HYDROLOGIC DATA FOR URBAN STUDIES IN THE HOUSTON METROPOLITAN AREA, TEXAS, 1983

By Fred Liscum

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METRIC CONVERSIONS

The inch-pound units of measurements used in this report may be converted to metric units by using the following conversion factors:

Multiply inch-pound unit	by	To obtain metric unit
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
acre-foot (acre-ft)	1233	cubic meter (m^3)
square mile (mi^2	2.590	square kilometer (km^2)
cubic foot (ft^3/s) per second	0.02832	cubic meter per second (m^3/s)
foot per mile (ft/mi)	0.189	meter per kilometer (m/km)
	0.001233	cubic hectometer (hm^3)
degree Fahrenheit (°F)	5/8(°F - 32)	degree Celsius (°C)

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "mean sea level."

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INTRODUCTION

Hydrologic investigations of urban watersheds in Texas were begun by the U.S. Geological Survey in 1954. Studies are now in progress in the Austin and Houston areas, and have been completed in the Dallas-Fort Worth and San Antonio areas.

The U.S. Geological Survey, in cooperation with the city of Houston, began studies in the Houston metropolitan area in 1964. The program was expanded in 1968 to include collection of water-quality data. The objectives of the Houston urban-hydrology study are as follows:

1. To determine, on the basis of historical data and hydrologic analyses, the magnitude and frequency of flood peaks and flood volumes.
2. To determine the effect of urban development on flood peaks and volumes.
3. To ascertain the variation in water quality for different flow conditions and different seasons.

This report, the twentieth in a series of reports to be published annually, is primarily applicable to objective No. 2. The report presents hydrologic data collected in the Houston urban area for the 1983 water year (October 1, 1982, to September 30, 1983).

A report by Johnson and Sayre (1973) utilized records collected from 1965 to 1969 to study the effects of urbanization on floods in the Houston area. That report also summarized various basin parameters. A report by Waddell, Massey, and Jennings (1979) presented data on runoff from the Houston area and computed concentrations and loads of selected water-quality constituents discharged to Galveston Bay. The study utilized a variation of the "STORM" model developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers. A report prepared by Liscum and Massey (1980) presented a technique for estimating the magnitude and frequency of floods in the Houston area from drainage areas, bank-full conveyance, and percentage of urban development.

A definition of terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined in " U.S. Geological Survey, Water-resources data for Texas, water year 1983, volume 2."

Location and Description of the Area

The Houston study area, which is located about 45 miles from the Gulf of Mexico, is on an almost level plain. The land surface in the area increases in altitude from 35 feet above the National Geodetic Vertical Datum of 1929 (NGVD of 1929) in the southeast to 135 feet in the northwest. Soils in the area are predominately clay, clay loam, and fine sandy loam of low permeability.

Records show that the entire Houston urban study area is being developed rapidly. Percent increases in urbanization in various drainage-basin areas in the Houston metropolitan area from 1969 to 1976 are given in table 1.

The major stream draining the area is Buffalo Bayou, a tributary of the San Jacinto River. Buffalo Bayou is regulated by the Barker and the Addicks flood-detention reservoirs near the western limits of the area. From these reservoirs, Buffalo Bayou meanders east and is fed by five major tributaries: Whiteoak, Brays, Sims, Hunting, and Greens Bayous. The drainage area of Buffalo Bayou, excluding the area above the flood-detention reservoirs, is about 810 square miles.

The climate of the Houston area is characterized by short mild winters, long hot summers, high relative humidity, and prevailing southeasterly winds. The mean annual temperature (1941-70) is 68.9°F (20.5°C); the lowest temperature recorded was 5°F (-15°C) in 1930; and the maximum recorded was 108°F (42°C) in 1909. The 30-year average (1941-70) annual rainfall for Houston is 48.19 inches, which is distributed uniformly throughout the year. The maximum annual rainfall was 72.86 inches in 1900; and the minimum was 17.66 inches in 1917.

Acknowledgments

U.S. Geological Survey employees, J. P. Bruchmiller, J. S. Hutchison, D. W. Brown, and E. M. Paul contributed significantly to the preparation of data for this report.

DATA-COLLECTION METHODS

The locations of hydrologic-instrument installations and water-quality sampling sites in the Houston urban study area are shown in figure 1. The locations of hydrologic instruments and data-collection sites in the individual basins are shown in figures 4-19.

Precipitation Data

All precipitation measured in the study area is rainfall. Data are collected at 39 recording and 11 nonrecording rain gages located in the study area (fig. 1). Thirty-one of the recording gages are maintained by the U.S. Geological Survey, and the other eight are operated by the National Weather Service. The eleven nonrecording rain gages are also operated by the National Weather Service. The gages are distributed throughout the drainage basins to measure total precipitation and to define rainfall intensities. Rainfall data

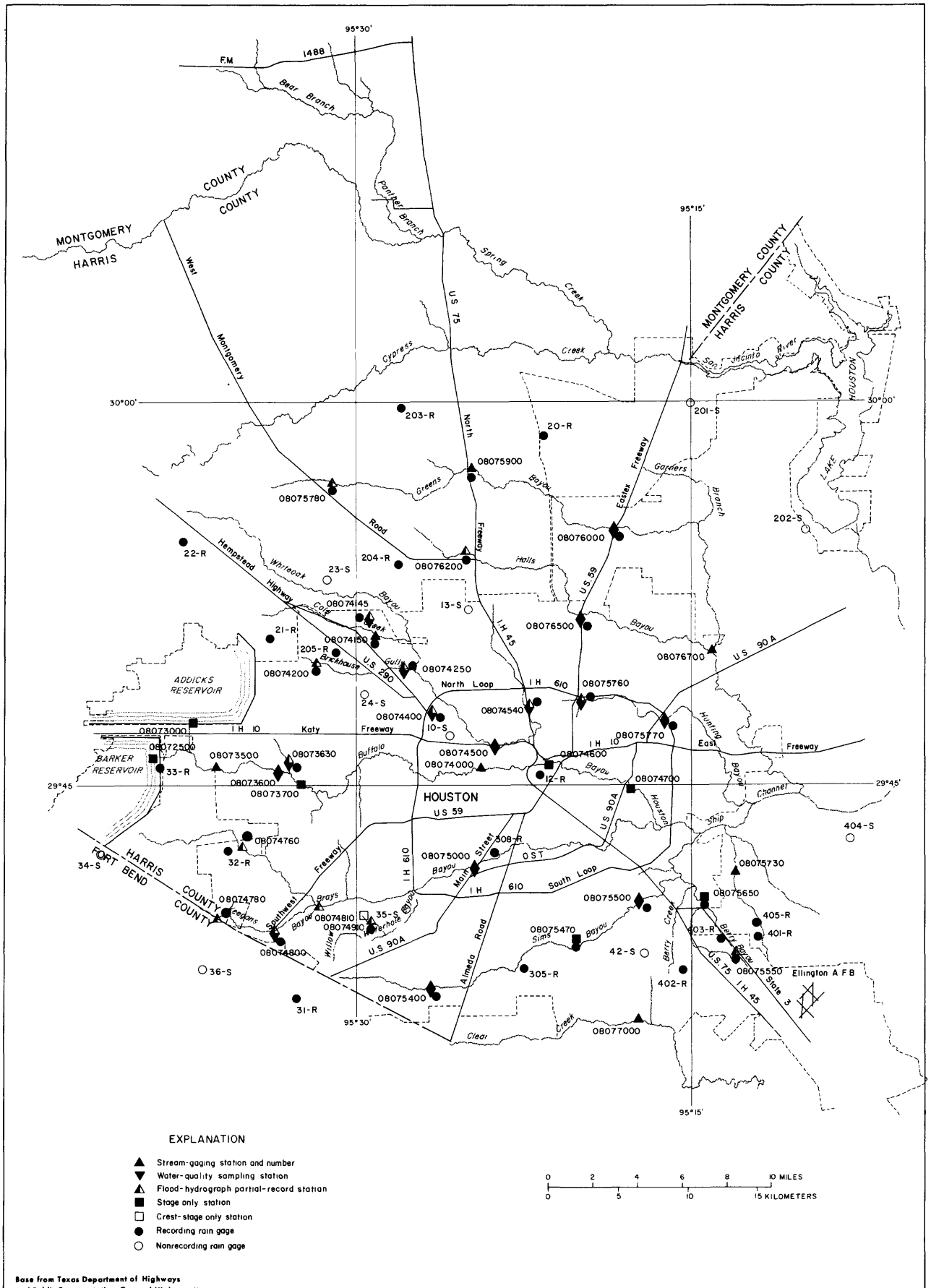

FIGURE 1.- Location of data-collection sites in the Houston urban study area

Table 1.--Percent increases in urbanization in various drainage areas above stream gaging stations in the Houston metropolitan area from 1969 to 1976

Station no.	Station name	Percent of drainage area that is urbanized		Percent increase
		1969 a/	1976 b/	
08074150	Cole Creek at Diehl Road	34.3	54.0	19.7
08074200	Brickhouse Gully at Clarblak Street	34.6	54.7	20.1
08074250	Brickhouse Gully at Costa Rica Street	61.0	77.5	16.5
08074500	Whiteoak Bayou at Houston	45.2	57.7	12.5
08074780	Keegans Bayou at Keegan Road	21.0	44.9	23.9
08074800	Keegans Bayou at Roark Road	26.3	55.7	29.4
08075000	Brays Bayou at Houston	44.6	64.4	19.8
08075400	Sims Bayou at Hiram Clarke Street	40.4	69.3	28.9
08075500	Sims Bayou at Houston	50.2	73.7	23.5
08075550	Berry Bayou at Gilpin Street	58.0	71.8	13.8
08075650	Berry Bayou at Forest Oaks Street	72.9	85.3	12.4
08075760	Hunting Bayou at Falls Street	95.9	98.9	3.0
08075770	Hunting Bayou at Interstate Highway 610	83.3	95.0	11.7
08075780	Greens Bayou at Cutten Road	24.4	47.2	22.8
08076000	Greens Bayou near Houston	26.3	43.9	17.6
08076200	Halls Bayou at Deertrail Street	30.4	52.8	22.4
08076500	Halls Bayou at Houston	60.3	74.1	13.8

a/ Johnson and Sayre, 1973.
b/ Liscum and Massey, 1980.

are given in the section "Compilation of Data for the San Jacinto River basin." Locations of recording and nonrecording rain gages at sites other than stream-gaging stations are given later in table 19.

Precipitation at individual gages and weighted precipitation in each study basin is given in the section "Compilation of data." Daily and monthly rainfall amounts are also given in the section "Compilation of data."

Weighted-mean precipitation factors for drainage basins in the Houston area are given in table 2. Weighted-mean precipitation for a study area is determined by the Thiessen method as described by Linsley, Kohler, and Paulhus (1949). All of the rain gages, recording and nonrecording, are used to compute the monthly and annual rainfall amounts. Only the functioning recording gages are used to compute storm rainfall amounts. For example, the monthly and annual weighted-mean precipitation for the drainage basin upstream from the Cole Creek at the Deihl Road gaging station could be computed as follows: Multiply the recorded precipitation at the rain gage at station 08074150 by 0.25; to that value add the recorded precipitation at the rain gage at station 205R multiplied by 0.15; to that value add the recorded precipitation at the rain gage at station 23S multiplied by 0.15; and to that value add the recorded precipitation at the rain gage at station 21R multiplied by 0.45.

Rainfall for the current year was unevenly distributed over the area. Individual station totals ranged from 53.02 inches at the U.S. Geological Survey streamflow station, Cole Creek at Diehl Road (station 08074150) in northwest Houston to 76.96 inches at the National Weather Service rain gage at Sugarland (station 36S) which borders southwest Houston. Figure 2 shows the comparison of accumulated monthly rainfall for the 1983 water year for five widely separated drainage basins with the 30-year rainfall average (1941-70) of 48.19 inches for Houston; only the month of April had rainfall which was much less than the 30-year average for all basins. The period May through September had rainfall which greatly exceeded that of the 30-year average. As figure 2 illustrates, all five basins received significantly greater rainfall for the 1983 water year than that of the 30-year average. The departure of actual rainfall from the 30-year average for these basins ranged from 13.64 inches to 22.05 inches more than the 30-year average of 48.19 inches. Much of this departure can be attributed to Hurricane Alicia (August 18) and to the severe thunderstorm of September 19-20.

Twenty-two storms during the 1983 water year produced rainfall totals in excess of 2.0 inches. Eleven of these storms were confined to only a few drainage basins and the remaining 11 produced significant rainfall over the entire metropolitan area. Eight of these 11 storms, March 23, May 20-21, June 15-17, July 13-14, July 15-16, August 11-12, August 18, and September 19-20 are considered major storms. The three most significant storms, in terms of total rainfall and areal coverage, were on May 20-21, August 18, and September 19-20.

The storm of May 20-21 produced rainfall ranging from about 7.4 inches in the Greens Bayou drainage basin in north Houston to about 2.5 inches in the Keegans Bayou drainage basin in southwest Houston. Much of the rainfall from

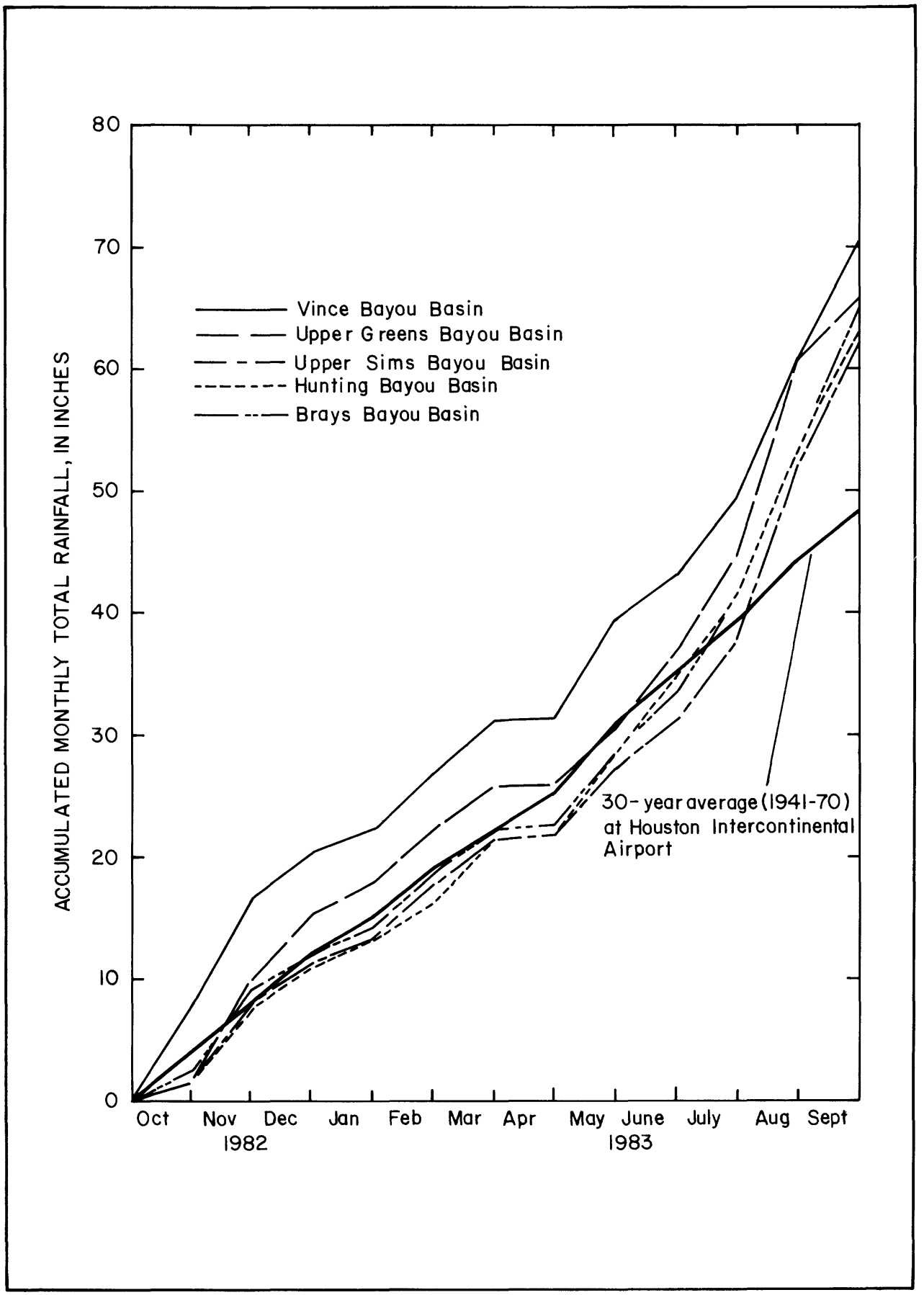

Figure 2.- Rainfall at five drainage basins in the Houston metropolitan area, 1983 water year

