 16		
2400	1.85	4.1
Nov. 17 (mean, 90 cfs)		
0800	1.87	4.8
1000	3.28	216
1100	3.35	240
1800	2.83	88
2400	2.71	64
Nov. 18 (mean, 93 cfs)		
0200	3.20	188
Nov. 18--Continued		
0600	3.03	143
1200	2.75	72
1800	2.60	44
2400	2.72	66
Nov. 19 (mean, 43 cfs)		
1200	2.60	44
1600	2.52	34
2000	2.44	26
2400	2.37	19
Nov. 20 (mean, 14 cfs)		
1200	2.21	8.5
2400	2.09	6.2
Nov. 21 (mean, 6.6 cfs)		
1200	2.00	6.2
2400	1.93	5.8
Nov. 22 (mean, 5.66 cfs)		
1200	1.89	5.4
2400	1.89	5.4

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Sisquoc River near Sisquoc, Calif. (11-1385) - Continued

Hour	Gage height	Discharge
Nov. 23 (mean, 519 cfs)		
0200	1.88	5.1
0400	5.00	1,050
1200	4.07	550
1800	3.50	302
2400	3.39	256
Nov. 24 (mean, 968 cfs)		
0400	4.30	680
0600	5.30	1,260
0800	5.87	1,680
1000	5.97	1,760
1200	5.66	1,510
1400	5.28	1,250
1600	4.93	1,000
1800	4.60	830
2000	4.31	686
2400	3.93	480
Nov. 25 (mean, 332 cfs)		
0600	3.69	388
1200	3.53	316
1800	3.43	272
2400	3.30	222
Nov. 26 (mean, 160 cfs)		
0800	3.15	170
1600	3.03	140
2400	2.94	119
Nov. 27 (mean, 96 cfs)		
1200	2.86	98
2400	2.73	70
Nov. 28 (mean, 64 cfs)		
1200	2.72	68
2400	2.63	51
Nov. 29 (mean, 49 cfs)		
1200	2.63	51
2400	2.59	44
Nov. 30 (mean, 37 cfs)		
1200	2.53	35
2400	2.53	35
Dec. 28		
2400	2.39	19
Dec. 29 (mean, 1,440 cfs)		
1100	2.65	54
1200	5.96	1,750
1300	6.86	2,560
1400	7.04	2,740
1500	7.32	3,020
1600	7.08	2,880
Dec. 29--Continued		
1800	6.81	2,710
2000	6.88	2,780
2100	7.08	2,980
2200	7.19	3,210
2400	6.41	2,410
Dec. 30 (mean, 1,270 cfs)		
0200	6.28	2,290
0600	5.58	1,680
1200	4.71	1,060
1800	4.26	776
2400	4.01	626
Dec. 31 (mean, 496 cfs)		
0800	3.82	525
1600	3.65	440
2400	3.61	420
Jan. 1 (mean, 334 cfs)		
0800	3.48	361
1600	3.35	302
2400	3.24	256
Jan. 2 (mean, 214 cfs)		
1200	3.11	208
2400	3.04	184

Arroyo Grande at Arroyo Grande, Calif. (11-1415)

Hour	Gage height	Discharge
Nov. 15		
2400	1.29	6.5
Nov. 16 (mean, 11 cfs)		
0400	1.45	11
Nov. 16--Continued		
0700	1.69	20
1100	1.31	7.0
1600	1.30	6.8
2000	1.40	9.4
2200	1.90	31
Nov. 16--Continued		
2400	1.83	27
Nov. 17 (mean, 9.2 cfs)		
0200	1.60	16

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Arroyo Grande at Arroyo Grande, Calif. (11-1415) - Continued

Hour	Gage height	Discharge
Nov. 17--Continued		
0400	1.48	12
1000	1.36	8.2
1600	1.27	6.1
2400	1.25	5.6
Nov. 18 (mean, 11 cfs)		
0400	1.35	7.9
0700	1.68	20
1500	1.36	8.2
1600	1.99	37
1700	1.33	7.4
2400	1.26	5.8
Nov. 19 (mean, 5.4 cfs)		
1200	1.24	5.4
2400	1.21	4.8
Nov. 20 (mean, 5.2 cfs)		
1200	1.20	4.6
1600	1.22	5.0
1800	1.30	7.2
2000	1.24	6.1
2400	1.22	5.8
Nov. 21 (mean, 5.4 cfs)		
1200	1.19	5.4
2400	1.17	5.0
Nov. 22 (mean, 4.6 cfs)		
1200	1.17	5.0
2400	1.08	3.4
Nov. 23 (mean, 24 cfs)		
1200	1.15	4.6
1600	1.38	10
Nov. 23--Continued		
1800	1.73	24
2000	2.43	84
2100	3.20	220
2200	1.90	34
2400	1.70	23
Nov. 24 (mean, 18 cfs)		
0800	1.51	15
1000	1.93	38
1200	1.68	23
1800	1.46	13
2400	1.42	12
Nov. 25 (mean, 23 cfs)		
0400	1.47	14
0600	1.68	23
0800	2.24	64
1000	1.99	42
1400	1.58	18
2400	1.43	12
Nov. 26 (mean, 10 cfs)		
1200	1.35	9.9
2400	1.31	8.8
Nov. 27 (mean, 8.0 cfs)		
1200	1.28	7.9
2400	1.26	7.4
Nov. 28 (mean, 7.2 cfs)		
1200	1.25	7.2
2400	1.23	6.8
Dec. 27		
2400	1.35	9.9
Dec. 28 (mean, 10 cfs)		
2000	1.31	8.8
2200	1.34	9.6
2400	1.74	26
Dec. 29 (mean, 61 cfs)		
0100	1.98	41
0200	2.52	99
0300	2.89	159
0400	2.74	133
1100	1.99	42
1200	2.28	68
1300	2.32	73
1800	2.05	47
1900	2.12	53
2000	2.10	51
2400	1.92	37
Dec. 30 (mean, 29 cfs)		
1400	1.68	23
1600	1.78	28
1800	1.79	29
1900	1.87	33
2000	1.93	38
2400	1.80	29
Dec. 31 (mean, 43 cfs)		
0200	1.77	28
0800	1.93	38
1000	1.91	36
1200	1.95	39
1600	2.09	48
1800	2.23	63
2400	2.10	51
Jan. 1 (mean, 40 cfs)		
1200	1.92	37
2400	1.87	33