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area

Station number and name	Gages and factors used to compute monthly and yearly totals		Date of storm	Gages and factors used to compute storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/		Weighted-mean precipitation factors 2/
08073630 Bettina Street Ditch at Houston	Not computed	--	Nov. 2-3, 1982	08073630	---	1.00
			June 16, 1983	08073630	---	1.00
08074145 Bingle Road Storm Sewer at Houston	Not computed	--	Nov. 2, 1982	08074145	---	1.00
			Feb. 20-21, 1983	08074145	---	1.00
08074150 Cole Creek at Deihl Road, Houston	08074150	.25	May 20-24, 1983	08074150	---	.30
	205R	.15		205R		.15
	23S	.15		21R		.55
	21R	.45	Aug. 18-21, 1983	08074150	---	.30
				205R		.15
				21R		.55
			Sept. 19-21, 1983	08074150	---	.30
				205R		.70
08074200 Brickhouse Gully at Clarblak Street, Houston	Not computed	--	July 21-23, 1983	205R	---	.20
				21R		.80
			Aug. 18-20, 1983	205R	---	.20
				21R		.80
			Sept. 19-20, 1983	205R	---	1.00
08074250 Brickhouse Gully at Costa Rica Street, Houston	08074250	.10	July 21-22, 1983	08074150	---	.20
	08074200	.30		205R		.60
	08074150	.10		21R		.20
	205R	.25	Aug. 18-21, 1983	08074250	---	.15
	24S	.10		08074150		.10
	21R	.15		205R		.55
				21R		.20
			Sept. 19-22, 1983	08074250	---	.15
				08074150		.10
				205R		.75

See footnotes at end of table

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Gages and factors used to compute monthly and yearly totals		Date of storm	Gages and factors used to compute storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/		Weighted-mean precipitation factors 2/
08074400 Lazybrook Street Storm Sewer at Houston	Not computed	---	Nov. 2, 1982	08074400	---	1.00
			Feb. 20-21, 1983	08074400	---	1.00
			Sept. 10, 1983	08074400	---	1.00
08074500 Whiteoak Bayou at Houston	08074400	.10	May 20-24, 1983	08074250	---	.25
	08074250	.05		08074200		.05
	08074200	.05		08074150		.10
	08074150	.05		205R		.05
	205R	.05		204R		.20
	204R	.10		21R		.35
	24S	.05	Sept. 19-23, 1983	08074250	---	.25
	23S	.25		08074150		.10
	22R	.20		205R		.20
	21R	.05		204R		.20
	10S	.05		22R		.25
08074540 Little Whiteoak Bayou at Trimble St., Houston	Not computed	--	Feb. 20-21, 1983	08074540	---	.55
				08074400		.30
				204R		.15
			June 15-16, 1983	08074250	---	.30
				08074540		.70
			Aug. 18-19, 1983	08076500	---	.20
				08076200		.30
				08074540		.50
			Sept. 19-21, 1983	08076200	---	.55
				08074250		.45
08074760 Brays Bayou at Alief	Not computed	--	Feb. 9-10, 1983	33R	---	.30
				32R		.70
			Sept. 19-22, 1983	33R	---	.30
				32R		.70

See footnotes at end of table

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Gages and factors used to compute monthly and yearly totals		Date of storm	Gages and factors used to compute storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/		Weighted-mean precipitation factors 2/
08074780 Keegans Bayou at Keegans Road, Houston	Not computed	--	Aug. 18-21, 1983	08074780	---	1.00
			Sep. 19-22, 1983	08074780	---	1.00
08074800 Keegans Bayou at Roark Road, Houston	08074800	.10	Nov. 2-3, 1982	08074800	---	.10
	08074780	.65		08074780		.90
	34S	.25	Nov. 19-21, 1982	08074800	---	.50
				32R		.50
			Feb. 9-11, 1983	08074800	---	.10
				08074780		.90
			Feb. 15-17, 1983	08074800	---	.10
				08074780		.90
			Aug. 18-20, 1983	08074800	---	.10
				08074780		.90
			Sep. 19-22, 1983	0807480C	---	.10
				08074780		.90
08074810 Brays Bayou at Gessner Drive Houston	Not computed	--	Aug. 10-11, 1983	08074800	---	.30
				08074760		.25
				33R		.10
				32R		.30
				31R		.05
			Aug. 18-21, 1983	08074800	---	.20
				08074780		.20
				08074760		.20
				33R		.10
				32R		.25
				31R		.05
			Sep. 19-24, 1983	08074800	---	.25
				08074780		.20
				33R		.10
				32R		.40
				31R		.05

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Gages and factors used to compute monthly and yearly totals		Date of storm	Gages and factors used to compute storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/		Weighted-mean precipitation factors 2/
08074910 Hummingbird Street Ditch at Houston	Not computed	--	Feb. 9, 1983	08074910	---	1.00
			Aug. 10-13, 1983	08074800	---	1.00
			Aug. 18-20, 1983	08074910	---	1.00
08075000 Brays Bayou at Houston	08074910	.15	Feb. 9-10, 1983	08074910	---	.25
	08074800	.10		08074800		.10
	08074780	.10		08074780		.10
	308R	.10		08074760		.15
	303R	.05		308R		.10
	35S	.15		33R		.05
	34S	.05		32R		.20
	32R	.25		31R		.05
	31R	.05	Aug. 18-21, 1983	08074910	---	.25
				08074800		.10
				08074780		.10
				08074760		.15
				308R		.10
				33R		.05
				32R		.20
				31R		.05
			Sep. 18-24, 1983	08074910	---	.25
				08074800		.15
				08074780		.15
				308R		.10
				33R		.05
				32R		.25
				31R		.05
08075400 Sims Bayou at Hiram Clarke Street, Houston	08075400	.60	Aug. 18-20, 1983	08075400	---	.60
	31R	.40		31R		.40
			Sep. 19-21, 1983	08075400	---	.60
				31R		.40

See footnotes at end of table

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Gages and factors used to compute monthly and yearly totals		Date of storm	Gages and factors used to compute storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/		Weighted-mean precipitation factors 2/
08075470 Sims Bayou at Martin Luther King Blvd., Houston	Not computed	--	Aug. 18-20, 1983	08075470	---	.05
				08075400		.50
				305R		.30
				31R		.15
			Sep. 19-22, 1983	08075470	---	.05
				08075400		.50
				305R		.30
				31R		.15
08075500 Sims Bayou at Houston	08075500	.05	Aug. 18-21, 1983	08075500	---	.05
	08075400	.45		08075470		.20
	08075470	.20		08075400		.35
	305R	.25		305R		.25
	42S	.05		31R		.15
			Sep. 19-22, 1983	08075500	---	.05
				08075470		.20
				08075400		.35
				305R		.25
				31R		.15
08075550 Berry Bayou at Gilpin Street, Houston	Not computed	--	Aug. 18-19, 1983	403R	---	1.00
08075650 Berry Bayou at Forest Oaks Street, Houston	Not computed	--	Aug. 18-19, 1983	08075650	---	.40
				403R		.60
08075730 Vince Bayou at Pasadena	08075650	.20	Aug. 17-19, 1983	08075650	---	.10
	401R	.80		405R		.90

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Gages and factors used to compute monthly and yearly totals		Date of storm	Gages and factors used to compute storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/		Weighted-mean precipitation factors 2/
08075760 Hunting Bayou at Falls Street, Houston	Not computed	---	Aug. 18-20, 1983	08075760	---	1.00
			Sep. 19-21, 1983	08075760	---	1.00
08075770 Hunting Bayou at Interstate Highway 610, Houston	08075770	.20	Feb. 15-17, 1983	08075770	---	1.00
	08075760	.80	Sep. 19-22, 1983	08075760	---	1.00
08075780 Greens Bayou at Cutten Road near Houston	Not computed	---	Oct. 11-14, 1982	08075780	---	.95
				22R		.05
			Aug. 18-21, 1983	203R	---	.35
				22R		.65
08075900 Greens Bayou at U.S. Highway 75, Houston	08075900	.20	Oct. 12-14, 1982	08075780	---	1.00
	08075780	.50	May 20-25, 1983	08075900	---	.20
	204R	.05		203R		.80
	203R	.25	Aug. 18-23, 1983	08075900	---	.20
				203R		.80
08076000 Greens Bayou near Houston	08076200	.05	Oct. 11-14, 1982	08076000	---	.40
	08076000	.15		08075780		.60
	08075900	.25	May 10-12, 1983	08076000	---	.15
	08075780	.20		08075900		.45
	203R	.20		203R		.30
	20R	.15		22R		.10
			May 20-25, 1983	08076000	---	.15
				08075900		.45
				203R		.40
			Aug. 18-23, 1983	08076000	---	.15
				08075900		.45
				203R		.30
				22R		.10

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Gages and factors used to compute monthly and yearly totals		Date of storm	Gages and factors used to compute storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/		Weighted-mean precipitation factors 2/
08076200 Halls Bayou at Deertrail	Not computed	--	Mar. 23-25, 1983	08076200	---	.55
				204R		.45
			May 20-23, 1983	204R	---	1.00
08076500 Halls Bayou at Houston	08076500	.35	Mar.23-28, 1983	08076200	---	.60
	08076200	.35		08076000		.30
	08076000	.05		204R		.10
	204R	.15	May 10-11, 1983	08076200	---	.60
	13S	.10		08076000		.30
				204R		.10
			Aug. 18-23, 1983	08076500	---	.40
				08076200		.45
				08076000		.05
				204R		.10
08076700 Greens Bayou at Ley Road, Houston	Not computed	--	Aug. 18-23, 1983	08076500	---	.10
				08076200		.10
				08076000		.35
				08075900		.10
				08075770		.05
				204R		.05
				203R		.15
				20R		.10

1/ See table 19 for locations of stations other than stream-gaging stations.

2/ See section on "Precipitation Data" for explanation of use of weighted-mean precipitation factors.

this storm fell on May 20 and was accompanied by downbursts and tornadoes. A total of 11 deaths were attributed to the storm (U.S. Department of Commerce, 1983a).

The storm of August 18, (known as Hurricane Alicia) produced rainfall ranging from about 10.7 inches in the Sims Bayou drainage basin in south-southeast Houston to about 3.0 inches in the upper Brays Bayou drainage basin in west-southwest Houston. Hurricane Alicia made landfall at about 2:00 a.m., c.t.s. (central standard time) on August 18 near Galveston, with maximum winds of 115 miles per hour and minimum barometric pressure of 28.41 inches of mercury (U.S. Department of Commerce, 1983b). The eye of the hurricane proceeded fairly rapidly in a northwesterly track and arrived over downtown Houston at about 7:30 a.m. At least 15 tornadoes were spawned by Hurricane Alicia in the metropolitan area. Total damagaes attributed to the hurricane ranged from $100 to $200 million, and a total of 21 deaths were reported (U.S. Department of Commerce, 1983c). Rainfall was not nearly as severe as had been predicted; this was due possibly to the rapid movement of the hurricane through the metropolitan area.

The storm of September 19-20 produced rainfall ranging from about 10.7 inches in the Keegans Bayou drainage basin in southwest Houston to about 2.1 inches in the Greens Bayou drainage basin in north Houston. Most of the rainfall for this storm fell on September 19, and was produced by a severe thunderstorm which was concentrated over Keegans Bayou, Brays Bayou, and Sims Bayou drainage basins. Severe street and home flooding occurred along Brays Bayou in south-southwest Houston.

The storms of August 18, Hurricane Alicia, and September 19-20 were analyzed for all streamflow stations in the study area except at those where rainfall distribution was questionable, where the quality of recorded data was poor, or where the stage-discharge relationship was poorly defined. The storm of May 20-21 was selected for analysis at a selected number of stations based on the total rainfall produced by the storm and the quality of recorded data. Other storms were selected for analysis based on discharge, total rainfall, quality of recorded data, distribution of rainfall, and availability of water-quality data.

Runoff Data

Runoff data are based on discharge measurements and stage records at 15 continuous-record stream-gaging stations, and 15 flood-hydrograph partial-record stations (fig. 1). Stage hydrograph data are available from three stage-only stations.

Annual records of either daily discharge or maximum gage height at continuous-record stream-gaging stations, and maximum discharge at flood-hydrograph partial-record stations are given in the section "Compilation of data." Tables of storm runoff data, including accumulated rainfall totals, are also given for selected storms in the section "Compilation of data."

Figure 3 shows the accumulated monthly runoff from six basins for the 1983 water year and the average runoff for the period 1953-70. The average annual rainfall for the 1953-70 period was 46 inches or approximately equal to the 30-year (1941-70) rainfall average of 48.19 inches at Houston. Figure 3 shows that runoff for the 1983 water year is appreciably greater than the average runoff for the period 1953-70. This is partially attributed to the heavy rainfall at these basins during the 1983 water year compared to the 46-inch average during 1953-70. However, the high ratio of runoff to rainfall exhibited by comparison of the averaging period of 1953-70 with the 1983 water-year is one of the effects of the continual urban development in the metropolitan area--not only increased storm runoff due to increased impervious area but also increased low flow sustained by sewage treatment plant releases. The figure also illustrates the effects of the heavy rainfall on total runoff during the period May through September.

The most significant storms of the 1983 water year were those of May 20-21, August 18, and September 19-20. Data published in the section "Compilation of Data" show that computed storm runoff for the storm of May 20-21 ranged from 2.7 to 4.3 inches. The storm of August 18 (Hurricane Alicia) produced runoff from 3.0 to 8.7 inches. Hurricane Alicia was the most significant storm during the 1983 water year. The annual water year peak was produced by this storm for 21 of the 33 streamflow stations presented in this report. The storm of September 19-20 produced runoff ranging from 1.4 to 9.1 inches. This storm was also significant as it produced the annual water year peak at the remaining 12 of the 33 streamflow stations reported.

The significance of Hurricane Alicia and the September 19-20 storm can also be stated in terms of the entire period of the study to date, 1964-83. Thus, it is interesting to note that one of these storms produced the peak for the period of record for 14 of the 33 stations included in this report. Hurricane Alicia produced 8 period-of-record peaks and the September 19-20 storm produced 6 period-of-record peaks.

The ratio of runoff to rainfall was determined for all storms selected for analysis. The ratio ranged from 0.53 to 0.59 for the storm of May 20-21, and from 0.55 to 1.06 for Hurricane Alicia. These values were distributed so that the storms analyzed for the hurricane were grouped equally into three ranges--the ratio less than 0.7, between 0.7 and 0.9, and greater than 0.9. The one station where the ratio value exceeded 1.0 indicates data problems, which are attributed to the inability of a rain gage to capture the horizontal rain associated with the high winds of a hurricane. The ratio ranged from 0.31 to 0.98 for the storm of September 19-20. For this storm, the ratio was less than 0.6 for 2 streamflow stations, between 0.6 and 0.8 for 8 sites, and greater than 0.8 for 4 sites. A high ratio of runoff to rainfall may result from saturated soil moisture conditions, high-intensity rainfall, and long duration rainfall in conjunction with highly developed drainage basins which include a large portion of impervious land cover and efficient storm drainage systems. However, caution is urged in the use of these computed values as the accuracies of the ratios may be adversely effected by inadequate rain-gage coverage, indeterminate drainage-area boundaries, basin exchange, and indefinite stage-discharge relationships.

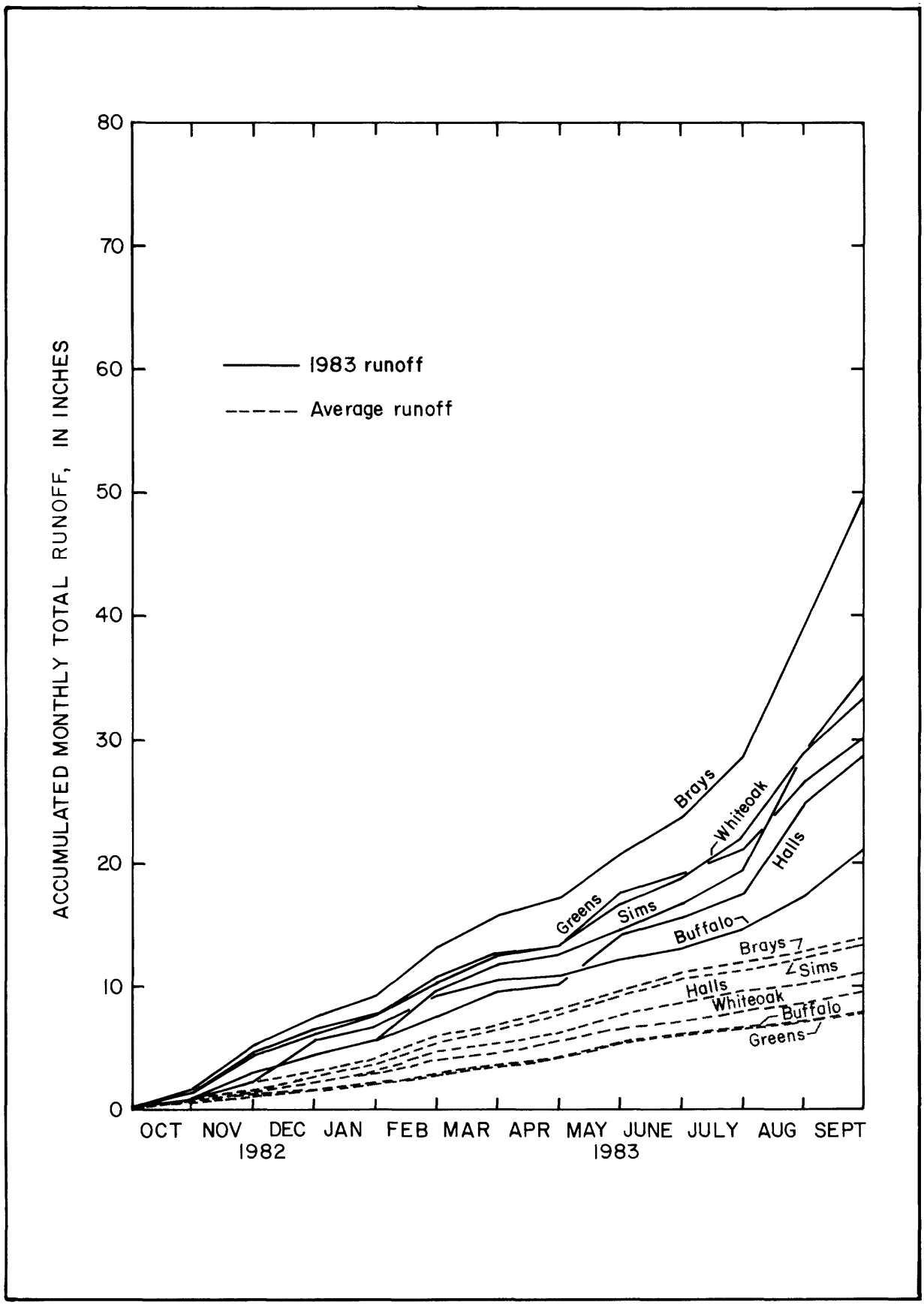

Figure 3.- Runoff from six drainage basins in the Houston metropolitan area, 1983 water year, and average runoff for the period 1953-70

Values for total storm runoff, storm-peak discharge, ratio of runoff to rainfall, and other pertinent data for all storms analyzed in the 1983 water year are given in tables 3-18. A total of 20 storms have been analyzed for the 1983 water year resulting in a total of 69 separate storm-data listings. The storm rainfall dates and the number of stream-gaging stations for which data are published in the section "Compilation of data" are:

No.	Storm rainfall date	Number of stations for which data are published
1	October 11-12	3
2	November 2	2
3	November 2-3	2
4	November 19	1
5	February 9	2
6	February 9-10	2
7	February 15-16	2
8	February 20-21	3
9	March 23	2
10	May 10	2
11	May 20-21	5
12	June 15-16	1
13	June 16	1
14	July 21-22	2
15	August 10-11	1
16	August 10-12	1
17	August 18-19	21
18	September 10	1
19	September 18-20	1
20	September 19-20	14

Water-Quality Data

Water-quality data were collected at 15 locations in the study area during the 1983 water year. The locations of the water-quality data collection sites are shown on figure 1. Water-quality data and streamflow data are presented in downstream order in the section "Compilation of data."

Water-quality data are collected from a wide range of discharge representing various flow and seasonal conditions, and include determinations for physical, chemical, and biological parameters. Physical determinations include measurements of temperature, pH, turbidity, suspended and volatile solids, and color. Chemical analyses include specific conductance, dissolved oxygen, standard inorganic chemical (major ions), selected nutrient determinations of total organic carbon, nitrogen, and phosphorus. Chemical analyses of trace substances include minor elements, and pesticides. Biological analyses include measurements of BOD (biochemical oxygen demand) and bacteriological analyses for total coliform, fecal coliform, and fecal streptococci.

Water samples were also collected during selected storms to determine the quality of storm runoff in the Houston metropolitan area. Storm dates and stations where at least three water-quality samples were collected during the storms are:

Station no.	Station name	Date of storm
08073630	Bettina Street Ditch at Houston, Tex.	Nov. 2-3, 1982
08074145	Bingle Road Storm Sewer at Houston, Tex.	Nov. 2, 1982 Feb. 20-21, 1983
08074400	Lazybrook Street Storm Sewer at Houston, Tex.	Nov. 2, 1982 Feb. 20-21, 1983
08074500	Whiteoak Bayou at Houston, Tex.	May 20-24, 1983
08074540	Little Whiteoak Bayou at Trimble Street, Houston, Tex.	June 15-16, 1983
08074800	Keegans Bayou at Roark Road near Houston, Tex.	Nov. 2-3, 1982 Nov. 19-21, 1982 Feb. 9-11, 1983 Feb. 15-17, 1983
08075000	Brays Bayou at Houston, Tex.	Feb. 9-10, 1983 Sept. 18-24, 1983
08075500	Sims Bayou at Houston, Tex.	Sept. 19-22, 1983
08075770	Hunting Bayou at Interstate Highway 610, Houston, Tex.	Feb. 15-17, 1983
08076000	Greens Bayou near Houston, Tex.	May 10-12, 1983
08076500	Halls Bayou at Houston, Tex.	May 10-11, 1983

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C O M P I L A T I O N O F D A T A

08073500 BUFFALO BAYOU NEAR ADDICKS, TX

LOCATION.--Lat 29°45'42", long 95°36'20", Harris County, Hydrologic Unit 12040104, near right bank at bridge on Dairy-Ashford Road over rectified channel, 1.8 mi downstream from South Mayde Creek, and 2.6 mi southeast of Addicks.

DRAINAGE AREA.--293 mi^2, unadjusted for basin boundary changes.

PERIOD OF RECORD.--August 1945 to current year.
Water-quality records.--Chemical, biochemical, and pesticide analyses: August 1970 to September 1982.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.40 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted to land-surface subsidence. Prior to Feb. 2, 1948, water-stage recorder at bridge on natural channel 1,200 ft to right at same datum. Feb. 2 to May 21, 1948, nonrecording gage at present site and datum.

REMARKS.--Records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 3.2 and 3.0 mi upstream, respectively (total capacity 315,900 acre-ft). Extreme low flow is sustained by drainage from irrigated lands.

AVERAGE DISCHARGE.--38 years, 215 ft^3/s (155,800 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft^3/s Aug. 29, 1945 (gage height, 81.23 ft), former site; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 85.6 ft in December 1935, adjusted to former site from floodmark 0.5 mi downstream, on basis of slope of flood of Aug. 29, 1945, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,310 ft^3/s Aug. 18 at 2300 hours (gage height, 68.37 ft); minimum daily, 19 ft^3/s Oct. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	51	1480	390	315	51	568	23	1090	31	200	1280
2	30	99	1410	489	159	45	310	29	856	29	200	1050
3	30	353	1440	458	74	42	72	29	828	29	122	1040
4	31	318	1480	296	53	42	43	25	794	29	87	1020
5	30	248	1460	97	546	64	35	23	743	32	120	1000
6	30	92	1500	67	756	51	29	23	530	32	181	1140
7	39	51	1610	56	834	36	26	21	165	32	157	1310
8	65	39	1670	52	955	33	25	24	74	31	432	1350
9	100	33	1630	48	589	29	23	31	36	32	290	1180
10	93	28	1410	46	734	28	21	190	32	32	388	907
11	82	24	1020	41	1030	27	21	78	29	58	444	916
12	308	24	983	37	1580	27	23	188	29	42	261	846
13	535	22	1190	35	1540	27	23	322	31	156	127	717
14	596	22	1420	33	1190	28	28	231	34	73	90	348
15	618	22	1690	33	762	30	24	97	34	394	378	139
16	613	35	1560	33	968	35	21	52	185	655	883	70
17	605	404	985	32	1260	51	20	37	370	272	733	81
18	591	571	594	44	1170	40	21	27	70	487	1180	238
19	573	894	110	451	1070	32	21	27	30	959	1360	1140
20	543	223	43	712	918	34	21	451	200	1320	418	807
21	461	76	37	816	728	33	23	607	520	1340	358	646
22	262	472	141	968	836	31	28	418	390	1450	550	967
23	174	1320	86	900	1230	396	29	357	252	1320	1110	1370
24	33	1290	53	869	1230	620	26	664	129	1220	1170	1300
25	25	1230	69	603	640	1130	23	895	157	1120	1570	1230
26	22	1060	301	201	157	1320	23	990	152	973	1200	1260
27	20	311	323	128	84	1250	23	961	90	650	1150	1330
28	19	140	372	83	60	1240	24	945	42	500	1140	1300
29	110	518	221	60	---	1240	23	929	34	220	1330	1270
30	189	1430	90	52	---	799	24	912	32	140	1510	1320
31	100	---	120	115	---	624	---	973	---	160	1460	---
TOTAL	6964	11400	26498	8245	21468	9435	1621	10579	7958	13818	20599	28572
MEAN	225	380	855	266	767	304	54.0	341	265	446	664	952
MAX	618	1430	1690	968	1580	1320	568	990	1090	1450	1570	1370
MIN	19	22	37	32	53	27	20	21	29	29	87	70
AC-FT	13810	22610	52560	16350	42580	18710	3220	20980	15780	27410	40860	56670

CAL YR 1982 TOTAL 76879 MEAN 211 MAX 1690 MIN 15 AC-FT 152500
WTR YR 1983 TOTAL 167157 MEAN 458 MAX 1690 MIN 19 AC-FT 331600

SAN JACINTO RIVER BASIN

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX

LOCATION.--Lat 29°45'43", long 95°33'27", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on West Belt Drive in west Houston, 100 ft downstream from Rummel Creek, 3.5 mi downstream from station 08073500, and 3.7 mi upstream from station 08073700.

DRAINAGE AREA.--307 mi^2, unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1971 to current year.

GAGE.--Water-stage recorders and crest-stage gage. Datum of gage is 0.67 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Water-discharge records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 10.1 and 10.3 mi upstream, respectively. Low flow is sustained by sewage effluent from Houston suburbs. Gage-height telemeter at station.

AVERAGE DISCHARGE.--12 years, 327 ft^3/s (236,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,350 ft^3/s Aug. 31, 1981 (gage height, 64.58 ft); minimum daily, 25 ft^3/s Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,810 ft^3/s Sept. 19 at 1030 hours (gage height, 61.48 ft); minimum daily, 43 ft^3/s July 3, 4, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	100	1500	387	316	90	620	56	1130	48	256	1340
2	67	235	1460	478	196	80	350	62	904	46	259	1080
3	66	478	1480	458	117	74	110	64	870	43	180	1040
4	68	352	1500	315	89	70	70	57	833	43	121	1020
5	67	284	1480	143	594	100	60	55	782	46	150	1000
6	71	141	1540	108	781	85	56	55	577	46	248	1090
7	90	89	1650	93	803	72	54	54	228	45	232	1290
8	112	72	1700	88	1000	66	54	57	112	43	662	1410
9	146	64	1680	83	800	63	52	79	55	44	576	1250
10	137	58	1540	80	690	63	52	425	54	44	583	1030
11	142	54	1070	77	936	63	52	138	49	71	735	1210
12	424	53	998	71	1590	62	54	224	48	62	496	909
13	557	51	1110	69	1600	62	55	369	48	366	217	839
14	633	50	1470	66	1340	62	56	292	48	218	124	441
15	660	50	1750	66	948	64	54	217	52	555	364	192
16	657	100	1710	63	962	75	52	104	420	1220	872	91
17	654	655	1090	62	1290	94	50	72	735	379	890	96
18	648	505	628	87	1220	80	52	60	99	460	1840	286
19	631	1300	164	578	1110	68	50	55	55	917	2320	2410
20	598	377	75	757	1010	77	51	805	258	1320	634	1590
21	519	128	65	816	990	72	52	900	586	1390	424	833
22	306	436	139	1010	792	70	64	582	452	1500	520	955
23	228	1290	200	948	1230	500	59	391	365	1360	1080	1390
24	75	1290	85	900	1300	650	54	676	232	1270	1160	1350
25	61	1240	242	693	756	1200	52	908	217	1180	1570	1290
26	57	1250	310	247	195	1350	51	1020	209	1050	1280	1290
27	62	595	339	170	123	1300	54	1000	135	811	1120	1380
28	54	200	359	128	100	1300	56	984	68	648	1110	1350
29	235	516	238	101	---	1300	56	965	54	259	1270	1320
30	264	1440	121	88	---	850	57	949	51	207	1580	1330
31	165	---	162	275	---	670	---	994	---	209	1440	---
TOTAL	8525	13453	27855	9505	22878	10732	2559	12669	9726	15900	24313	32102
MEAN	275	448	899	307	817	346	85.3	409	324	513	784	1070
MAX	660	1440	1750	1010	1600	1350	620	1020	1130	1500	2320	2410
MIN	54	50	65	62	89	62	50	54	48	43	121	91
AC-FT	16910	26680	55250	18850	45380	21290	5080	25130	19290	31540	48220	63670

CAL YR 1982 TOTAL 92931 MEAN 255 MAX 1750 MIN 50 AC-FT 184300
WTR YR 1983 TOTAL 190217 MEAN 521 MAX 2410 MIN 43 AC-FT 377300

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyes: December 1978 to current year. Pesticide analyses: June 1978 to March 1983.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1979 to current year.
WATER TEMPERATURES: June 1979 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 922 micromhos June 25, 1979; minimum daily, 78 micromhos Aug. 31, 1981.
WATER TEMPERATURES (1979-80): Maximum daily, 30.5°C July 1, 1978; minimum daily, 8.5°C Jan. 23, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV											
24...	0945	1290	124	6.8	18.0	--	23	7.7	81	3.5	250
FEB											
16...	1030	891	150	7.4	13.0	--	280	9.7	92	3.5	190
MAR											
02...	1248	85	640	7.8	20.5	40	52	8.6	95	9.9	K1
MAY											
11...	1217	148	420	7.3	23.5	--	210	6.0	71	7.5	62
AUG											
02...	1050	284	323	7.2	26.5	--	180	7.0	87	3.9	80

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV											
24...	920	36	0	11	2.1	9.5	.7	4.8	41	8.0	10
FEB											
16...	1700	42	0	13	2.4	13	.9	2.7	44	10	12
MAR											
02...	330	130	0	39	7.1	79	3.2	4.7	170	24	74
MAY											
11...	500	95	0	29	5.3	43	2.0	4.6	110	21	44
AUG											
02...	600	78	0	25	3.8	37	1.9	4.6	87	16	36

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
NOV										
24...	.10	8.7	94	80	--	--	--	--	--	.13
FEB										
16...	.20	7.5	92	89	--	--	--	--	--	.34
MAR										
02...	.40	17	--	347	54	13	1.3	.600	1.9	--
MAY										
11...	.30	12	228	231	--	--	--	--	5.6	.79
AUG										
02...	.30	13	199	191	--	--	--	--	--	1.2

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV										
24...	--	.190	--	1.50	.380	.320	--	45	157	70
FEB										
16...	--	.300	--	2.20	.390	.290	--	79	190	87
MAR										
02...	3.50	--	1.2	4.70	1.80	--	12	--	--	--
MAY										
11...	--	2.30	--	2.70	.840	.660	--	259	103	98
AUG										
02...	--	.490	--	2.40	.820	.670	--	188	144	97

08073600 BUFFALO BAYOU AT WEST BELT DRIVE AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
NOV 24...	0945	2	63	<1	<1	<1	<3	6	180	1
FEB 16...	1030	2	56	<1	<1	<1	<3	4	250	<1
MAR 02...	1248	3	160	--	<1	<10	--	5	130	<1
MAY 11...	1217	4	110	<1	<1	<1	<3	5	65	<1
AUG 02...	1050	3	110	1	2	<1	<3	3	65	<1

DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 24...	7	0	.1	<10	<1	<1	<1	56	<6.0	32
FEB 16...	<4	8	<.1	<10	2	<1	<1	78	<6.0	34
MAR 02...	--	48	<.1	--	--	<1	<1	--	--	11
MAY 11...	12	8	<.1	<10	2	1	<1	220	<6.0	46
AUG 02...	10	5	<.1	<10	<1	<1	<1	180	<6.0	7

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR 02...	1248	<.10	<.10	.20	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR 02...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

BETTINA STREET DITCH DRAINAGE BASIN

The locations of data-collection sites in the Bettina Street Ditch drainage basin are shown in figure 4.