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Arroyo Grande at Arroyo Grande, Calif. (11-1415) --Continued								
Jan. 2 (mean, 33 cfs)			Jan. 2--Continued					
1200	1.87	33	2400	1.84	32			
Tahquitz Creek near Palm Springs, Calif. (10-2580)								
Nov. 21			Nov. 23--Continued			Dec. 29 (mean, 42 cfs)		
2400	0.76	0.9	2400	3.98	124	1100	1.53	9.8
						1300	1.67	12
Nov. 22 (mean, 424 cfs)			Nov. 24 (mean, 79 cfs)			1500	2.10	24
						1700	2.55	43
0600	.77	.9	0600	3.68	89	1900	2.90	66
0800	.81	1.2	1200	3.43	66	2100	3.65	138
1000	1.17	4.6	1800	3.29	56	2200	3.92	169
1200	1.60	11	2400	3.63	85	2400	3.65	138
1300	2.50	40						
1400	4.38	237	Nov. 25 (mean, 60 cfs)			Dec. 30 (mean, 64 cfs)		
1500	5.52	486						
1600	6.22	696	0600	3.31	63	0200	3.33	104
1700	6.77	861	1200	3.21	60	0500	3.07	80
1800	6.92	918	1800	3.03	51	0800	2.88	65
1900	7.17	1,020	2400	2.90	46	1200	2.73	54
2000	7.27	1,060				1800	2.61	47
2100	6.67	831	Nov. 26 (mean, 39 cfs)			2400	2.49	40
2200	6.42	756						
2300	8.97	1,860	1200	2.73	38	Dec. 31 (mean, 34 cfs)		
2330	10.34	2,900	2400	2.64	35			
2400	8.52	1,610				1200	2.36	33
			Nov. 27 (mean, 33 cfs)			2400	2.26	30
Nov. 23 (mean, 572 cfs)								
			1200	2.55	33	Jan. 1 (mean, 26 cfs)		
0200	8.07	1,380	2400	2.46	31			
0400	7.77	1,260				1200	2.15	25
0600	7.02	938	Nov. 28 (mean, 28 cfs)			2400	2.08	23
0800	6.12	636						
1000	5.54	452	1200	2.34	28	Jan. 2 (mean, 22 cfs)		
1200	5.12	339	2400	2.28	26			
1400	4.92	289				1100	2.00	20
1600	4.51	212	Dec. 28			1600	2.12	24
1800	4.33	177				2400	2.03	21
2100	4.23	158	2400	1.50	9.3			

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Tahquitz Creek near Palm Springs, Calif. (10-2580) - Continued								
Jan. 3 (mean, 20 cfs)			Jan. 3--Continued			Jan. 3--Continued		
1200	1.92	18	1700	2.07	22	2400	1.97	19
Deep Creek near Hesperia, Calif. (10-2605)								
Nov. 16			Nov. 20 (mean, 47 cfs)			Nov. 24 (mean, 1,460 cfs)		
2400	1.19	7.3	1200	2.00	57	0200	3.70	1,200
Nov. 17 (mean, 356 cfs)			2400	1.91	42	0600	3.58	1,060
0200	1.31	9.4	Nov. 21 (mean, 34 cfs)			1800	3.56	1,040
0800	1.35	9.6	1200	1.84	33	2000	4.62	2,660
1000	2.71	319	2400	1.79	27	2100	4.85	3,120
1200	2.84	402	Nov. 22 (mean, 4,780 cfs)			2400	4.56	2,540
1400	2.92	458	1200	1.78	25	Nov. 25 (mean, 1,340 cfs)		
1600	3.00	518	1400	1.82	34	0200	4.26	2,020
1800	2.94	473	1600	2.05	66	0400	4.01	1,640
2200	3.18	672	1800	8.76	7,280	0600	3.82	1,350
2400	4.01	1,640	2000	11.69	20,000	0800	3.73	1,240
Nov. 18 (mean, 889 cfs)			2030	12.34	21,700	1600	3.63	1,120
0100	4.19	1,900	2200	11.80	20,300	2400	3.61	1,090
0200	4.05	1,700	2400	10.71	17,500	Nov. 26 (mean, 1,070 cfs)		
0400	3.68	1,180	Nov. 23 (mean, 6,480)			1200	3.59	1,070
0600	3.60	1,080	0200	9.75	15,000	2400	3.57	1,050
0800	3.95	1,540	0400	9.15	13,400	Nov. 27 (mean, 812 cfs)		
1000	3.75	1,260	0600	7.89	10,100	1200	-	800
1200	3.37	850	0800	6.54	6,750	2400	-	600
1400	3.09	592	1000	5.85	5,230	Nov. 28 (mean, 425 cfs)		
1600	2.92	458	1200	5.36	4,150	1200	-	400
2000	2.69	308	1400	5.13	3,680	2400	-	300
2400	2.53	224	1600	4.85	3,120			
Nov. 19 (mean, 134 cfs)			1800	4.62	2,660			
0400	2.43	179	2000	4.39	2,230			
1000	2.31	134	2200	4.20	1,920			
1800	2.19	98	2400	3.99	1,600			
2400	2.12	81						

Table 3.--Flood-hydrograph data for selected gaging stations--Continued

Deep Creek near Hesperia, Calif. (10-2605) - Continued

Hour	Gage height	Discharge
Nov. 29 (mean, 212 cfs)		
1200	-	200
2400	-	150
Nov. 30 (mean, 115 cfs)		
1200	-	125
1400	-	100
1400	2.15	90
2400	2.13	86
Dec. 28		
2400	1.89	41
Dec. 29 (mean, 6,640 cfs)		
0200	1.90	42
0600	1.92	45
1000	2.01	59
1200	2.38	159
1400	7.95	10,300
1600	8.48	11,700
1800	10.91	18,000
1900	11.99	20,800
2000	11.69	20,000
2200	9.16	13,400
2400	7.76	9,800
Dec. 30 (mean, 3,400 cfs)		
0200	6.85	7,480
0400	6.18	5,960
0600	5.73	4,970
0800	5.16	3,740
1000	4.79	3,000
1200	4.48	2,390
1400	4.25	2,000
1600	4.08	1,740
2000	3.83	1,360
2200	3.71	1,210
2400	3.60	1,080
Dec. 31 (mean, 767 cfs)		
0400	3.42	900
0800	3.33	810
1200	3.25	735
1800	3.16	654
2400	3.10	600
Jan. 1 (mean, 474 cfs)		
1200	2.92	458
2400	2.81	382
Jan. 2 (mean, 312 cfs)		
1200	2.66	291
2400	2.66	286
Jan. 3 (mean, 252 cfs)		
1200	2.59	243
2400	2.58	234

Table 4.--Summary of flood stages and discharges

imum floods: Each station listed in this table has two to four entries under maximum floods; the first two pertain to the floods covered by this report; the third pertains to the previous maximum known flood during the period of record; and the fourth pertains to the maximum flood known outside the period of record.

RI--Recurrence interval

Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
			Date	Gage height (ft)	Discharge	
					Cfs	RI (yrs)
PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA						
Tia Juana River basin						
Wilson Creek tributary near Dulzura	0.61	1961-65	Nov. 22, 1965	10.63	(a)	
			Dec. 29, 1965	7.69	7.2	
			Feb. 10, 1962	7.37	1.15	
Potrero Creek tributary near Barrett Junction	.78	1961-65	Nov. 22, 1965	15.25	294	
			Dec. 29, 1965	12.74	77	
			Feb. 25, 1962	10.05	.2	
Cottonwood Creek above Tecate Creek near Dulzura	316	1936-65	Nov. 23, 1965	3.90	238	
			Dec. 29, 1965	2.38	42	
			Feb. 7, 1937	9.65	4,340	
Campo Creek near Camp	84	1936-65	Nov. 22, 1965	1.30	1.0	
			Dec. 29, 1965	1.27	.8	
			Feb. 6, 1937	4.80	880	4
Tia Juana River near Dulzura	478	1936-65	Nov. 23, 1965	3.67	250	
			Dec. 29, 1965	2.52	36	
			Feb. 7, 1937	8.50	4,700	
Tia Juana River near Nestor	1,668	1914-15	Nov. 23, 1965	5.75	267	
		1936-65	Dec. 16, 1965	4.98	145	
			Feb. 7, 1937	8.20	b17,700	

e footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Otay River basin						
138.5	Cedar Creek near Jamul	6.66	1961-65	Nov. 22, 1965	11.47	50	
				Dec. 29, 1965	11.06	11	
				Feb. 26, 1962	11.07	11	
140	Jamul Creek near Jamul	70.3	1940-65	Nov. 23, 1965	3.60	680	3
				Dec. 30, 1965	2.62	51	
				Dec. 1, 1947	6.42	4,000	14
	Sweetwater River basin						
148.5	Japacha Creek near Descanso	2.40	1961-65	Nov. 22, 1965	3.84	36	
				Dec. 29, 1965	3.58	28	
				Feb. 25, 1962	3.00	11	
150	Sweetwater River near Descanso	45.5	1905-27 1956-65	Nov. 23, 1965	6.53	1,230	4
				Dec. 30, 1965	5.70	700	2
				Feb. 16, 1927	13.2	b11,200	47
	San Diego River basin						
211	Wildcat Creek near Lakeside	.82	1961-65	Nov. 22, 1965	2.75	8.0	
				Dec. 29, 1965	2.19	1.5	
				Mar. 16, 1963	3.02	11	
225	San Diego River near Santee	377	1912-65	Nov. 23, 1965	7.75	c1,940	
				Dec. 9, 1965	6.70	c1,280	
				Jan. 27, 1916	25.1	b70,200	d2.30
	Los Penasquitos Creek basin						
233	Rattlesnake Creek near Poway	3.72	1961-65	Nov. 22, 1965	4.45	52	
				Dec. 29, 1965	3.70	33	
				Jan. 20, 1962	3.95	39	
233.4	Los Penasquitos Creek near Poway	42.1	1965	Nov. 23, 1965	7.40	1,610	
				Dec. 9, 1965	4.62	1,780	
	San Dieguito River basin						
255	Santa Ysabel Creek near Ramona	112	1912-23 1943-65	Nov. 23, 1965	11.5	c4,570	
				Dec. 30, 1965	3.87	c252	
				Jan. 27, 1916	14.0	b28,400	d1.49

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	San Dieguito River basin-Continued						
258	Clevenger Creek tributary near Ramona	0.45	1961-65	Nov. 23, 1965	7.10	(a)	
				Dec. 29, 1965	5.23	18	
				Feb. 12, 1962	4.27	38	
260	Santa Ysabel Creek near San Pasqual	128	1905-12	Nov. 23, 1965	10.98	c5,260	
			1947-55	Dec. 30, 1965	3.34	c284	
			1956-65	Mar. 24, 1906	6.3	be8,000	12
270	Guejito Creek near San Pasqual	22.5	1946-65	Nov. 23, 1965	7.45	2,550	17
				Dec. 30, 1965	2.95	111	
				Apr. 3, 1958	5.83	1,660	10
285	Santa Maria Creek near Ramona	57.6	1912-20	Nov. 23, 1965	4.56	1,170	4
			1946-65	Dec. 30, 1965	2.54	65	
				Jan. 27, 1916	14.1	7,140	32
290	San Dieguito River near San Pasqual	249	1947-56	Nov. 23, 1965	7.40	4,160	
			1956-65	Dec. 30, 1965	5.23	987	
				Apr. 3, 1958	7.35	3,600	
298	Lake Hodges tributary near Escondido	.18	1961-65	Nov. 22, 1965	6.80	19	
				Dec. 29, 1965	6.26	9.0	
				Nov. 20, 1963	6.62	15	
	San Luis Rey River basin						
315	Agua Caliente Creek near Warner Springs	19.0	1961-65	Nov. 23, 1965	6.10	740	
				Dec. 30, 1965	4.78	104	
				Mar. 6, 1962	3.76	88	
321	Agua Caliente Creek tributary near Warner Springs	.050	1961-65	Nov. 22, 1965	5.66	.8	
				Dec. 29, 1965			
				Aug. 8, 1963	6.00	2.8	
330	West Fork San Luis Rey River near Warner Springs	25.5	1913-15	Nov. 22, 1965	10.25	1,650	7
			1956-65	Dec. 29, 1965	7.13	355	2
				Mar. 16, 1958	10.77	2,060	9

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge	
						Cfs	RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	San Luis Rey River basin-Continued						
353	Wigham Creek near Lake Henshaw	1.40	1965	Nov. 22, 1965	5.13	(a)	
				Dec. 29, 1965	4.58	(a)	
377	Pauma Creek near Pauma Valley	11.0	1965	Nov. 23, 1965	6.12	620	
				Dec. 29, 1965	3.62	74	
391	San Luis Rey River tributary near Pala	1.01	1961-65	Nov. 22, 1965	16.77	24	
				Dec. 29, 1965			
				Jan. 21, 1962	16.38	17	
400	San Luis Rey River at Monserate Narrows near Pala	373	1935-41	Nov. 23, 1965	4.80	c2,850	
			1946-65	Dec. 30, 1965	2.41	c117	
				Feb. 7, 1937	8.7	(b, f)	
				Apr. 3, 1958		c1,990	
404	San Luis Rey River tributary No. 2 near Fallbrook	.36	1961-65	Nov. 22, 1965	16.77	24	
				Dec. 29, 1965	1.87	8.0	
				Feb. 10, 1963	1.75	6.0	
410	San Luis Rey River near Bonsall	512	1916-18	Nov. 23, 1965	9.63	c2,560	
			1929-65	Dec. 30, 1965	5.11	c86	
				Mar. 2, 1938	12.60	bc18,100	
				February 1891		128,000	d3.46
420	San Luis Rey River at Oceanside	577	1912-16	Nov. 23, 1965	13.31	c624	
			1929-42	Dec. 31, 1965	10.02	c6.9	
			1946-65	Jan. 27, 1916		95,600	d2.39
	Santa Margarita River basin						
424	Temecula Creek near Aguanga	131	1957-65	Nov. 22, 1965	6.37	3,200	8
				Dec. 29, 1965	2.80	295	
				Apr. 3, 1958	6.57	3,540	9
424.3	Coahuila Creek tributary at Anza	4.90	1961-65	Nov. 22, 1965	1.68	12	
				Dec. 29, 1965			
				Aug. 18, 1961		102	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge	
						Cfs	RI (yrs
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Margarita River basin-Continued						
430	Murrieta Creek at Temecula	222	1924-65	Nov. 23, 1965	6.87	3,700	7
				Dec. 29, 1965	7.84	5,020	10
				Jan. 23, 1943	13.82	17,500	48
440	Santa Margarita River near Temecula	588	1923-65	Nov. 23, 1965	7.61	4,200	4
				Dec. 29, 1965	8.00	5,520	6
				Feb. 16, 1927	14.6	25,000	34
445	Santa Margarita River near Fallbrook	644	1924-65	Nov. 23, 1965	8.87	4,750	4
				Dec. 30, 1965	8.15	3,710	4
				Feb. 16, 1927	15.6	b33,100	43
446	Santa Margarita River tributary near Fallbrook	.52	1961-65	Nov. 22, 1965	2.87	(a)	
				Dec. 29, 1965	2.17	27	
				Jan. 20, 1962	2.03	1.6	
449	De Luz Creek near Fallbrook	47.5	1957-65	Nov. 22, 1965	9.10	1,930	5
				Dec. 29, 1965	7.94	1,030	3
				Apr. 1, 1958	9.95	7	
460	Santa Margarita River at Ysidora	739	1923-65	Nov. 23, 1965	12.25	8,400	6
				Dec. 30, 1965	11.98	7,320	5
				Feb. 16, 1927	18.00	b33,600	39
	Las Flores Creek basin						
461	Las Flores Creek near Oceanside	26.6	1951-65	Nov. 22, 1965	2.27	421	2
				Dec. 29, 1965	.88	102	
				Jan. 16, 1952	4.75	960	4
	San Onofre Creek basin						
462	San Onofre Creek near San Onofre	34.6	1950-65	Nov. 22, 1965	5.55	1,310	6
				Dec. 29, 1965	4.20	790	4
				Apr. 1, 1958	5.90	2,680	15