Weighted-mean rainfall for the 1983 water year was not determined.

The storms of November 2-3, and June 16 were selected for analysis at station 08073630, Bettina Street Ditch at Houston.

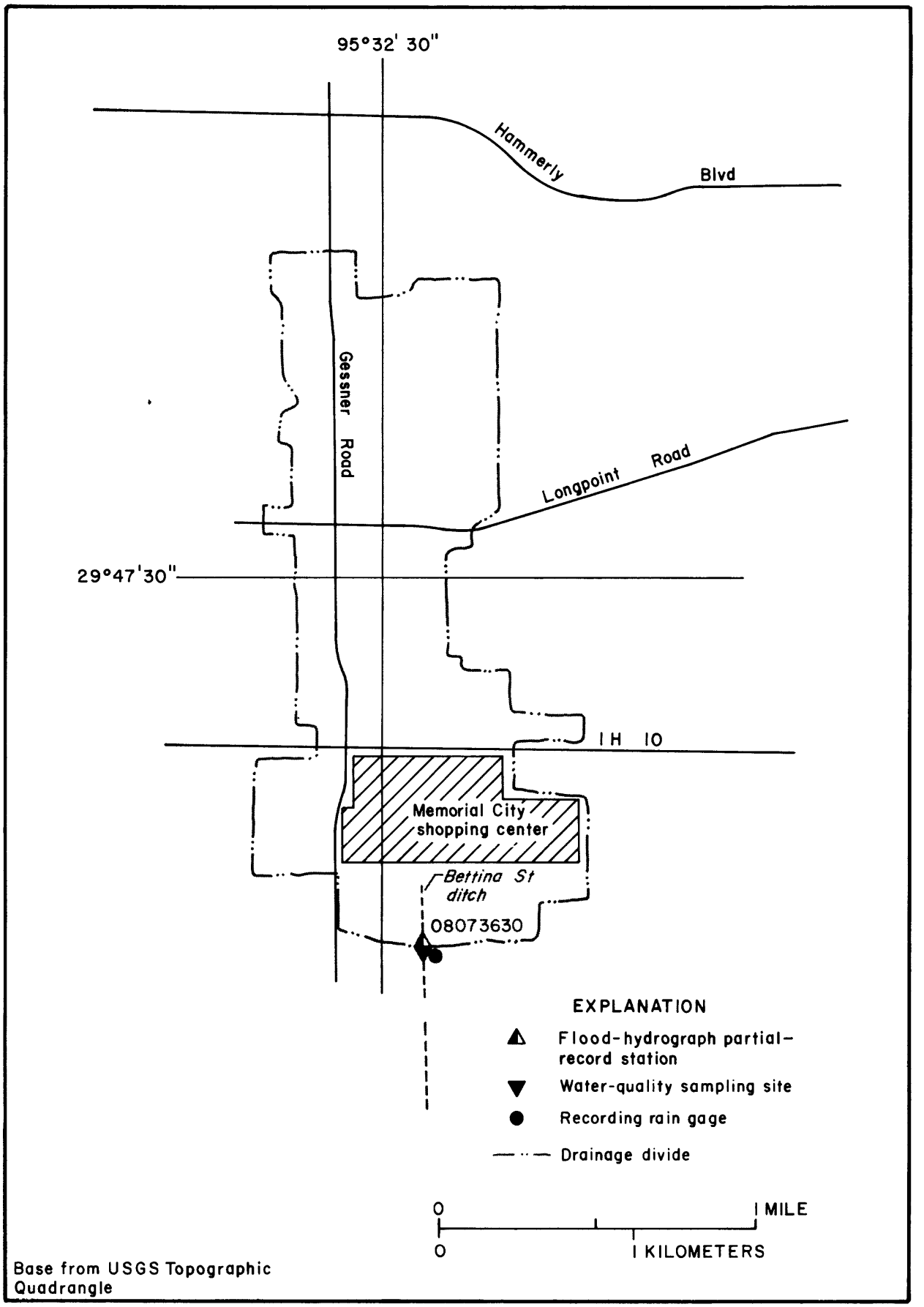

Figure 4.-Locations of data-collection sites in and near Bettina Street Ditch drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 3.--Storm rainfall-runoff data, 1983 Water Year, Bettina Street Ditch

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bettina Street Ditch at Houston, Tx. (Drainage area -- 1.37 mi^2)								
Nov. 2, 1982	0.4	0.99	0.50	0.85	0.92	0.55	0.37	195
Nov. 2-3, 1982	3.8	0.49	0.08	0.15	0.23			74
June 16, 1983	1.7	2.31	0.61	1.01	1.54	0.86	0.37	289

08073630 BETTINA STREET DITCH AT KIMBERLY STREET AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°46'32", long 95°32'23", Harris County, Hydrologic Unit 12040104, at intersection of Bettina Street ditch and Kimberly Street in west Houston.

DRAINAGE AREA.--1.37 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1978 to current year.

GAGE.--Flood-hydrograph and rainfall recorder, automatic water-quality sampler, and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1983."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 562 ft^3/s Aug. 31, 1981 (elevation, 81.69 ft).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 360 ft^3/s Sept. 19 (elevation, 80.18 ft, from crest-stage gage), no other peak above base of 300 ft^3/s; minimum not determined.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1981 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV												
02...	1655	3.6	116	--	--	40	22	--	--	--	--	--
02...	1710	150	51	--	--	15	50	--	--	--	--	--
02...	1725	195	85	--	--	30	64	--	--	--	--	--
02...	1810	140	62	--	--	30	56	--	--	--	--	--
MAR												
02...	1055	.30	959	8.8	22.0	5	21	14.5	166	165	5700	2000
MAY												
20...	1300	5.6	--	--	--	45	1.9	--	--	--	--	--
20...	1345	23	--	--	--	15	24	--	--	--	--	--
20...	1415	47	--	--	--	25	27	--	--	--	--	--
21...	1104	170	64	7.9	20.0	20	39	8.4	92	8.0	54000	100000
21...	1153	119	61	--	20.5	25	18	--	--	5.5	60000	82000
21...	1233	71	74	7.3	20.5	35	13	7.6	84	6.0	110000	110000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV												
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	190	0	61	10	130	4.2	8.2	250	52	130	.50	23
MAY												
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
21...	21	0	7.8	.5	2.3	.2	1.5	21	6.4	3.0	<.10	1.7
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	28	2	9.9	.7	2.5	.2	2.1	26	6.4	2.5	<.10	3.0

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV											
02...	--	186	50	--	.030	<.10	.080	2.8	2.90	.540	25
02...	--	216	34	.15	.050	.20	.080	.92	1.00	.340	18
02...	--	117	17	.08	.020	.10	<.060	--	2.30	2.50	23
02...	--	168	29	.17	.030	.20	<.060	--	1.60	.420	14
MAR											
02...	565	32	26	.14	.060	.20	.200	1.0	1.20	2.30	9.8
MAY											
20...	--	6	<1	.52	.080	.60	.360	1.2	1.60	.480	12
20...	--	76	62	.53	.070	.60	.960	1.7	2.70	.240	19
20...	--	45	26	.43	.070	.50	.830	1.7	2.50	.280	18
21...	36	112	40	.24	.060	.30	.740	.96	1.70	.210	14
21...	--	32	2	.23	.070	.30	.770	.93	1.70	.230	9.2
21...	43	80	25	.26	.040	.30	.600	.80	1.40	.300	11

08073630 BETTINA STREET DITCH AT KIMBERLY STREET AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
MAR							
02...	1055	5	170	<1	<10	11	52
MAY							
21...	1104	2	13	<1	<10	3	44
21...	1233	2	18	1	<10	3	65

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
MAR						
02...	<1	12	<.1	<1	<1	300
MAY						
21...	4	1	<.1	<1	<1	14
21...	7	3	<.1	<1	<1	32

DATE	TIME	AMETRYNE TOTAL	ATRATONE TOTAL (UG/L)	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	METHOMYL TOTAL (UG/L)	PROMETONE TOTAL (UG/L)
MAR								
02...	1055	<.10	<.10	.40	<.10	<.10	--	<.1
MAY								
21...	1104	<.10	<.10	.10	<.10	<.10	<2.0	.3
21...	1233	<.10	<.10	.50	<.10	<.10	<2.0	.1

DATE	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
MAR							
02...	<.1	<.10	--	--	<.10	<.10	<.1
MAY							
21...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
21...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1

STORM RAINFALL AND RUNOFF RECORD

08073630 Bettina Street ditch at Houston, Tex.

Date and time	Rainfall at gage 3630 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Nov. 2-3, 1982			
Nov. 2				
0000	0.0	0.0	0.0	0.0
0600	.0	.0	.0	.0
1200	.0	.0	.0	.0
1615	.0	.0	.0	.0
1620	.01	.01	.0	.0
1625	.02	.02	.0	.0
1630	.04	.04	.0	.0
1635	.15	.15	.0	.0
1640	.27	.27	.0	.0
1645	.39	.39	.0	.0
1650	.55	.55	.0	.0
1655	.72	.72	3.6	.0003
1700	.89	.89	36.0	.0037
1705	.90	.90	101.0	.0133
1710	.91	.91	150.0	.0274
1715	.92	.92	181.0	.0445
1720	.93	.93	191.0	.0625
1725	.94	.94	195.0	.0808
1730	.95	.95	193.0	.0990
1735	.95	.95	189.0	.1168
1740	.96	.96	183.0	.1341
1745	.97	.97	176.0	.1590
1755	.97	.97	162.0	.1819
1800	.98	.98	154.0	.2037
1810	.98	.98	140.0	.2234
1815	.99	.99	132.0	.2546
1835	.99	.99	106.0	.2945
1855	.99	.99	81.0	.3212
1910	.99	.99	65.0	.3396
1925	.99	.99	51.0	.3540
1940	.99	.99	41.0	.3656
1955	.99	.99	31.0	.3744
2010	.99	.99	24.0	.3857
2045	.99	.99	14.0	.3910
2050	1.00	1.00	13.0	.3922
2055	1.01	1.01	12.0	.3933
2100	1.03	1.03	11.0	.3944
2105	1.03	1.03	10.0	.3953
2110	1.04	1.04	9.0	.3962

STORM RAINFALL AND RUNOFF RECORD

08073630 Bettina Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 3630 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Nov. 2-3, 1982--Continued			
Nov. 2				
2115	1.05	1.05	9.0	0.3970
2120	1.05	1.05	8.5	.3978
2125	1.06	1.06	8.3	.3986
2130	1.07	1.07	7.9	.3993
2135	1.08	1.08	8.5	.4001
2140	1.09	1.09	11.0	.4012
2145	1.10	1.10	15.0	.4026
2150	1.11	1.11	20.0	.4045
2155	1.12	1.12	22.0	.4066
2200	1.13	1.13	24.0	.4088
2205	1.15	1.15	25.0	.4112
2210	1.18	1.18	27.0	.4137
2215	1.21	1.21	29.0	.4165
2220	1.23	1.23	32.0	.4195
2225	1.25	1.25	34.0	.4227
2230	1.28	1.28	36.0	.4261
2235	1.29	1.29	40.0	.4298
2240	1.31	1.31	44.0	.4340
2245	1.33	1.33	48.0	.4408
2255	1.33	1.33	56.0	.4487
2300	1.34	1.34	61.0	.4631
2320	1.34	1.34	74.0	.4805
2325	1.34	1.34	73.0	.5011
2350	1.34	1.34	58.0	.5175
2355	1.34	1.34	55.0	.5227
2400	1.35	1.35	53.0	.5402
Nov. 3				
0000	1.35	1.35	30.0	.5402
0030	1.40	1.40	1.0	.5406
0045	1.42	1.42	.8	.5409
0100	1.43	1.43	.5	.5412
0200	1.43	1.43	.2	.5414
0300	1.44	1.44	.2	.5417
0430	1.47	1.47	.2	.5421
0600	1.48	1.48	.2	.5429
1200	1.48	1.48	.2	.5443
1800	1.48	1.48	.2	.5456
2400	1.48	1.48	.2	.5463

08073630 Bettina Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 3630 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of June 16,1983		
June 16				
0000	0.0	0.0	0.0	0.0
1435	.0	.0	.0	.0
1440	.01	.01	.0	.0
1450	.10	.10	.0	.0
1455	.18	.18	.0	.0
1500	.26	.26	.0	.0
1505	.32	.32	.0	.0
1510	.38	.38	.0	.0
1515	.45	.45	.0	.0
1520	.65	.65	3.8	.0004
1525	.85	.85	52.0	.0053
1530	1.06	1.06	79.0	.0127
1535	1.19	1.19	97.0	.0218
1540	1.32	1.32	116.0	.0328
1545	1.46	1.46	134.0	.0454
1550	1.57	1.57	156.0	.0601
1555	1.68	1.68	190.0	.0780
1600	1.80	1.80	224.0	.0991
1605	1.83	1.83	242.0	.1219
1610	1.87	1.87	263.0	.1467
1615	1.91	1.91	274.0	.1726
1620	1.94	1.94	281.0	.1991
1625	1.97	1.97	287.0	.2261
1630	2.01	2.01	289.0	.2670
1640	2.01	2.01	269.0	.3050
1645	2.02	2.02	261.0	.3911
1715	2.03	2.03	205.0	.4781
1730	2.03	2.03	175.0	.5275
1745	2.09	2.09	149.0	.5697
1800	2.11	2.11	126.0	.6053
1815	2.15	2.15	108.0	.6358
1830	2.19	2.19	93.0	.6621
1845	2.26	2.26	79.0	.6845
1900	2.28	2.28	70.0	.7043
1915	2.29	2.29	70.0	.7271
1930	2.30	2.30	70.0	.7439
1945	2.31	2.31	61.0	.7841
2040	2.31	2.31	30.0	.8562
2400	2.31	2.31	3.0	.8619

08073700 BUFFALO BAYOU AT PINEY POINT, TX

LOCATION.--Lat 29°44'48", long 95°31'24", Harris County, Hydrologic Unit 12040104, on downstream side of bridge on Piney Point Road, village of Piney Point, 3.7 mi downstream from Rummel Creek, 7.2 mi downstream from gage near Addicks (station 08073500), and 12.5 mi upstream from gage at Houston (station 08074000).

DRAINAGE AREA.--317 mi^2.