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge	
						Cfs	RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	San Onofre Creek basin-Continued						
462.5	San Onofre Creek at San Onofre	42.2	1946-65	Nov. 23, 1965	7.83	1,500	6
				Dec. 29, 1965	9.14	g2,410	10
				Apr. 1, 1958	6.90	2,600	11
	San Mateo Creek basin						
463	San Mateo Creek near San Clemente	80.8	1952-65	Nov. 22, 1965	10.14	5,070	12
				Dec. 29, 1965	9.24	3,460	7
				Apr. 1, 1958	9.10	4,800	11
463.5	Cristianitos Creek near San Clemente	29.0	1950-65	Nov. 22, 1965	7.50	1,060	5
				Dec. 29, 1965	6.20	450	3
				Jan. 16, 1952	8.86	1,800	9
463.7	San Mateo Creek at San Onofre	132	1946-65	Nov. 22, 1965	8.13	g5,500	10
				Dec. 29, 1965	6.22	g3,840	7
				Apr. 1, 1958	5.62	4,650	8
	San Juan Creek basin						
465	San Juan Creek near San Juan Capistrano	106	1928-65	Nov. 22, 1965	6.60	4,080	8
				Dec. 29, 1965	4.20	1,950	4
				Mar. 2, 1938		13,000	44
467	Live Oak Creek near Modjeska	1.31	1961-65	Nov. 22, 1965	4.96	160	
				Dec. 29, 1965	3.86	70	
				Feb. 15, 1962	2.94	31	
	Peters Canyon Wash basin						
485	San Diego Creek near Irvine	40.3	1949-65	Nov. 22, 1965	4.88	1,440	7
				Dec. 29, 1965	6.15	2,550	13
				Jan. 18, 1952	7.70	4,040	24

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge	
						Cfs	RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Peters Canyon Wash basin-Continued						
488	Forsee Creek near Camp Angelus	.2.82	1960-65	Nov. 22, 1965	20.81	(a)	
				Dec. 29, 1965			
				Aug. 21, 1961	17.26	14	
489	Caribou Creek at Big Bear City	7.02	1960-65	Nov. 22, 1965	5.09	270	
				Dec. 29, 1965	3.04	27	
				Apr. 8, 1962	2.93	22	
	Santa Ana River basin						
515	Santa Ana River near Mentone	209	1896-1965	Nov. 22, 1965	14.4	i8,000	
				Dec. 29, 1965		(a)	
				Mar. 2, 1938	14.3	52,300	
540	Mill Creek near Yucaipa	381	1919-38 1947-65	Nov. 22, 1965	14.35	10,000	40
				Dec. 29, 1965	17.70	(a)	
				Mar. 2, 1938		18,100	d1.52
543	Mill Creek tributary near Yucaipa	2.04	1961-65	Nov. 22, 1965	10.27	15	
				Dec. 29, 1965	10.41	20	
				Dec. 2, 1961	10.34	17	
553	Little Mill Creek near Running Springs	1.73	1960-65	Nov. 22, 1965	43.95	560	
				Dec. 29, 1965	43.35	400	
				Dec. 2, 1961	41.02	143	
555	Plunge Creek near East Highlands	17.1	1919-65	Nov. 22, 1965	6.07	4,200	25
				Dec. 29, 1965	2.53	1,090	5
				Mar. 2, 1938		5,340	35
558	City Creek near Highland	19.5	1919-65	Nov. 22, 1965	5.86	1,310	5
				Dec. 29, 1965	5.59	1,120	5
				Mar. 2, 1938		6,900	47
562	Santa Ana River at Waterman Ave at San Bernardino	332	1954-65	Nov. 22, 1965	7.94	10,400	
				Dec. 29, 1965	3.40	3,100	
				Mar. 2, 1938		75,700	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge	
						Cfs	RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Ana River basin-Continued						
565	Little San Gorgonio Creek near Beaumont	3.23	1948-65	Nov. 22, 1965	1.98	169	
				Dec. 29, 1965	2.07	229	
				Aug. 23, 1955	2.18	319	
570	San Timoteo Creek near Redlands	119	1926-65	Nov. 22, 1965	4.22	1,360	4
				Dec. 29, 1965	2.87	500	2
				Mar. 2, 1938		7,460	24
585	East Twin Creek near Arrowhead Springs	8.76	1919-65	Nov. 22, 1965	5.41	830	
				Dec. 29, 1965	5.15	700	
				Mar. 2, 1938		3,360	
586	Waterman Canyon Creek near Arrowhead	4.65	1911-14 1919-65	Nov. 23, 1965	4.44	796	
				Dec. 29, 1965	5.06	1,490	
				Mar. 2, 1938		2,350	
590	Warm Creek Floodway near San Bernardino	69.5	1961-65	Nov. 23, 1965	3.10	2,310	
				Dec. 29, 1965	2.86	1,710	
				Sept. 18, 1963	2.75	1,440	
604	Warm Creek near San Bernardino	84.5	1964-65	Nov. 22, 1965	6.33	606	
				Dec. 29, 1965	5.22	295	
				Mar. 22, 1964	5.82	732	
620	Lytle Creek near Fontana	46.3	1918-65	Nov. 22, 1965	10.78	9,000	29
				Dec. 29, 1965		(a)	
				Mar. 2, 1938		25,200	d1.89
630	Cajon Creek near Keenbrook	40.6	1919-65	Nov. 22, 1965	9.40	3,160	18
				Dec. 29, 1965	16.00	12,700	d1.73
				Mar. 2, 1938	19.3	14,500	d1.99
635	Lone Pine Creek near Keenbrook	15.1	1919-38 1949-65	Nov. 22, 1965	6.69	980	11
				Dec. 29, 1965	9.07	h1,900	20
				Mar. 2, 1938		6,180	d1.34

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Ana River basin-Continued						
636.8	Devil Canyon Creek near San Bernardino	5.61	1911-14 1919-65	Nov. 22, 1965 Dec. 29, 1965 Mar. 2, 1938	3.96 3.65	480 295 3,320	
650	Lytle Creek at Colton	180	1957-65	Nov. 22, 1965 Dec. 29, 1965 Mar. 2, 1938	6.16 12.40	c5,300 c14,800 21,500	
660.5	Santa Ana River at Colton	722	1961-65	Nov. 22, 1965 Dec. 29, 1965 Sept. 18, 1963	10.87 10.37 10.03	20,900 17,500 1,950	
665	Santa Ana River at Riverside Narrows near Arlington	851	1927-65	Nov. 23, 1965 Dec. 29, 1965 Mar. 2, 1938	13.52 11.2	i20,000 i15,000 100,000	10 7 d1.79
670	Day Creek near Etiwanda	4.59	1927-65	Nov. 22, 1965 Dec. 29, 1965 Mar. 2, 1938	3.78 4.90	i1,000 i1,700 4,200	
693	South Fork San Jacinto River tributary near Valle Vista	2.20	1961-65	Nov. 22, 1965 Dec. 29, 1965 Apr. 1, 1964	5.56 3.86 3.65	36 6.2 5.1	
695	San Jacinto River near San Jacinto	141	1920-64	Nov. 22, 1965 Dec. 29, 1965 Feb. 16, 1927	10.4 6.05	6,300 890 45,000	12 2 d2.37
700	Bautista Creek near Hemet	39.4	1947-65	Nov. 23, 1965 Dec. 29, 1965 Apr. 3, 1958	4.80 3.16 4.65	1,640 196 1,440	10 2 8
703.8	St. Johns Creek near Sage	.37	1961-65	Nov. 22, 1965 Dec. 29, 1965 Feb. 10, 1963	4.20 3.32	(a) 2.0	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Ana River basin-Continued						
705	San Jacinto River near Elsinore	728	1916-65	Nov. 22, 1965		c0	
				Dec. 29, 1965	2.26	c.8	
				Feb. 17, 1927	11.8	16,000	
720	Temescal Creek near Corona	164	1927-65	Nov. 22, 1965	8.07	(a)	
				Dec. 29, 1965	8.66	(a)	
				Mar. 2, 1938		14,900	
724	Icehouse Canyon Creek near Mt Baldy	4.46	1960-65	Nov. 22, 1965		i1,300	
				Dec. 29, 1965			
				Feb. 10, 1962	14.70	86	
730	San Antonio Creek near Claremont	16.5	1917-65	Nov. 22, 1965	6.08	2,300	11
				Dec. 29, 1965	6.46	2,590	13
				Mar. 2, 1938		21,400	d2.97
734.7	Cucamonga Creek near Upland	10.1	1927-65	Nov. 22, 1965	6.22	1,900	12
				Dec. 29, 1965	5.28	1,130	6
				Mar. 2, 1938		10,300	d1.89
740	Santa Ana River below Prado Dam	1,486	1930-65	Nov. 28-30, 1965	4.08	c1,040	
				Dec. 30, 1965	4.16	c1,240	
				Mar. 2, 1938		100,000	
757.2	Carbon Creek below Carbon Canyon Dam	19.4	1961-65	Dec. 1, 1965	1.17	c220	
				Jan. 3, 1966	1.14	c195	
				Feb. 13, 1962	.89	81	
758	Santiago Creek at Modjeska	12.5	1961-65	Nov. 22, 1965	6.60	1,500	
				Dec. 29, 1965	5.80	1,120	
				Feb. 11, 1962	3.53	302	
759	Black Star Creek near Silverado	4.62	1961-65	Nov. 22, 1965	22.70	(a)	
				Dec. 29, 1965	24.24	(a)	
				Jan. 20, 1964	21.19	60	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Ana River basin-Continued						
775	Santiago Creek at Santa Ana	95.0	1928-65	Nov. 22, 1965	3.73	c255	
				Dec. 29, 1965	4.50	c590	
				Mar. 2, 1938	8.36	4,400	
780	Santa Ana River at Santa Ana	1,685	1923-65	Nov. 24, 1965	5.77	g3,300	
				Dec. 30, 1965	4.00	g1,400	
				Mar. 3, 1938		b46,300	
	San Gabriel River basin						
805	East Fork San Gabriel River near Camp Bonita	84.6	1932-65	Nov. 22, 1965		8,200	15
				Dec. 29, 1965		9,760	20
				Mar. 2, 1938		46,000	d2.67
820	West Fork San Gabriel River at Camp Rincon	104	1927-65	Nov. 22, 1965		9,030	11
				Dec. 29, 1965		12,800	18
				Mar. 2, 1938		34,000	d1.48
835	San Gabriel River near Azusa	214	1894-1965	Nov. 23, 1965	11.78	c9,360	
				Dec. 29, 1965	8.20	c3,020	
				Mar. 2, 1938		c65,700	
845	Fish Creek near Duarte	6.36	1916-65	Nov. 22, 1965	5.60	1,120	
				Dec. 29, 1965	6.80	2,250	
				Mar. 2, 1938		2,100	
				Jan. 23, 1943		2,100	
850	San Gabriel River below Santa Fe Dam near Baldwin Park	236	1942-65	Nov. 23, 1965	17.14	c11,100	
				Dec. 31, 1965	12.35	c1,430	
				Jan. 23, 1943		c8,000	
865	Little Dalton Creek near Glendora	2.72	1938-65	Nov. 22, 1965		290	
				Dec. 29, 1965		182	
				Nov. 20, 1961	5.24	1,700	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	San Gabriel River basin-Continued						
870.2	San Gabriel River above Whittier Narrows Dam	353	1955-57 1963-65	Nov. 24, 1965 Dec. 29, 1965 Jan. 26, 1956	7.71 7.23 8.16	c11,000 c11,200 c12,000	
869.9	San Jose Creek near El Monte	87.8	1965	Nov. 22, 1965 Dec. 29, 1965		3,080 5,200	
875	San Gabriel River at Pico	448	1928-65	Nov. 22, 1965 Dec. 29, 1965 Mar. 2, 1938		c352 c700 c22,700	
880	San Gabriel River at Spring Street near Los Alamitos	472	1927-51 1952-65	Nov. 23, 1965 Dec. 29, 1965 Mar. 2, 1938		c1,220 c1,740 c27,000	
885	Brea Creek below Brea Dam, near Fullerton	21.5	1942-65	Nov. 22, 1965 Dec. 29, 1965 Feb. 29, 1944	5.05 4.82 5.10	c327 c400 c655	
895	Fullerton Creek below Fullerton Dam, near Brea	3.18	1941-65	Nov. 23, 1965 Dec. 29, 1965 Mar. 16, 1943	.76 .83 3.80	c20 c22 c298	
907	Coyote Creek at Los Alamitos		1963-65	Nov. 22, 1965 Dec. 29, 1965		5,000 3,740	
	Los Angeles River basin						
919.5	Limekiln Canyon Wash near Chatsworth	3.41	1959-65	Nov. 22, 1965 Dec. 29, 1965 Feb. 10, 1962	8.20 6.26	380 (a) 249	
924.5	Los Angeles River at Sepulveda Dam	158	1929-65	Nov. 17, 1965 Dec. 29, 1965 Mar. 2, 1938	9.90 10.90 	c11,250 c12,800 i12,000	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Los Angeles River basin-Continued						
930	Pacoima Creek near San Fernando	28.5	1916-65	Nov. 23, 1965		c664	
				Dec. 29, 1965		c152	
				Mar. 3, 1938		c2,440	
				February 1914		5,400	30
934.9	North Fork Mill Creek near La Canada	5.79	1959-65	Nov. 23, 1965		(a)	
				Dec. 29, 1965	12.21	370	
				Feb. 10, 1962	7.80	98	
940	Tujunga Creek below Mill Creek near Colby Ranch	64.9	1945-65	Nov. 22, 1965		5,000	13
				Dec. 29, 1965		7,320	25
				Feb. 11, 1962	10.90	2,860	8
				Jan. 23, 1943		14,800	d1.03
955	Tujunga Creek near Sunland	106	1916-55	Nov. 22, 1965		c6,000	7
				Dec. 29, 1965		c3,600	5
				Mar. 2, 1938		c50,000	d2.62
965	Little Tujunga Creek near San Fernando	21.1	1928-65	Nov. 22, 1965		300	
				Dec. 29, 1965		1,100	4
				Mar. 2, 1938		8,500	d1.17
970	Tujunga Creek below Hansen Dam	150	1933-38	Nov. 23, 1965	3.93	c3,240	
			1941-65	Dec. 31, 1965	2.18	c840	
				Mar. 2, 1938		i54,000	
975	Los Angeles River at Los Angeles	514	1929-65	Nov. 17, 1965		c24,400	
				Dec. 29, 1965		c32,000	
				Mar. 2, 1938		c67,000	
980	Arroyo Seco near Pasadena	16.0	1910-65	Nov. 22, 1965	6.33	3,160	19
				Dec. 29, 1965	6.06	3,050	18
				Mar. 2, 1938	9.42	8,620	d1.39
985	Los Angeles River near Downey	599	1928-65	Nov. 22, 1965		c22,600	
				Dec. 29, 1965		c39,200	
				Mar. 2, 1938		c79,700	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Los Angeles River basin-Continued						
1000	Santa Anita Creek near Sierra Madre	9.71	1916-65	Nov. 22, 1965	7.53	1,320	
				Dec. 29, 1965	9.15	1,770	
				Mar. 2, 1938		i5,200	
1010	Eaton Creek near Pasadena	6.47	1918-65	Nov. 22, 1965	4.40	769	
				Dec. 29, 1965	4.90	1,040	
				Mar. 2, 1938		2,400	
1012.5	Rio Hondo above Whittier Narrows Dam	91.2	1956-65	Nov. 22, 1965	4.03	c5,860	
				Dec. 29, 1965	4.38	c6,640	
				Jan. 6, 1959	4.90	c8,150	
1015	Rio Hondo near Montebellow	116	1928-65	Nov. 22, 1965		c7,500	
				Dec. 29, 1965		c7,100	
				Mar. 2, 1938		c28,000	
1025	Rio Hondo near Downey	143	1928-65	Nov. 24, 1965		c11,500	
				Dec. 29, 1965		c19,800	
				Mar. 3, 1938		c24,400	
1030	Los Angeles River at Long Beach	832	1928-65	Nov. 22, 1965		c44,700	
				Dec. 29, 1965		c61,000	
				Mar. 2, 1938		c99,000	
	Ballona Creek basin						
1035	Ballona Creek near Culver City	89.5	1928-65	Nov. 22, 1965		17,000	
				Dec. 29, 1965		10,300	
				Mar. 2, 1938	15.4	19,000	
	Topanga Creek basin						
1040	Topanga Creek near Topanga Beach	18.0	1930-38	Nov. 22, 1965		1,750	6
			1939-65	Dec. 29, 1965		6,000	47
				Mar. 2, 1938		7,960	d1.28