PERIOD OF RECORD.--October 1963 to September 1976, October 1976 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1.35 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Station is operated for the purpose of gate regulations at Barker and Addicks Reservoirs (stations 08072500 and 08073000), located 14.0 and 13.8 mi upstream, respectively. Low flow is partly sustained by sewage effluent from Houston suburbs. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1963-76), 265 ft^3/s (192,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, 5,700 ft^3/s Aug. 31, 1981 (gage height, 57.20 ft, from floodmark); minimum daily, 6.0 ft^3/s Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 55.60 ft Sept. 19 at 1200 hours; minimum, 32.50 ft July 10.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.55	34.64	43.93	37.75	37.65	34.30	38.50	33.17	42.63	33.00	37.10	44.32
2	33.42	40.27	43.43	37.95	36.44	34.08	37.84	33.27	41.43	32.93	36.51	43.10
3	33.39	39.95	43.49	---	34.96	34.05	34.98	33.36	40.75	32.80	35.46	42.37
4	33.48	37.06	43.58	---	34.27	35.35	34.02	33.19	40.53	32.95	35.12	42.13
5	33.40	36.66	43.52	36.07	41.05	35.39	33.70	33.17	40.28	32.96	35.86	41.94
6	33.77	35.81	43.85	34.52	40.27	34.43	33.47	33.11	39.83	32.97	35.77	43.50
7	34.36	34.31	44.25	34.22	41.09	33.90	33.35	---	36.31	38.85	40.10	43.55
8	34.58	33.84	44.47	34.07	41.31	33.80	---	---	34.75	32.85	40.85	44.90
9	34.87	33.70	45.40	34.02	44.13	33.68	---	---	33.72	32.94	42.60	44.50
10	34.81	33.52	44.30	34.05	42.25	33.56	---	42.92	33.66	32.84	44.35	45.75
11	35.07	33.31	42.45	34.09	42.78	33.52	---	36.28	33.50	33.53	45.50	45.50
12	38.08	33.33	41.33	33.69	43.91	33.58	---	36.78	33.32	33.50	43.30	43.15
13	38.70	33.30	43.02	33.65	43.91	33.49	---	36.81	33.22	40.35	37.70	41.50
14	38.98	33.28	43.67	33.58	43.72	33.48	---	36.38	33.18	38.55	34.55	39.60
15	39.08	33.33	44.57	33.62	42.76	33.52	---	37.96	33.83	44.90	40.25	36.90
16	39.09	40.35	44.72	33.59	41.98	34.77	---	35.10	---	46.45	---	34.45
17	39.04	41.97	43.28	33.53	42.58	34.74	---	33.87	---	39.50	43.00	35.10
18	39.00	40.27	39.85	36.27	42.37	34.13	---	33.48	39.10	40.30	53.35	37.70
19	38.87	45.50	37.88	40.25	41.85	33.45	---	33.26	33.34	42.45	53.35	55.60
20	38.76	44.71	34.25	40.00	44.20	33.95	---	45.28	38.70	43.35	45.45	50.00
21	38.50	35.38	33.89	40.70	44.15	33.35	---	45.03	39.04	45.00	37.95	44.90
22	37.55	41.40	36.15	40.96	41.60	33.32	34.32	43.83	37.73	45.00	41.07	42.85
23	36.28	42.77	37.55	40.84	42.74	45.39	33.55	38.28	39.27	43.94	42.65	---
24	35.35	42.77	34.65	40.59	42.72	42.40	33.12	40.22	39.12	43.39	43.80	---
25	33.67	42.56	37.97	40.59	41.88	42.15	33.04	41.40	36.73	42.81	46.10	---
26	33.48	43.47	37.16	37.80	36.45	42.86	---	41.64	35.20	42.30	45.65	---
27	33.27	43.15	37.17	35.54	35.10	42.47	---	41.56	34.56	41.49	42.85	---
28	33.17	37.25	---	35.00	34.60	42.28	---	41.47	33.57	39.75	42.70	---
29	38.05	41.70	---	34.49	---	42.33	33.15	41.36	33.13	37.90	45.85	---
30	36.83	43.95	---	34.19	---	42.00	33.25	41.25	32.99	35.50	45.90	---
31	36.42	---	---	39.18	---	39.36	---	42.22	---	36.23	44.65	---
MAX	39.09	45.50	---	---	44.20	45.39	---	---	---	46.45	---	---
MIN	33.17	33.28	---	---	34.27	33.32	---	---	---	32.80	---	---

08074000 BUFFALO BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°45'36", long 95°24'30", Harris County, Hydrologic Unit 12040104, at bridge on Shepherd Drive in Houston and 0.8 mi upstream from Waugh Drive.

DRAINAGE AREA.--358 mi^2, unadjusted for basin boundary changes.

PERIOD OF RECORD.--May 1936 to September 1957, October 1957 to December 1961 (high-water records and discharge measurements), January 1962 to September 1975, October 1975 to current year (high-water records and discharge measurements). Water-quality records.--Chemical, biochemical, and pesticide analysis: October 1968 to September 1981.

REVISED RECORDS.--WSP 1732: Drainage area (former site).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.36 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted for land-surface subsidence. Prior to June 19, 1936, nonrecording gage, and June 19, 1936, to Jan. 16, 1962, water-stage recorder at site 0.8 mi downstream at 4.08-foot lower datum. Jan. 17, 1962, to Sept. 30, 1973, auxiliary water-stage recorder 0.8 mi downstream. Water-stage recorder at Main Street (station 08074600) used as auxiliary gage after Sept. 30, 1973.

REMARKS.--Records poor. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and (08073000) located 26.3 and 26.8 mi upstream, respectively, flood peaks from the urbanized areas below these reservoirs are often independent of the regulation. Discharge is computed using a stage-fall-discharge relationship for all storms that produce peak discharges above 1,500 ft^3/s. Discharges below 1,000 ft^3/s are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Gage-height telemeter at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft^3/s (197,100 acre-ft/yr); 26 years (water years 1944-57, 1962-75) regulated, 274 ft^3/s (198,500 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft^3/s Aug. 30, 1945 (gage height, 28.82 ft), at site 0.8 mi downstream at present datum; minimum daily, 1.3 ft^3/s May 24, 1939, Nov. 5, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--All flood data at site 0.8 mi downstream at present datum. Maximum gage height since at least 1835, 49.0 ft Dec. 9, 1935 (discharge, 40,000 ft^3/s); furnished by engineer for Harris County. Flood of May 31, 1929, reached a gage height of 43.5 ft (discharge, 19,000 ft^3/s) at bridge on Capitol Avenue, affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Maxmum discharge, 8,490 ft^3/s Aug. 18 at 1700 hours (gage height, 25.67 ft); minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	1600		---	---		---	1240	---	---	1500
2		---	1600		---	---		---	1070	---	---	1270
3		---	1600		---	---		---	965	---	---	1140
4		---	1600		---	---		---	968	---	---	1040
5		---	1600		---	---		---	840	---	---	1050
6		---	1700		---	---		---	687	---	---	1510
7		---	1820		1160	---		---	---	---	---	1540
8		---	1920		1440	---		---	---	---	684	1570
9		---	1930		1560	---		264	---	---	1330	1810
10		---	1990		1420	---		1540	---	---	1060	1730
11		---	1500		932	---		677	---	---	2690	2260
12		---	1190		1540	---		---	---	---	2340	1470
13		---	1170		1820	---		---	---	904	491	1020
14		---	1610		1740	---		---	---	646	---	581
15		---	1850		1500	---		---	---	875	---	---
16		110	1980		1300	---		---	718	2970	796	---
17		1400	1620		1500	---		---	2000	824	1360	---
18		579	995		1500	---		---	524	110	5870	400
19		1560	478		1300	---		---	---	791	5320	5520
20		1680	---		1200	---		2680	---	1360	1780	4560
21		203	---		1400	---		2010	---	1650	---	1860
22		123	---		1200	---		1590	---	1930	---	856
23		1180	---		1800	1840		336	---	1620	873	1310
24		1470	---		1700	1560		563	---	1450	1140	1470
25		1470	791		1000	1250		891	---	1340	1680	1390
26		1670	764		300	1800		1080	---	1210	1880	1400
27		1910	---		---	1540		1120	---	938	1190	1510
28		300	---		---	1460		1080	---	620	1250	1420
29		700	---		---	1510		1060	---	200	1220	1400
30		1550	---		---	1480		1030	---	---	1840	1400
31		---	---		---	965		1020	---	---	1580	---
TOTAL		---	---		---	---		---	---	---	---	---
MEAN		---	---		---	---		---	---	---	---	---
MAX		---	---		---	---		---	---	---	---	---
MIN		---	---		---	---		---	---	---	---	---
AC-FT		---	---		---	---		---	---	---	---	---

WHITEOAK BAYOU DRAINAGE BASIN

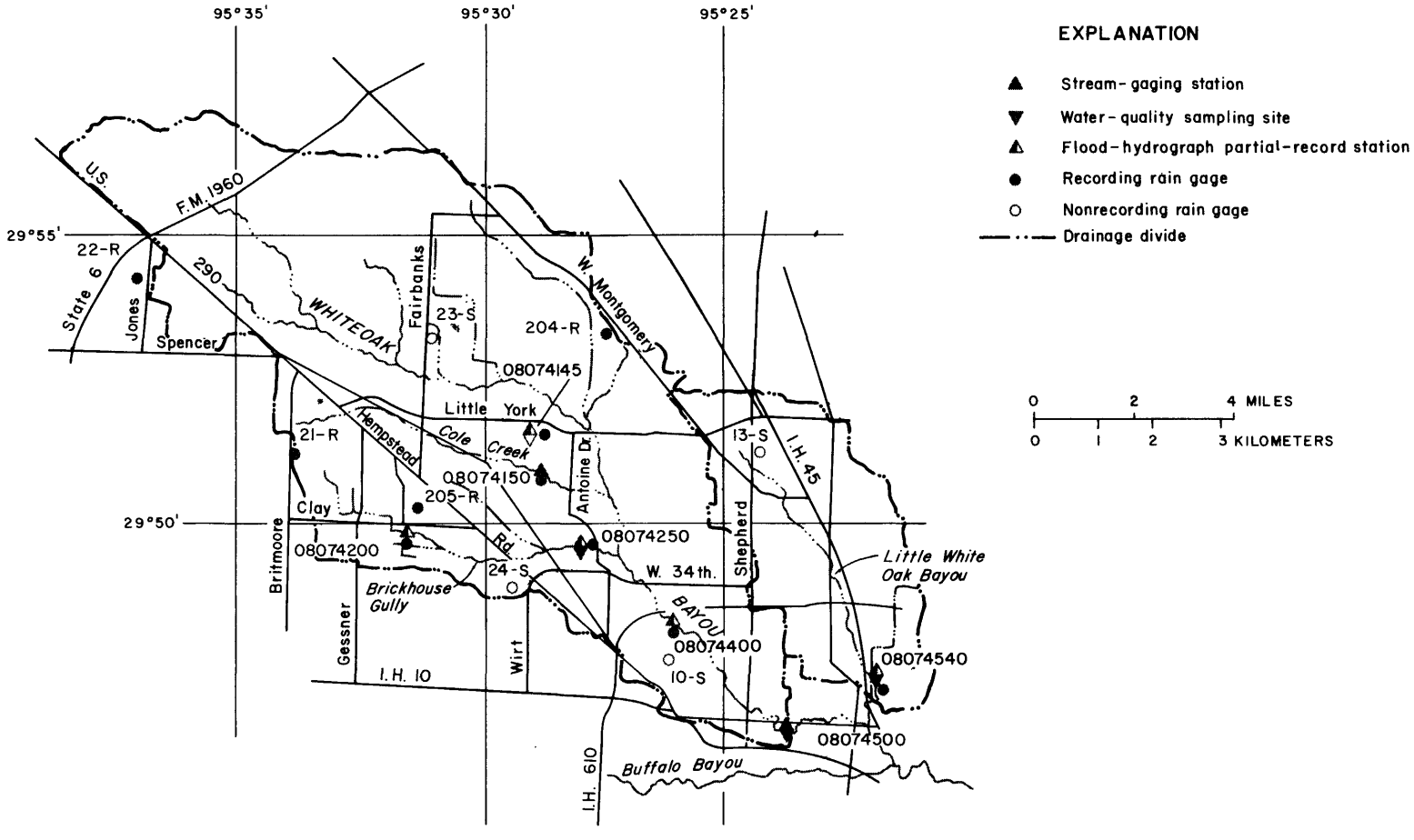
The locations of data-collection sites in and near the Whiteoak Bayou drainage basin are shown in figure 5.

Cole Creek (including Bingle Road Storm Sewer), Brickhouse Gully, Lazybrook Street Storm Sewer, and Little Whiteoak Bayou are shown as separate drainage basins within the Whiteoak Bayou section.

Weighted-mean rainfall in the drainage basin, based on eleven rain gages, for the 1983 water year was 64.18 inches or 15.99 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals in inches for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
4.69	7.91	3.47	1.99	4.73	4.45	0.34	7.15	4.58	6.17	11.41	7.29	64.18

The storms of May 20-24 and Sept. 19-23 were selected for analysis at the Whiteoak Bayou at Houston (08074500) gaging station.



Base from Texas Department of Highways and Public Transportation General Highway Map

Figure 5.– Locations of data-collection sites in and near the Whiteoak Bayou drainage basin

COLE CREEK DRAINAGE BASIN

The locations of data-collection sites in and near the Cole Creek drainage basin are shown in figure 6.

Bingle Road Storm Sewer is shown as a separate drainage basin within the Cole Creek section.

Weighted-mean rainfall in the drainage basin, based on four rain gages, for the 1983 water year was 62.69 inches, or 14.50 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
4.62	7.65	3.25	2.24	4.59	4.67	0.28	6.73	4.29	7.09	10.94	6.34	62.69

The storms of May 20-24, Aug. 18-21, and Sept. 19-21 were selected for analysis at station 08074150, Cole Creek at Deihl Road.

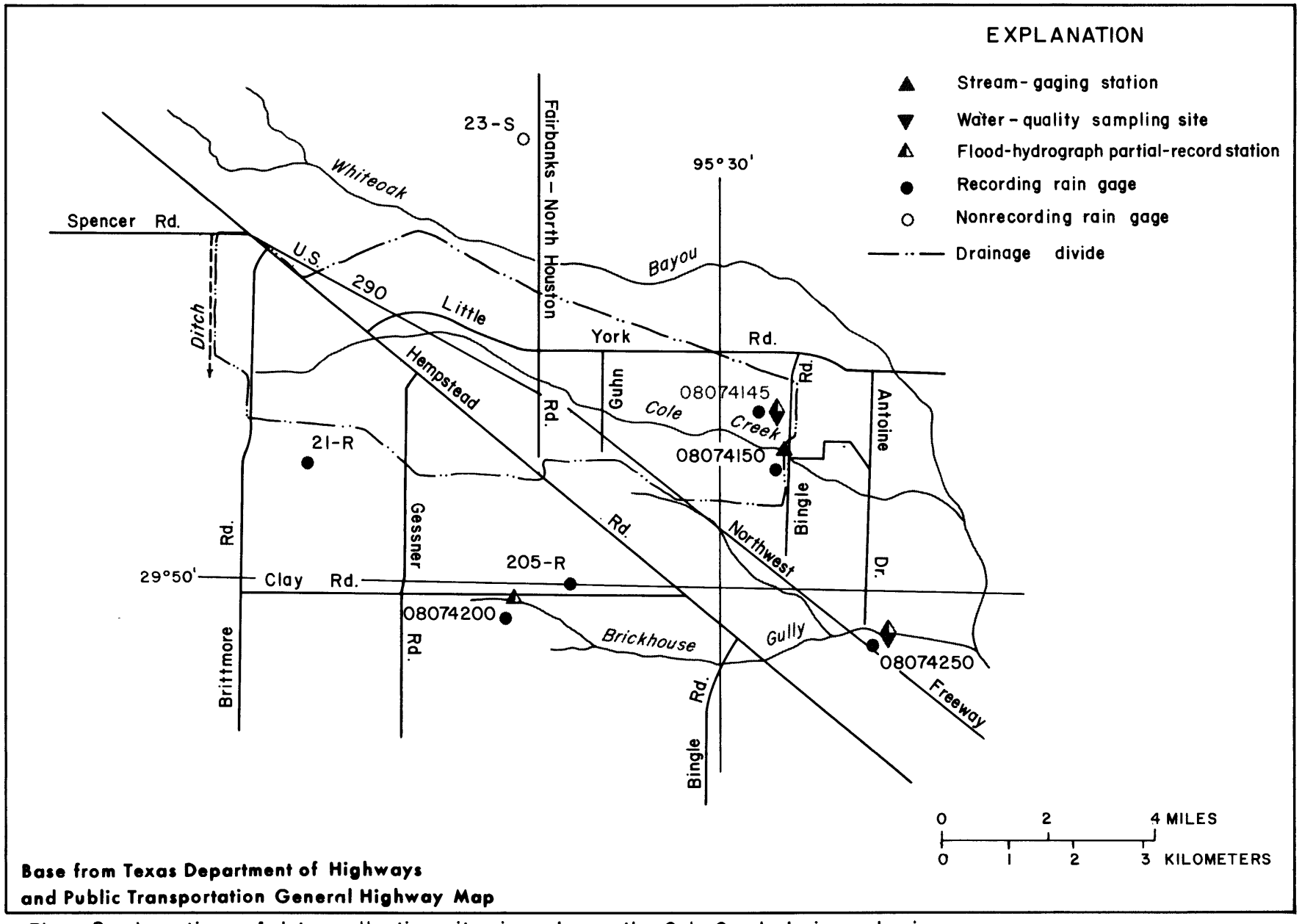


Figure 6.–Locations of data-collection sites in and near the Cole Creek drainage basin

BINGLE ROAD STORM SEWER DRAINAGE BASIN

The location of data-collection sites in and near the Bingle Road Storm Sewer drainage basin are shown in figure 7.

Weighted-mean rainfall for the 1983 water year was not determined.

The storms of Nov. 2, and Feb. 20-21 were selected for analysis at station 08074145, Bingle Road Storm Sewer at Houston, Tex.

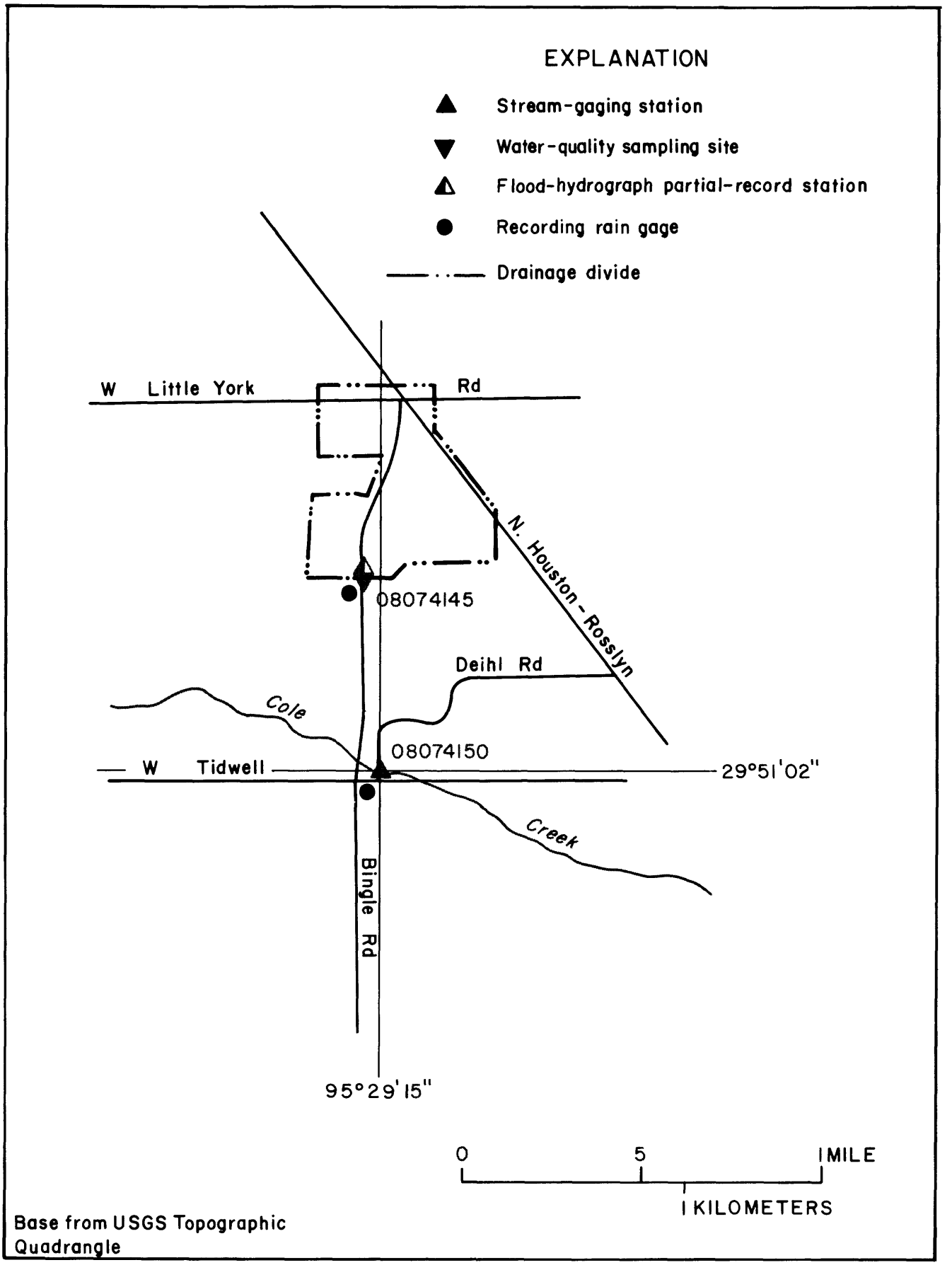


Figure 7.–Locations of data-collection sites in and near the Bingle Road storm sewer drainage basin

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 4.--Storm rainfall-runoff data, 1983 Water Year, Bingle Road Storm Sewer

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bingle Road Storm Sewer at Houston, TX (Drainage Area -- 0.21 mi^2)								
Nov. 2, 1982	0.5	0.65	0.41	0.54	0.57	0.62	0.68	85
Nov. 2, 1982	1.5	0.27	0.05	0.08	0.15			16
Feb. 20-21, 1983	2.0	1.03	0.29	0.46	0.67	1.10	1.07	67

08074145 BINGLE ROAD STORM SEWER AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°51'31", long 95°29'09", Harris County, Hydrologic Unit 12040104, over a 60-inch storm sewer in the center median at Bingle Road and 3,000 ft north of the station Cole Creek at Deihl Road, Houston (08074150).

DRAINAGE AREA.--0.21 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is arbitrary.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the reports "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, rating definition pending; maximum gage height, 13.97 ft Aug. 31, 1981, is a recorded pressure head in the access pipe and exceeds gage height for full pipe flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base gage height of 11.00 ft and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 21	1722	(a)	b11.81
Aug. 18	1807	(a)	b*13.27

a Discharge not determined; rating definition pending.
b Recorded pressure head; gage height for full pipe flow exceeded.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV												
02...	1650	6.2	98	--	--	25	34	--	--	--	--	--
02...	1705	85	48	--	--	30	70	--	--	--	--	--
02...	1720	38	58	--	--	50	100	--	--	--	--	--
02...	1735	16	75	--	--	40	80	--	--	--	--	--
02...	1805	8.8	90	--	--	50	56	--	--	--	--	--
16...	1805	4.9	71	--	--	30	33	--	--	--	--	--
16...	1820	14	125	--	--	50	95	--	--	--	--	--
16...	1920	13	58	--	--	30	27	--	--	--	--	--
19...	0905	4.9	117	--	--	40	100	--	--	--	--	--
19...	0920	46	67	--	--	50	100	--	--	--	--	--
19...	1005	7.4	108	--	--	70	80	--	--	--	--	--
19...	1020	7.9	110	--	--	70	120	--	--	--	--	--
FEB												
05...	0617	5.0	202	--	--	15	34	--	--	--	--	--
05...	0632	5.9	176	--	--	10	31	--	--	--	--	--
05...	0702	2.5	120	--	--	5	17	--	--	--	--	--
05...	0732	5.0	99	--	--	10	13	--	--	--	--	--
09...	1155	5.9	87	--	--	5	34	--	--	--	--	--
09...	1225	27	70	--	--	35	70	--	--	--	--	--
09...	1240	65	71	--	--	45	70	--	--	--	--	--
15...	0650	4.9	162	--	--	20	43	--	--	--	--	--
15...	0920	11	95	--	--	45	45	--	--	--	--	--
20...	2102	4.9	95	--	--	20	64	--	--	--	--	--
20...	2132	62	66	--	--	25	68	--	--	--	--	--
20...	2202	41	62	--	--	40	150	--	--	--	--	--
20...	2232	16	86	--	--	130	80	--	--	--	--	--
20...	2302	23	74	--	--	130	45	--	--	--	--	--
20...	2332	16	85	--	--	65	60	--	--	--	--	--
MAR												
02...	1245	.43	629	7.5	21.0	<1	10	5.4	60	7.1	60	40
JUN												
15...	1342	5.5	120	--	--	10	88	--	--	--	--	--
15...	1412	9.8	141	--	--	35	20	--	--	--	--	--
15...	1442	18	111	--	--	30	16	--	--	--	--	--
15...	1542	5.9	127	--	--	40	12	--	--	--	--	--

08074145 BINGLE ROAD STORM SEWER AT HOUSTON,TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV												
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	140	0	44	7.7	77	2.9	2.6	210	12	65	1.3	22
JUN												
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV											
02...	--	141	23	.27	.030	.30	.070	1.0	1.10	.270	8.9
02...	--	358	39	.07	.030	.10	<.060	--	1.20	.340	19
02...	--	219	20	.16	.040	.20	<.060	--	1.40	.440	16
02...	--	98	17	.16	.040	.20	<.060	--	1.40	.310	15
02...	--	81	33	.16	.040	.20	<.060	--	1.50	.460	16
16...	--	73	28	.74	.060	.80	.300	1.7	2.00	.160	13
16...	--	174	64	.92	.080	1.0	.180	1.5	1.70	.170	35
16...	--	37	34	.26	.040	.30	.140	.86	1.00	.130	9.6
19...	--	80	9	.60	.100	.70	.120	1.6	1.70	.740	28
19...	--	257	56	.25	.050	.30	.130	1.3	1.40	.200	24
19...	--	124	16	.23	.070	.30	.120	2.0	2.10	.190	16
19...	--	44	41	.22	.080	.30	.130	1.4	1.50	.220	22
FEB											
05...	--	66	37	.84	.060	.90	.220	1.4	1.60	1.80	19
05...	--	72	47	.82	.080	.90	.200	1.2	1.40	.310	23
05...	--	29	<1	.72	.080	.80	.260	.84	1.10	.210	16
05...	--	11	<1	.54	.060	.60	.290	.81	1.10	.210	8.6
09...	--	137	43	.36	.040	.40	.150	1.8	1.90	.090	11
09...	--	164	102	.17	.030	.20	.100	.80	.90	.140	18
09...	--	262	80	.16	.040	.20	.120	1.8	1.90	.170	19
15...	--	114	40	.53	.070	.60	.170	1.4	1.60	.180	20
15...	--	68	31	.14	.060	.20	.150	.65	.80	.110	14
20...	--	164	30	.85	.050	.90	.320	2.0	2.30	.180	17
20...	--	221	29	.37	.030	.40	.160	1.6	1.80	.210	24
20...	--	266	38	.25	.050	.30	.150	1.1	1.20	.140	12
20...	--	114	3	.27	.030	.30	.120	1.4	1.50	.140	12
20...	--	62	2	.26	.040	.30	.130	1.1	1.20	.390	11
20...	--	4	<1	.26	.040	.30	.120	.98	1.10	.150	11
MAR											
02...	358	20	9	--	<.020	<.10	.110	.49	.60	.220	5.5
JUN											
15...	--	261	41	1.5	.140	1.6	.200	2.3	2.50	.320	24
15...	--	96	27	.94	.060	1.0	.160	1.9	2.10	.340	26
15...	--	125	28	.64	.060	.70	.140	1.5	1.60	.340	20
15...	--	22	4	.45	.050	.50	.120	1.3	1.40	.400	15

08074145 BINGLE ROAD STORM SEWER AT HOUSTON,TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR 02...	1245	3	240	<1	<10	4	25

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR 02...	<1	9	<.1	2	<1	49

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR 02...	1245	<.10	<.10	<.10	<.10	<.10	<2.0	.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR 02...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08074145 Bingle Road storm sewer at Houston, Tex.

Date and time	Rainfall at gage 4145 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Nov. 2, 1982		
Nov. 2				
0000	0.0	0.0	0.2	0.0044
0600	.0	.0	.2	.0133
1200	.0	.0	.2	.0210
1630	.0	.0	.3	.0263
1645	.13	.13	.6	.0274
1700	.54	.54	85.0	.1842
1715	.56	.56	56.0	.2875
1730	.57	.57	20.0	.3244
1745	.58	.58	13.0	.3484
1800	.59	.59	10.0	.3668
1815	.60	.60	6.7	.3792
1830	.62	.62	4.8	.3880
1845	.65	.65	3.6	.4013
1930	.65	.65	1.4	.4065
1945	.65	.65	1.7	.4143
2045	.65	.65	1.1	.4194
2100	.66	.66	1.0	.4212
2115	.71	.71	2.9	.4266
2130	.73	.73	6.7	.4390
2145	.78	.78	8.8	.4552
2200	.81	.81	9.1	.4720
2215	.86	.86	11.0	.4923
2230	.88	.88	14.0	.5181
2245	.91	.91	14.0	.5439
2300	.92	.92	16.0	.5734
2315	.92	.92	11.0	.6140
2400	.92	.92	3.3	.6232

08074145 Bingle Road storm sewer at Houston, Tex.--Continued

Date and time	Rainfall at gage 4145 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Feb. 20-21, 1983		
Feb. 20				
0000	0.0	0.0	0.3	0.0199
1800	.0	.0	.3	.0429
2045	.0	.0	.3	.0460
2050	.02	.02	.3	.0462
2055	.04	.04	2.2	.0476
2100	.07	.07	4.0	.0500
2105	.09	.09	6.5	.0540
2110	.11	.11	8.2	.0591
2115	.14	.14	8.2	.0641
2120	.23	.23	12.0	.0715
2125	.33	.33	28.0	.0887
2130	.43	.43	58.0	.1244
2135	.48	.48	67.0	.1656
2140	.54	.54	62.0	.2037
2145	.60	.60	52.0	.2357
2150	.64	.64	44.0	.2627
2155	.69	.69	49.0	.2929
2200	.74	.74	45.0	.3205
2205	.74	.74	35.0	.3420
2210	.75	.75	28.0	.3593
2215	.76	.76	23.0	.3734
2220	.77	.77	21.0	.3928
2230	.79	.79	16.0	.4075
2235	.81	.81	15.0	.4168
2240	.84	.84	15.0	.4260
2245	.87	.87	21.0	.4389
2250	.88	.88	27.0	.4555
2255	.89	.89	27.0	.4721
2300	.91	.91	24.0	.5016
2315	.95	.95	19.0	.5367
2330	.97	.97	17.0	.5837
2400	.98	.98	10.0	.6391
Feb. 21				
0000	.98	.98	10.0	.6391
0100	1.02	1.02	8.2	.8206
0600	1.03	1.03	2.9	.9383
1200	1.03	1.03	1.8	1.0180
1800	1.03	1.03	1.4	1.0799
2400	1.03	1.03	1.1	1.1043

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 5.--Storm rainfall-runoff data, 1983 Water Year, Cole Creek

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Cole Creek at Deihl Road, Houston, TX. (Drainage area -- 7.50 mi^2)								
May 20, 1983	2.0	1.46	0.47	0.95	1.04	2.72	0.56	221
May 20-21, 1983	2.5	1.41	0.54	1.07	1.07			371
May 21-24, 1983	5.0	1.96	0.40	0.80	1.11			536
Aug. 18-21, 1983	16.0	6.09	0.43	0.85	1.24	5.73	0.94	1340*
Sept. 19-20, 1983	4.5	3.32	0.37	0.74	1.15	1.93	0.43	792
Sept. 20-21, 1983	15.5	1.12	0.26	0.52	0.55			163

* - Peak Discharge for 1983 Water Year

SAN JACINTO RIVER BASIN

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX

LOCATION.--Lat 29°51'04", long 95°29'16", Harris County, Hydrologic Unit 12040104, on downstream side of bridge at Deihl Road in northwest Houston and 1.8 mi upstream from mouth.

DRAINAGE AREA.--7.50 mi^2. Prior to Oct. 1, 1976, 8.05 mi^2. Prior to Oct. 1, 1979, 7.33 mi^2. Drainage area changes are the result of drainage ditch relocations and extensions.

PERIOD OF RECORD.--April 1964 to current year. Gage at temporary location 1.0 mi downstream at Antoine Drive May 18, 1965, to Sept. 1, 1966, due to bridge construction and channel rectification.