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Malibu Creek basin						
1055	Malibu Creek at Crater Camp near Calabasas	105	1931-65	Nov. 22, 1965		4,180	6
				Dec. 29, 1965		20,600	d1.40
				Mar. 15, 1952		13,600	43
	Calleguas Creek basin						
1070	Honda Barranca near Somis	2.57	1954-65	Nov. 22, 1965	6.37	320	
				Dec. 29, 1965	5.70	270	
				Feb. 19, 1962	8.21	450	
	Santa Clara River basin						
1077	Soledad Canyon tributary near Acton	4.08	1959-65	Nov. 22, 1965	3.13	(a)	
				Dec. 29, 1965	3.55	(a)	
				Aug. 5, 1961	3.25	4.5	
1082	Santa Clara River tributary near Val Verde	.65	1959-65	Nov. 22, 1965	8.97	64	
				Dec. 29, 1965	11.6	190	
				Feb. 9, 1963	10.17	120	
1085	Santa Clara River at Los Angeles-Ventura County line	644	1952-65	Nov. 24, 1965	10.73	12,200	11
				Dec. 29, 1965	11.50	34,100	47
				Mar. 2, 1938		b24,000	28
1096	Piru Creek above Lake Piru	372	1955-65	Nov. 24, 1965	9.80	8,400	11
				Dec. 29, 1965	9.75	8,300	10
				Feb. 10, 1962	12.20	12,200	17
				Mar. 2, 1938		b35,000	d1.32
1105	Hopper Creek near Piru	23.6	1930-32	Nov. 26, 1965	6.28	2,690	14
			1933-36	Dec. 29, 1965	6.43	3,000	16
			1937-65	Mar. 2, 1938		8,000	d1.16
1115	Sespe Creek near Wheeler Springs	49.5	1948-65	Nov. 24, 1965	9.10	2,940	8
				Dec. 29, 1965	9.42	3,320	9
				Feb. 10, 1962	10.6	3,800	10

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Clara River basin-Continued						
1130	Sespe Creek near Fillmore	251	1911-13	Nov. 24, 1965	13.40	19,600	21
			1927-65	Dec. 29, 1965	13.95	21,600	25
				Mar. 2, 1938		56,000	d1.71
1135	Santa Paula Creek near Santa Paula	40.0	1927-65	Nov. 22, 1965	7.49	6,480	23
				Dec. 29, 1965	7.28	6,060	21
				Mar. 2, 1938	10.56	13,500	d1.23
	Ventura River basin						
1145	Matilija Creek above reservoir near Matilija Hot Springs	50.7	1948-65	Nov. 16, 1965	8.00	5,400	10
				Dec. 29, 1965	9.89	5,540	10
				Jan. 15, 1952	12.1	8,800	20
1155	Matilija Creek at Matilija Hot Springs	54.6	1927-65	Nov. 24, 1965	6.85	c2,620	
				Dec. 29, 1965	9.89	c5,500	
				Mar. 2, 1938		15,900	d1.03
1160	North Fork Matilija Creek at Matilija Hot Springs	15.6	1928-32	Nov. 24, 1965	7.37	2,900	13
			1933-65	Dec. 29, 1965	5.57	1,570	6
				Mar. 2, 1938		5,580	34
1165.5	Ventura River near Meiners Oaks	76.4	1959-65	Nov. 24, 1965	5.90	4,420	
				Dec. 29, 1965	8.00	10,400	
				Feb. 10, 1962	7.1	7,590	
1175	San Antonio Creek at Casitas Springs	51.2	1949-65	Nov. 24, 1965	10.84	2,750	7
				Dec. 29, 1965	9.30	2,100	5
				Apr. 3, 1958	12.80	5,240	16
1176	Coyote Creek near Oak View	13.2	1958-65	Nov. 24, 1965	9.10	4,410	36
				Dec. 29, 1965	7.03	1,780	10
				Feb. 9, 1962	7.45	1,700	10
1178	Santa Ana Creek near Oak View	9.11	1958-65	Nov. 24, 1965	8.10	2,670	
				Dec. 29, 1965	6.35	1,400	
				Feb. 9, 1962	6.77	2,200	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Ventura River basin-Continued						
1185	Ventura River near Ventura	188	1911-14 1929-65	Nov. 24, 1965 Dec. 29, 1965 Mar. 2, 1938	16.75 16.55 19.2	11,200 10,700 39,200	12 11 d1.57
1187	Casitas Creek tributary near Sea Cliff	.76	1959-65	Nov. 24, 1965 Dec. 29, 1965 Feb. 19, 1962	23.00 21.22 22.3	153 57 111	
	Carpinteria Creek basin						
1195	Carpinteria Creek near Carpinteria	13.1	1941-65	Nov. 24, 1965 Dec. 29, 1965 Jan. 15, 1952	7.90 6.35 9.75	1,510 1,050 2,440	8 5 16
	Atascadero Creek basin						
1200	Atascadero Creek near Goleta	18.8	1941-65	Nov. 16, 1965 Dec. 29, 1965 Jan. 15, 1952	12.78 11.66 10.85	4,600 3,100 4,500	28 15 27
	San Jose Creek basin						
1205	San Jose Creek near Goleta	5.51	1941-65	Nov. 16, 1965 Dec. 29, 1965 Apr. 4, 1941	9.32 8.20	1,700 1,400 1,960	
	Jalama Creek basin						
1206	Jalama Creek near Lompoc	20.5	1965	Nov. 16, 1965 Dec. 29, 1965	7.70 6.60	1,350 820	
	Santa Ynez River basin						
1230	Santa Ynez River below Gibraltar Dam, near Santa Barbara	216	1920-65	Nov. 24, 1965 Dec. 29, 1965 Mar. 2, 1938	14.90 16.20	c5,300 c6,600 c35,500	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Ynez River basin-Continued						
1234.8	Los Laureles Canyon tributary near Goleta	0.28	1959-65	Nov. 22, 1965	9.61	160	
				Dec. 29, 1965	9.12	120	
				Feb. 10, 1962	8.75	112	
1235	Santa Ynez River below Los Laureles Canyon near Santa Ynez	277	1947-65	Nov. 24, 1965	9.55	c8,100	
				Dec. 29, 1965	10.80	c14,500	
				Jan. 15, 1952	15.6	c33,000	
1245	Santa Cruz Creek near Santa Ynez	73.9	1941-65	Nov. 24, 1965	7.35	1,590	3
				Dec. 29, 1965	7.80	2,030	4
				Feb. 9, 1962	9.75	4,520	8
1260	Santa Ynez River near Santa Ynez	422	1928-31 1932-65	Nov. 16, 1965	2.80	c180	
				Dec. 29, 1965	2.45	c110	
				Mar. 2, 1938	17.90	b43,700	d1.12
1265	Santa Agueda Creek near Santa Ynez	55.8	1940-65	Nov. 24, 1965	3.57	950	3
				Dec. 29, 1965	3.19	600	2
				Feb. 19, 1958	6.14	5,760	19
1280	Santa Ynez River at Grand Ave near Santa Ynez	513	1954-65	Nov. 24, 1965	4.75	c875	
				Dec. 29, 1965	4.68	c840	
1284	Alisal Creek near Solvang	11.5	1954-56 1956-65	Nov. 16, 1965	6.25	1,010	4
				Dec. 29, 1965	6.65	1,150	4
				Feb. 9, 1962	8.15	2,960	17
1285	Santa Ynez River at Solvang	579	1928-40 1946-65	Nov. 16, 1965	6.98	c1,500	
				Dec. 29, 1965	6.87	c1,800	
				Jan. 15, 1952	14.80	b37,000	32
1298	Zaca Creek near Buellton	32.8	1965	Nov. 18, 1965	2.09	2.4	
				Dec. 29, 1965	2.15	3.1	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Ynez River basin-Continued						
1305	Santa Ynez River near Buellton	668	1948-65	Nov. 16, 1965	6.72	c2,600	
				Dec. 29, 1965	6.25	c2,100	
				Mar. 22, 1958	11.10	c10,600	
1315	Santa Ynez River at Cooper's Reef near Lompoc	708	1954-65	Nov. 17, 1965	5.21	c1,120	
				Dec. 29, 1965	6.18	c2,230	
				Mar. 22, 1958	8.44	c6,260	
1323	El Jaro Creek near Las Cruces	3.50	1959-65	Nov. 22, 1965	5.96	113	
				Dec. 29, 1965	7.04	180	
				Feb. 9, 1962	12.7	345	
1325	Salsipuedes Creek near Lompoc	47.1	1941-65	Nov. 16, 1965	6.87	2,200	4
				Dec. 29, 1965	7.49	2,510	5
				Mar. 15, 1952	20.8	11,400	d1.09
1335	Santa Ynez River near Lompoc	790	1908-18 1925-65	Nov. 16, 1965	7.30	c1,400	
				Dec. 29, 1965	7.94	c2,100	
				Mar. 3, 1938	29.3	45,000	
				Jan. 9, 1907		j62,000	
1345	Santa Ynez River at 13th St near Lompoc	820	1954-65	Nov. 16, 1965	4.05	c1,600	
				Dec. 29, 1965	4.40	c2,800	
				Feb. 11, 1962	8.92	c6,670	
1350	Santa Ynez River at Pine Canyon near Lompoc	832	1940-46 1965	Nov. 16, 1965	8.09	c1,740	
				Dec. 29, 1965	9.00	c2,950	
				Jan. 23, 1943	21.0	32,000	
	San Antonio Creek basin						
1361	San Antonio Creek near Casmalia	135	1955-65	Nov. 24, 1965	3.70	58	
				Dec. 29, 1965	3.75	62	
				Feb. 19, 1962	9.35	1,300	3