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. No diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 7.92 ft^3/s, 5,740 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft^3/s Mar. 20, 1972 (elevation, 78.60 ft); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 23	1500	490	74.80	Aug. 18	1800	*1,340	77.87
Mar. 30	1100	446	74.60	Sept. 19	0830	792	75.92
May 21	1530	536	75.20				

Minimum daily discharge, 0.45 ft^3/s Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	1.3	14	11	6.2	1.6	3.1	1.6	1.3	1.2	2.6	3.9
2	.64	17	9.7	3.8	2.2	1.5	2.0	1.4	4.8	1.2	1.8	5.3
3	.65	22	8.1	2.3	1.9	1.4	2.2	1.9	3.2	1.3	1.5	5.5
4	.57	2.2	2.8	2.9	1.4	4.9	2.3	1.3	1.4	1.2	1.5	2.6
5	.45	1.5	1.8	2.5	56	5.8	2.0	1.4	1.3	1.2	2.7	2.7
6	.62	1.2	1.4	1.7	14	1.6	1.7	1.1	1.2	1.0	1.6	29
7	1.5	1.1	1.4	1.7	2.8	1.4	2.2	1.2	1.4	1.0	2.8	3.3
8	2.1	.94	1.2	1.4	2.2	1.3	5.8	1.2	1.7	.87	12	3.1
9	.78	1.0	1.3	1.3	93	1.3	2.6	1.3	1.7	.83	33	6.6
10	.53	.85	2.4	1.2	25	1.5	1.4	50	2.7	.77	9.0	3.5
11	1.7	1.1	4.2	1.2	5.0	1.2	1.3	4.6	2.7	.92	45	3.5
12	76	1.1	1.9	1.2	2.7	1.3	1.5	1.6	1.6	1.1	55	2.6
13	10	.89	1.4	1.2	2.2	1.3	1.5	1.4	1.5	26	10	2.4
14	1.4	.78	3.2	1.2	2.4	1.4	1.2	1.5	1.5	13	3.0	2.0
15	.96	.92	6.7	1.1	20	1.4	1.3	6.1	23	70	6.9	2.0
16	.73	19	2.1	1.3	13	2.9	1.3	2.0	51	170	3.9	2.0
17	.61	72	1.6	1.5	3.7	1.9	1.2	1.6	55	30	5.0	2.7
18	.72	5.0	1.4	3.0	2.6	1.3	1.4	1.7	8.9	5.9	591	8.2
19	.65	63	1.3	35	2.1	1.3	1.4	1.3	2.2	2.0	467	239
20	.68	34	1.2	13	28	3.5	1.4	161	5.5	1.5	71	97
21	.72	5.8	1.5	3.5	72	1.5	1.5	240	4.1	84	17	49
22	.83	2.1	1.3	2.1	11	1.4	2.3	105	2.6	52	6.1	6.7
23	.60	2.5	9.0	1.8	4.0	146	2.0	19	1.7	32	7.4	3.3
24	.57	3.1	2.7	1.7	2.1	33	1.4	4.2	1.7	3.9	6.0	2.6
25	.56	1.4	15	1.6	1.8	5.8	1.2	2.0	31	2.2	6.4	2.0
26	.57	17	13	2.3	1.6	10	1.4	1.7	6.9	2.0	5.5	4.8
27	.56	56	9.2	1.8	1.6	3.0	1.4	1.5	3.0	1.9	6.1	1.9
28	.59	13	2.9	1.4	1.6	2.0	1.4	1.4	1.6	1.8	12	1.6
29	33	2.8	1.8	1.5	---	3.5	1.3	1.4	1.4	1.6	3.9	1.5
30	5.7	16	1.6	1.4	---	66	2.0	1.4	1.2	1.7	2.9	1.4
31	5.8	---	9.9	13	---	72	---	1.4	---	2.1	17	---
TOTAL	151.27	366.58	137.0	121.6	382.1	384.0	54.7	624.2	228.8	516.19	1416.6	501.7
MEAN	4.88	12.2	4.42	3.92	13.6	12.4	1.82	20.1	7.63	16.7	45.7	16.7
MAX	76	72	15	35	93	146	5.8	240	55	170	591	239
MIN	.45	.78	1.2	1.1	1.4	1.2	1.2	1.1	1.2	.77	1.5	1.4
AC-FT	300	727	272	241	758	762	108	1240	454	1020	2810	995

WTR YR 1983 TOTAL 4884.74 MEAN 13.4 MAX 591 MIN .45 AC-FT 9690

STORM RAINFALL AND RUNOFF

08074150 Cole Creek at Deihl Road, Houston, Tex.

Date and time	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of May 20-24, 1983			
May 20						
0000	0.0	0.0	0.0	0.0	1.0	0.0001
0100	0.0	0.0	0.0	0.0	1.0	.0003
0130	0.0	0.0	0.80	0.44	1.0	.0004
0200	0.0	0.0	0.90	0.49	1.0	.0005
0230	0.74	0.95	1.22	1.04	114.0	.0122
0300	0.84	1.04	1.40	1.18	137.0	.0264
0330	1.08	1.36	1.40	1.30	156.0	.0425
0400	1.33	1.69	1.40	1.42	213.0	.0645
0430	1.42	1.73	1.40	1.46	221.0	.0988
0530	1.42	1.73	1.40	1.46	166.0	.1245
0600	1.42	1.73	1.40	1.46	144.0	.1542
0730	1.42	1.73	1.40	1.46	113.0	.1893
0900	1.42	1.73	1.40	1.46	88.0	.2165
1030	1.42	1.73	1.40	1.46	66.0	.2302
1100	1.42	1.73	1.40	1.46	59.0	.2363
1130	1.42	1.73	2.47	2.04	54.0	.2418
1200	1.43	1.73	2.47	2.05	49.0	.2469
1230	1.43	1.73	2.85	2.26	44.0	.2514
1300	2.15	2.18	2.96	2.60	220.0	.2742
1330	2.18	2.19	3.00	2.63	235.0	.2984
1400	2.32	2.42	3.02	2.72	238.0	.3230
1430	2.40	2.52	3.02	2.76	290.0	.3530
1500	2.48	2.54	3.05	2.80	351.0	.3893
1530	2.48	2.56	3.05	2.81	371.0	.4276
1600	2.48	2.56	3.05	2.81	366.0	.4654
1630	2.48	2.58	3.05	2.81	351.0	.5379
1800	2.48	2.58	3.05	2.81	290.0	.5978
1830	2.48	2.58	3.05	2.81	274.0	.6261
1900	2.48	2.60	3.05	2.81	258.0	.6528
1930	2.48	2.61	3.05	2.81	245.0	.6781
2000	2.48	2.62	3.05	2.81	231.0	.7020
2030	2.48	2.62	3.05	2.81	217.0	.7244
2100	2.48	2.63	3.05	2.82	202.0	.7452
2130	2.48	2.63	3.07	2.83	191.0	.7650
2200	2.48	2.65	3.12	2.86	180.0	.8115
2400	2.48	2.65	3.12	2.86	134.0	.8530
May 21						
0000	2.48	2.65	3.12	2.86	134.0	.8530
0100	2.48	2.66	3.12	2.86	115.0	.8768
0200	2.48	2.67	3.12	2.86	101.0	.8976

STORM RAINFALL AND RUNOFF

08074150 Cole Creek at Deihl Road, Houston, Tex.--Continued

Date and time	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of May 20-24, 1983--Continued			
May 21						
0300	2.48	2.68	3.12	2.86	93.0	0.9168
0400	2.48	2.69	3.12	2.86	88.0	.9350
0500	2.48	2.70	3.12	2.86	83.0	.9522
0600	2.48	2.71	3.12	2.87	78.0	.9643
0630	2.48	2.71	3.12	2.87	75.0	.9720
0700	2.48	2.72	3.12	2.87	72.0	.9832
0800	2.48	2.72	3.12	2.87	68.0	.9937
0830	2.48	2.72	3.22	2.92	66.0	1.0005
0900	2.48	2.72	4.02	3.36	64.0	1.0071
0930	2.48	2.72	4.18	3.45	62.0	1.0135
1000	2.53	2.72	4.20	3.48	60.0	1.0197
1030	3.28	3.17	4.21	3.77	244.0	1.0449
1100	3.64	3.51	4.22	3.94	443.0	1.0907
1130	3.64	3.53	4.24	3.95	404.0	1.1324
1200	3.64	3.55	4.27	3.97	366.0	1.1702
1230	3.64	3.55	4.82	4.28	351.0	1.2065
1300	3.64	3.56	4.90	4.32	338.0	1.2414
1330	3.64	3.56	5.06	4.41	323.0	1.2748
1400	3.92	3.73	5.27	4.63	338.0	1.3097
1430	3.94	3.92	5.34	4.71	431.0	1.3542
1500	4.08	3.95	5.34	4.75	467.0	1.4025
1530	4.23	4.08	5.34	4.82	536.0	1.4578
1600	4.23	4.09	5.34	4.82	515.0	1.5376
1700	4.23	4.10	5.34	4.82	463.0	1.6333
1800	4.23	4.12	5.34	4.82	429.0	1.7219
1900	4.23	4.14	5.34	4.83	394.0	1.8440
2100	4.23	4.14	5.34	4.83	306.0	2.0021
2400	4.23	4.14	5.34	4.83	212.0	2.1992
May 22						
0000	4.23	4.14	5.34	4.83	121.0	2.1992
0600	4.23	4.14	5.34	4.83	137.0	2.3690
1200	4.23	4.14	5.34	4.83	97.0	2.4893
1800	4.23	4.14	5.34	4.83	64.0	2.5686
2400	4.23	4.14	5.34	4.83	41.0	2.6449
May 23						
0000	4.23	4.14	5.34	4.83	41.0	2.6449
1200	4.23	4.14	5.34	4.83	16.0	2.6845
2400	4.23	4.14	5.34	4.83	7.7	2.7036
May 24						
0000	4.23	4.14	5.34	4.83	7.7	2.7036
1200	4.23	4.14	5.34	4.83	4.8	2.7155
2400	4.23	4.14	5.34	4.83	2.3	2.7184

08074150 Cole Creek at Deihl Road, Houston, Tex.--Continued

Date and time	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-21, 1983			
Aug.18						
0000	0.0	0.0	0.0	0.0	18.0	0.0037
0200	.0	.0	.0	.0	19.0	.0086
0230	.02	.07	.05	.04	23.0	.0110
0300	.12	.15	.13	.13	30.0	.0141
0330	.22	.30	.22	.23	35.0	.0177
0400	.26	.35	.33	.31	46.0	.0225
0430	.35	.45	.44	.41	62.0	.0289
0500	.47	.59	.60	.56	97.0	.0389
0530	.67	.74	.81	.76	155.0	.0549
0600	.95	1.10	1.28	1.15	191.0	.0746
0630	1.10	1.33	1.43	1.32	250.0	.1005
0700	1.27	1.39	1.57	1.45	306.0	.1321
0730	1.42	1.66	1.76	1.64	540.0	.1879
0800	1.65	1.92	1.84	1.79	443.0	.2336
0830	1.75	2.08	2.04	1.96	483.0	.2835
0900	1.88	2.25	2.17	2.09	472.0	.3323
0930	1.92	2.35	2.21	2.14	454.0	.3792
1000	1.95	2.41	2.30	2.21	429.0	.4235
1030	2.00	2.43	2.47	2.32	506.0	.4758
1100	2.22	2.53	2.72	2.54	589.0	.5366
1130	2.38	2.70	3.02	2.78	724.0	.6114
1200	2.68	2.92	3.33	3.07	810.0	.6951
1230	2.78	3.18	3.51	3.24	883.0	.7863
1300	3.00	3.34	3.81	3.50	866.0	.8758
1330	3.10	3.48	4.01	3.66	843.0	.9629
1400	3.12	3.52	4.08	3.71	820.0	1.0476
1430	3.25	3.61	4.14	3.79	783.0	1.1285
1500	3.25	3.68	4.21	3.84	745.0	1.2054
1530	3.30	3.73	4.21	3.86	690.0	1.2767
1600	3.30	3.73	4.23	3.88	634.0	1.3422
1630	3.30	3.73	4.24	3.88	604.0	1.4046
1700	3.32	3.73	4.28	3.91	573.0	1.4638
1730	3.35	3.78	4.31	3.94	1,200.0	1.5878
1800	4.20	4.22	4.41	4.32	1,230.0	1.7262
1830	4.58	5.02	4.43	4.56	1,170.0	1.8471
1900	4.60	5.02	4.44	4.57	1,060.0	1.9566
1930	4.72	5.02	4.44	4.61	937.0	2.0534
2000	4.80	5.05	4.60	4.73	814.0	2.1374
2030	4.80	5.05	5.29	5.11	801.0	2.2202

08074150 Cole Creek at Deihl Road, Houston, Tex.--Continued

Date and time	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-21, 1983--Continued			
Aug. 18						
2100	4.80	5.27	5.70	5.37	1,200.0	2.3442
2130	5.38	5.34	5.91	5.67	1,260.0	2.4743
2200	5.40	5.82	6.46	6.05	1,140.0	2.5921
2230	5.40	5.83	6.46	6.05	1,040.0	2.8070
2400	5.40	5.83	6.46	6.05	903.0	3.0868
Aug. 19						
0000	5.40	5.83	6.46	6.05	903.0	3.0868
0130	5.40	5.83	6.46	6.05	851.0	3.2626
0200	5.40	5.83	6.49	6.06	829.0	3.6052
0530	5.40	5.83	6.49	6.06	672.0	3.8829
0600	5.40	5.83	6.49	6.06	650.0	4.1179
0900	5.40	5.83	6.49	6.06	515.0	4.3307
1000	5.40	5.83	6.49	6.06	479.0	4.4049
1030	5.40	5.84	6.49	6.07	467.0	4.4532
1100	5.40	5.87	6.49	6.07	454.0	4.5001
1130	5.40	5.88	6.49	6.07	441.0	4.5456
1200	5.40	5.88	6.49	6.07	429.0	4.7451
1600	5.40	5.88	6.49	6.07	342.0	4.9041
1630	5.40	5.88	6.49	6.07	328.0	4.9380
1700	5.46	5.88	6.49	6.09	315.0	4.9868
1800	5.46	5.88	6.49	6.09	287.0	5.0905
2030	5.46	5.88	6.49	6.09	223.0	5.1942
2230	5.46	5.88	6.49	6.09	179.0	5.2589
2400	5.46	5.88	6.49	6.09	150.0	5.3132
Aug. 20						
0000	5.46	5.88	6.49	6.09	150.0	5.3132
0200	5.46	5.88	6.49	6.09	120.0	5.3627
0400	5.46	5.88	6.49	6.09	95.0	5.4020
0600	5.46	5.88	6.49	6.09	81.0	5.4522
1000	5.46	5.88	6.49	6.09	64.0	5.4919
1200	5.46	5.88	6.49	6.09	58.0	5.5398
1800	5.46	5.88	6.49	6.09	52.0	5.6043
2400	5.46	5.88	6.49	6.09	55.0	5.6497
Aug. 21						
0000	5.46	5.88	6.49	6.09	55.0	5.6497
0200	5.46	5.88	6.49	6.09	43.0	5.6675
0400	5.46	5.88	6.49	6.09	31.0	5.6803
0600	5.46	5.88	6.49	6.09	21.0	5.6890
0800	5.46	5.88	6.49	6.09	17.0	5.6995
1200	5.46	5.88	6.49	6.09	13.0	5.7129
1800	5.46	5.88	6.49	6.09	10.0	5.7253
2400	5.46	5.88	6.49	6.09	7.7	5.7301