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	San Antonio Creek basin-Continued						
1361.5	San Antonio Creek tributary near Casmalia	0.28	1959-65	Nov. 22, 1965	5.16	3.0	
				Dec. 29, 1965	5.05	2.0	
				Feb. 10, 1962	5.51	8.4	
1364.5	Dry Canyon tributary near Stauffer	.15	1959-65	Nov. 22, 1965			
				Dec. 29, 1965	4.88	14	
				June 11, 1963	5.32	22	
	Santa Maria River basin						
1368	Cuyama River below Buckhorn Canyon near Santa Maria	884	1903-05	Nov. 24, 1965	5.75	900	
			1959-65	Dec. 30, 1965	7.00	2,100	
				Mar. 13, 1905	10.0	bel0,000	
1379	Huasna River near Arroyo Grande	104	1959-65	Nov. 24, 1965	5.40	520	
				Dec. 29, 1965	5.16	499	
				Feb. 10, 1962	6.90	2,100	
1381	Cuyama River below Twitchell Dam	1,132	1958-65	Nov. 24, 1965		0	
				Dec. 29, 1965	3.26	c27	
				Feb. 10, 1962	5.76	c548	
1385	Sisquoc River near Sisquoc	281	1943-65	Nov. 24, 1965	5.97	1,760	2
				Dec. 29, 1965	7.32	3,020	3
				Apr. 3, 1958	10.62	7,640	7
				Mar. 2, 1938	8.1	c11,000	10
1390	La Brea Creek near Sisquoc	93.8	1943-65	Nov. 24, 1965		0	
				Dec. 29, 1965	3.33	195	
				Jan. 15, 1952	5.94	3,320	5
1393	Foxen Canyon Creek near Los Alamos	6.77	1959-65	Nov. 23, 1965	1.16	.3	
				Dec. 29, 1965	1.26	.6	
				Feb. 9, 1962	4.20	116	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 11. PACIFIC SLOPE BASINS IN CALIFORNIA - Continued						
	Santa Maria River basin-Continued						
1395	Tepusquet Creek near Sisquoc	28.6	1943-65	Nov. 15, 1965	2.98	10	
				Dec. 28, 1925	2.54	2.3	
				Feb. 9, 1962	4.25	500	2
1400	Sisquoc River near Garey	472	1940-65	Nov. 24, 1965	5.70	1,500	
				Dec. 29, 1965	6.10	2,200	2
				Jan. 23, 1943	8.46	b13,000	8
1410	Santa Maria River at Guadalupe	1,742	1940-65	Nov. 24, 1965			
				Jan. 3, 1966	5.38	c1,270	
				Jan. 16, 1952	8.18	32,800	12
	Arroyo Grande basin						
1413	Arroyo Grande near Arroyo Grande	68.3	1958-65	Nov. 23, 1965		0	
				Dec. 31, 1965	5.08	25	
				Feb. 9, 1962	8.50	1,280	3
1415	Arroyo Grande at Arroyo Grande	102	1939-65	Nov. 23, 1965	3.20	220	
				Dec. 29, 1965	2.89	159	
				Jan. 15, 1952	11.97	5,370	9
	PART 10. THE GREAT BASIN						
	Bristol Lake basin						
2530	Gourd Creek near Ludlow	0.30	1959-65	Nov. 22, 1965		0	
				Dec. 29, 1965	11.91	25	
				Sept. 12, 1961	16.19	106	
2532.55	Granite Wash No. 2 near Rice	.15	1960-65	Nov. 22, 1965		0	
				Dec. 29, 1965	3.42	20	
				Sept. 18, 1963	3.06	.8	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 10. THE GREAT BASIN - Continued						
	Dale Lake basin						
2533.2	Quail Wash near Joshua Tree	100	1964-65	Nov. 22, 1965		0	
				Dec. 29, 1965		0	
2533.5	Fortynine Palms Creek near Twentynine Palms	8.55	1962-65	Nov. 22, 1965		0	
				Dec. 22, 1965	1.30	17	
				Aug. 7, 1963	4.55	1,240	
	Salton Sea basin						
2556.5	Chariot Creek near Julian	7.94	1961-65	Nov. 22, 1965	8.02	44	
				Dec. 29, 1965	8.20	220	
				Apr. 2, 1964	5.71	5.5	
2557	San Felipe Creek near Julian	89.3	1958-65	Nov. 23, 1965	1.52	3.0	
				Dec. 30, 1965	2.15	45	
				Sept. 13, 1961	1.85	16	
2558	Coyote Creek near Borrego Springs	144	1950-65	Nov. 22, 1965	12.50	573	
				Dec. 30, 1965	9.43	30	
				July 28, 1951	14.14	3,800	
2558.1	Borrego Palm Creek near Borrego Springs	21.7	1950-65	Nov. 23, 1965	2.43	7.9	
				Dec. 30, 1965	2.50	9.1	
				Aug. 23, 1965	9.9	2,000	
2558.5	Vallecito Creek near Julian	39.7	1963-65	Nov. 15, 1965	1.68	(a)	
				Dec. 29, 1965		(a)	
				July 31, 1964	3.20	73	
2558.85	San Felipe Creek near Westmoreland	1,693	1960-65	Nov. 24, 1965	5.36	19	
				Dec. 16, 1965	9.00	3,600	
				Oct. 19, 1963	11.85	7,230	
2560	Whitewater River at White Water	57.4	1948-65	Nov. 22, 1965		(a)	
				Dec. 29, 1965		(a)	
				Apr. 3, 1958	8.35	1,500	
				Mar. 2, 1938		b42,000	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 10. THE GREAT BASIN - Continued						
	Salton Sea basin-Continued						
2565	Snow Creek near White Water	11.0	1921-65	Nov. 22, 1965	22.1	4,200	
				Dec. 29, 1965	-	-	
				Dec. 2, 1961	3.87	285	
2580	Tahquitz Creek near Palm Springs	16.7	1947-65	Nov. 22, 1965	10.34	2,900	
				Dec. 29, 1965	3.92	169	
				Aug. 31, 1954	8.45	1,570	
2581	Palm Canyon Creek tributary near Anza	.47	1961-65	Nov. 22, 1965	5.06	7.0	
				Dec. 29, 1965		0	
				Oct. 18, 1963	5.08	11	
2585	Palm Canyon Creek near Palm Springs	94.0	1930-42 1947-65	Nov. 22, 1965	5.61	1,520	
				Dec. 16, 1965	3.28	190	
				Feb. 6, 1937	5.06	b3,850	
2590	Andreas Creek near Palm Springs	8.78	1948-65	Nov. 22, 1965	3.74	i1,000	
				Dec. 29, 1965	2.48	56	
				Aug. 31, 1954	7.11	1,960	
2592	Deep Creek near Palm Desert	30.6	1962-65	Nov. 23, 1965	5.15	1,300	
				Dec. 29, 1965	3.65	168	
				July 26, 1964	2.66	52	
	Emerson Lake basin						
2602	Pipes Creek near Yucca Valley	15.1	1958-65	Nov. 23, 1965	1.85	i10	
				Dec. 29, 1965	3.52	350	
	Lucerne Lake basin						
2604	Cushenbury Creek near Lucerne Valley	6.36	1957-65	Nov. 23, 1965	2.35	250	
				Dec. 29, 1965		0	
				Apr. 11, 1958	1.90	35	
	Mojave River basin						
2605	Deep Creek near Hesperia	137	1904-22 1929-65	Nov. 22, 1965	12.34	21,700	
				Dec. 29, 1965	11.99	20,800	
				Mar. 2, 1938	-	46,600	

See footnotes at end of table.

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 10. THE GREAT BASIN - Continued						
	Mojave River basin-Continued						
2610	West Fork Mojave River near Hesperia	74.8	1904-22 1929-65	Nov. 22, 1965 Dec. 29, 1965 Mar. 2, 1938	11.20 14.20	8,420 21,200 26,100	
2615	Mojave River at lower narrows near Victorville	530	1899-1906 1930-65	Nov. 23, 1965 Dec. 30, 1965 Mar. 2, 1938	10.57 12.66 18.7	17,100 32,800 70,600	
2625	Mojave River at Barstow		1930-65	Nov. 23, 1965 Dec. 30, 1965 Mar. 3, 1938	4.56 5.97 8.60	4,600 8,970 64,300	
2626	Boom Creek near Barstow	.25	1958-65	Nov. 23, 1965 Dec. 9, 1965 Sept. 1, 1960	9.14 8.91 14.23	14 10 125	
2630	Mojave River at Afton		1929-32 1952-65	Nov. 23, 1965 Dec. 31, 1965 Feb. 10, 1932	3.43 7.92 4.70	7.9 4,150 b3,550	
	Antelope Valley						
2635	Big Rock Creek near Valyermo	23.0	1923-65	Nov. 22, 1965 Dec. 29, 1965 Mar. 2, 1938	7.10 6.70	1,270 2,100 8,300	
2639	Buckhorn Creek near Valyermo	.48	1960-65	Nov. 22, 1965 Dec. 29, 1965 Feb. 11, 1962	4.73 4.30 2.66	119 94 27	
2640	Little Rock Creek near Little Rock	49.0	1930-65	Nov. 22, 1965 Dec. 29, 1965 Mar. 2, 1938		2,900 5,730 17,000	
2645.2	Amargosa Creek tributary near Palmdale	.048	1958-65	Nov. 22, 1965 Dec. 29, 1965 Dec. 2, 1961	11.31 10.34 11.11	8.2 .8 6.6	

See footnotes at end of table

Table 4.--Summary of flood stages and discharges--Continued

Station number	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum floods			
				Date	Gage height (ft)	Discharge Cfs	Discharge RI (yrs)
	PART 10. THE GREAT BASIN - Continued						
	Antelope Valley-Continued						
2645.3	Pine Creek near Palmdale	0.25	1958-65	Nov. 22, 1965	10.34	1.0	
				Dec. 29, 1965	12.05	13	
				Feb. 10, 1962	14.88	55	
2646	Oak Creek near Mojave	15.8	1957-65	Nov. 24, 1965	.91	2.4	
				Dec. 29, 1965	1.25	8.2	
				Feb. 11, 1962	1.55	29	
	Koehn Lake basin						
2647	Peewee Creek near Randsburg	.14	1959-65	Nov. 22, 1965	10.47	.6	
				Dec. 29, 1965	10.25	.2	
				Sept. 18, 1963	10.65	.8	
2647.5	Pine Tree Creek near Mojave	33.5	1958-65	Nov. 24, 1965	3.83	(a)	
				Dec. 29, 1965	4.57	(a)	
				Aug. 23, 1961		i30,000	

a. Discharge to be determined.
b. Site and/or datum then in use.
c. Affected by regulation, storage, and/or diversion.
d. Ratio of discharge to that of 50-year flood.
e. Maximum observed.
f. Discharge not determined.
g. Result of failure of detention dam.
h. Affected by backwater.
i. Estimated.
j. Maximum daily mean discharge.

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