08074150 Cole Creek at Deihl Road, Houston, Tex.--Continued

Date and time	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-21, 1983			
Sept. 19					
0000	0.0	0.0	0.0	9.8	0.0025
0230	.0	.0	.0	7.7	.0049
0300	.0	.01	.01	7.3	.0057
0330	.0	.07	.05	6.6	.0064
0400	.07	.15	.13	6.6	.0070
0430	.14	.30	.25	15.0	.0086
0500	.22	.39	.34	23.0	.0110
0530	.82	1.13	1.04	137.0	.0251
0600	1.37	1.39	1.38	314.0	.0576
0630	1.84	1.88	1.87	506.0	.1098
0700	2.19	2.01	2.06	515.0	.1630
0730	2.50	2.30	2.36	563.0	.2212
0800	2.70	2.55	2.59	586.0	.2817
0830	3.18	2.85	2.95	792.0	.3635
0900	3.27	2.94	3.04	736.0	.4396
0930	3.37	2.99	3.10	653.0	.5070
1000	3.42	3.00	3.13	566.0	.5655
1030	3.42	3.00	3.13	483.0	.6154
1100	3.42	3.05	3.16	431.0	.6599
1130	3.42	3.08	3.18	381.0	.7350
1200	3.44	3.13	3.22	346.0	.7350
1230	3.46	3.16	3.25	326.0	.7687
1300	3.50	3.16	3.26	296.0	.8299
1430	3.50	3.16	3.26	258.0	.8832
1500	3.50	3.21	3.30	248.0	.9600
1730	3.50	3.21	3.30	193.0	1.0198
1800	3.50	3.21	3.30	182.0	1.0574
1930	3.50	3.21	3.30	157.0	1.0899
2000	3.59	3.21	3.32	155.0	1.1299
2200	3.59	3.21	3.32	124.0	1.1812
2400	3.59	3.21	3.32	94.0	1.2054
Sept. 20					
0000	3.59	3.21	3.32	94.0	1.2054
0030	3.59	3.21	3.32	96.0	1.2302
0230	3.59	3.21	3.32	69.0	1.2480
0300	3.73	3.36	3.47	80.0	1.2563
0330	3.77	3.42	3.52	88.0	1.2654
0400	3.77	3.48	3.57	89.0	1.2746
0430	3.79	3.49	3.58	85.0	1.2834
0500	3.88	3.56	3.66	92.0	1.2929

STORM RAINFALL AND RUNOFF

08074150 Cole Creek at Deihl Road, Houston, Tex.--Continued

Date and time	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-21, 1983--Continued			
Sept. 20					
0530	3.88	3.57	3.66	91.0	1.3023
0600	3.88	3.58	3.67	91.0	1.3117
0630	3.88	3.59	3.68	91.0	1.2336
0930	3.88	3.59	3.68	98.0	1.2952
1130	3.88	3.59	3.68	82.0	1.4164
1200	3.88	3.59	3.68	77.0	1.4323
1330	3.88	3.59	3.68	62.0	1.4451
1400	3.89	3.59	3.68	58.0	1.4511
1430	3.89	3.59	3.68	55.0	1.4568
1500	4.07	3.67	3.79	55.0	1.4624
1530	4.07	3.68	3.80	56.0	1.4682
1600	4.07	3.68	3.80	55.0	1.4739
1630	4.07	3.69	3.80	53.0	1.4794
1700	4.07	3.69	3.80	50.0	1.4846
1730	4.07	3.70	3.81	46.0	1.4893
1800	4.37	4.22	4.26	93.0	1.4989
1830	4.37	4.25	4.29	139.0	1.5133
1900	4.46	4.31	4.35	145.0	1.5282
1930	4.49	4.36	4.40	158.0	1.5446
2000	4.49	4.39	4.42	163.0	1.5614
2030	4.49	4.40	4.43	162.0	1.5781
2100	4.49	4.41	4.43	161.0	1.6364
2400	4.49	4.41	4.43	135.0	1.6921
Sept. 21					
0000	4.49	4.41	4.43	135.0	1.6921
0100	4.49	4.41	4.43	125.0	1.7180
0200	4.49	4.42	4.44	111.0	1.7524
0400	4.49	4.42	4.44	88.0	1.7887
0600	4.49	4.42	4.44	70.0	1.8466
1200	4.49	4.42	4.44	37.0	1.8924
1800	4.49	4.42	4.44	21.0	1.9185
2400	4.49	4.42	4.44	11.0	1.9253

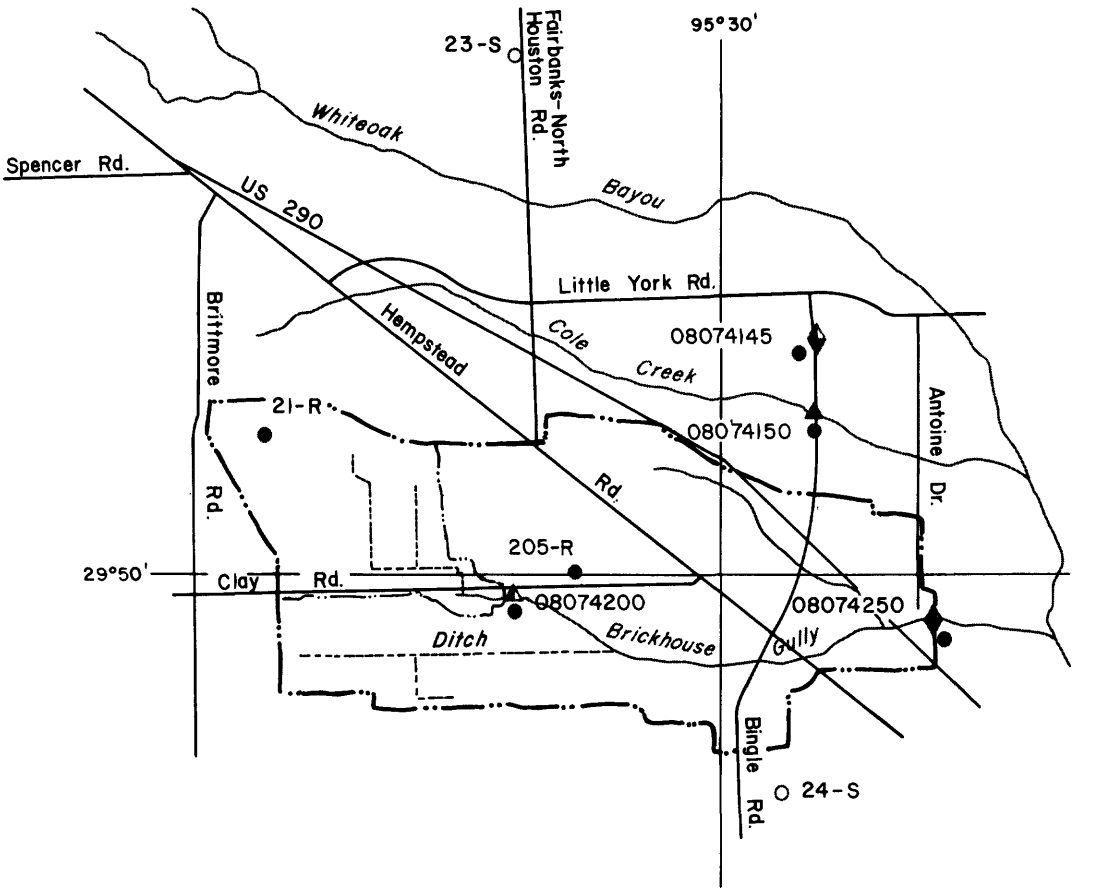
BRICKHOUSE GULLY DRAINAGE BASIN

The location of data-collection sites in and near the Brickhouse Gully drainage basin are shown in figure 8.

Weighted-mean rainfall in the drainage basin based on six rain gages for the 1983 water year was 63.27 inches or 15.08 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
4.17	6.99	3.19	2.27	4.42	4.81	0.28	6.73	4.58	7.05	11.46	7.32	63.27

The storms of July 21-23, Aug. 18-20, and Sept. 19-20 were selected for analysis at station 08074200, Brickhouse Gully at Clarblak Street. The storms of July 21-22, Aug. 18-21, and Sept. 19-22 were selected for analysis at station 08074250, Brickhouse Gully at Costa Rica Street.



EXPLANATION

- ▲ Stream-gaging station
- ▼ Water-quality sampling site
- ◭ Flood-hydrograph partial-record station
- ● Recording rain gage
- ○ Nonrecording rain gage
- —··— Drainage divide
- —··— Drainage subdivide

0 2 MILES
0 1 2 3 KILOMETERS

Base from Texas Department of Highways and Public Transportation General Highway Map

Figure 8.-Locations of data-collection sites in and near the Brickhouse Gully drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 6 .--Storm rainfall-runoff data, 1983 Water Year, Brickhouse Gully

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brickhouse Gully at Clarblak St., Houston, TX. (Drainage area -- 2.56 mi^2)								
July 21-22, 1983	0.3	1.76	1.06	1.76	1.96	1.18	0.49	240
July 22-23, 1983	0.5	0.68	0.35	0.68	0.75			164
Aug. 18-20, 1983	16.3	6.37	0.66	0.96	1.24	3.84	0.60	300*
Sept. 19, 1983	4.5	3.21	0.40	0.74	1.00	1.38	0.31	233
Sept. 20, 1983	2.0	0.38	0.10	0.15	0.21			87
Sept. 20, 1983	2.8	0.82	0.30	0.52	0.55			48

* - Peak Discharge for 1983 Water Year

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 6.--Storm rainfall-runoff data, 1983 Water Year, Brickhouse Gully--Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brickhouse Gully at Costa Rica St., Houston, TX. (Drainage Area -- 11.4 mi^2)								
July 21-22, 1983	25.3	2.22	1.21	1.76	1.96	0.96	0.43	2280
Aug. 18, 1983	9.3	3.95	0.31	0.47	0.73	4.87	0.82	2180
Aug. 18-21, 1983	4.0	1.99	0.66	0.98	1.26			2400
Sept. 19-20, 1983	4.5	3.45	0.80	1.10	2.12	3.20	0.67	4050*
Sept. 20, 1983	2.5	0.46	0.42	0.43	0.53			643
Sept. 20-22, 1983	2.3	0.84	0.58	0.90	0.97			988

* Peak Discharge for 1983 Water Year

08074200 Brickhouse Gully at Clarblak Street, Houston, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°49'53", long 95°31'42", Harris County, Hydrologic Unit 12040104 at bridge on Clarblak Street, in northwest Houston, and 4.0 miles upstream from station at Costa Rica Street.

DRAINAGE AREA.--2.56 mi^2. Drainage area, effective for period, April 1964 to current year. The boundary of the basin is poorly defined due to flat ground slopes.

PERIOD OF RECORD--April 1964 to July 6, 1976, Jan. 26, 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 7, 1978, a flood-hydrograph rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 409 ft^3/s, Oct. 15, 1980 (elevation 89.57 ft) after concrete lining of channel. Maximum elevation 94.28 ft, March 20, 1972 prior to concrete lining of channel. Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Mar. 30	1045	230	87.64
June 16	1700	212	87.42
July 21	1815	240	87.76
Aug. 18	1815	*300	88.46
Sep. 19	0545	233	87.67

Minimum discharge not determined.

STORM RAINFALL AND RUNOFF

08074200 Brickhouse Gully at Clarblak St., Houston, Tex.

Date and time	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of July 21-23, 1983			
July 21					
0000	0.0	0.0	0.0	1.0	0.0051
1645	.0	.0	.0	1.0	.0102
1700	.02	.0	.00	1.0	.0104
1715	.13	.08	.09	1.0	.0105
1730	1.19	1.10	1.12	20.0	.0135
1745	1.89	1.60	1.66	156.0	.0372
1800	1.98	1.66	1.72	220.0	.0704
1815	2.00	1.70	1.76	240.0	.1431
1900	2.00	1.70	1.76	183.0	.2123
1930	2.00	1.70	1.76	141.0	.2550
2000	2.00	1.70	1.76	110.0	.2966
2045	2.00	1.70	1.76	88.0	.3366
2130	2.00	1.70	1.76	71.0	.3742
2230	2.00	1.70	1.76	56.0	.4123
2345	2.00	1.70	1.76	43.0	.4318
2400	2.00	1.70	1.76	41.0	.4535
July 22					
0000	2.00	1.70	1.76	41.0	.4535
0130	2.00	1.70	1.76	32.0	.4826
0300	2.00	1.70	1.76	26.0	.5180
0600	2.00	1.70	1.76	19.0	.5697
1200	2.00	1.70	1.76	12.0	.6133
1800	2.00	1.70	1.76	8.0	.6285
1815	2.05	1.70	1.77	8.0	.6297
1830	2.27	1.72	1.83	20.0	.6327
1845	2.35	2.05	2.11	42.0	.6391
1900	2.35	2.40	2.39	86.0	.6521
1915	2.35	2.45	2.43	131.0	.6719
1930	2.35	2.45	2.43	164.0	.7091
2000	2.35	2.45	2.43	146.0	.7423
2015	2.40	2.45	2.44	132.0	.7722
2045	2.40	2.45	2.44	107.0	.8127
2130	2.40	2.45	2.44	85.0	.8577
2230	2.40	2.45	2.44	65.0	.9020
2345	2.40	2.45	2.44	53.0	.9260
2400	2.40	2.45	2.44	50.0	1.0206
July 23					
0000	2.40	2.45	2.44	50.0	1.0206
0600	2.40	2.45	2.44	23.0	1.1042
1200	2.40	2.45	2.44	12.0	1.1695
2400	2.40	2.45	2.44	4.0	1.1841

08074200 Brickhouse Gully at Clarblak St., Houston, Tex.--Continued

Date and time	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983			
Aug. 18					
0000	0.0	0.0	0.0	1.0	0.0006
0200	.0	.0	.0	1.0	.0013
0215	.07	.0	.01	1.0	.0014
0230	.07	.05	.05	1.0	.0016
0245	.10	.10	.10	1.0	.0017
0300	.15	.13	.13	1.0	.0019
0315	.22	.17	.18	1.0	.0020
0330	.30	.22	.24	1.0	.0022
0345	.32	.28	.29	1.0	.0023
0400	.35	.33	.33	1.0	.0025
0415	.37	.38	.38	1.0	.0026
0430	.45	.44	.44	1.0	.0028
0445	.52	.54	.54	15.0	.0051
0500	.59	.60	.60	31.0	.0098
0515	.63	.65	.65	35.0	.0151
0530	.74	.81	.80	43.0	.0216
0545	.94	1.12	1.08	60.0	.0306
0600	1.10	1.28	1.24	83.0	.0432
0615	1.23	1.38	1.35	100.0	.0583
0630	1.33	1.43	1.41	122.0	.0768
0645	1.36	1.50	1.47	134.0	.0971
0700	1.39	1.57	1.53	140.0	.1183
0715	1.52	1.64	1.62	151.0	.1411
0730	1.66	1.76	1.74	156.0	.1647
0745	1.69	1.81	1.79	167.0	.1900
0800	1.92	1.84	1.86	177.0	.2168
0815	2.01	1.99	1.99	179.0	.2439
0830	2.08	2.04	2.05	177.0	.2706
0845	2.16	2.07	2.09	177.0	.2974
0900	2.25	2.17	2.19	176.0	.3241
0915	2.27	2.20	2.21	172.0	.3501
0930	2.35	2.21	2.24	168.0	.3755
0945	2.40	2.24	2.27	164.0	.4003
1000	2.41	2.30	2.32	160.0	.4245
1015	2.42	2.37	2.38	152.0	.4475
1030	2.43	2.47	2.46	145.0	.4695
1045	2.50	2.59	2.57	137.0	.4902
1100	2.53	2.72	2.68	141.0	.5116
1115	2.65	2.85	2.81	149.0	.5341

08074200 Brickhouse Gully at Clarblak St., Houston, Tex.--Continued

Date and time	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983--Continued			
Aug. 18					
1130	2.70	3.02	2.96	156.0	0.5577
1145	2.78	3.16	3.08	168.0	.5831
1200	2.92	3.33	3.25	180.0	.6104
1215	3.04	3.43	3.35	191.0	.6393
1230	3.18	3.51	3.44	201.0	.6697
1245	3.25	3.62	3.55	207.0	.7010
1300	3.34	3.81	3.72	212.0	.7331
1315	3.40	3.95	3.84	209.0	.7647
1330	3.48	4.01	3.90	206.0	.7959
1345	3.50	4.05	3.94	201.0	.8263
1400	3.52	4.08	3.97	196.0	.8560
1415	3.55	4.10	3.99	192.0	.8850
1430	3.61	4.14	4.03	187.0	.9133
1445	3.67	4.19	4.09	183.0	.9410
1500	3.68	4.21	4.10	178.0	.9680
1515	3.72	4.21	4.11	169.0	.9935
1530	3.73	4.21	4.11	160.0	1.0177
1545	3.73	4.23	4.13	150.0	1.0518
1615	3.73	4.23	4.13	134.0	1.0822
1630	3.73	4.24	4.14	128.0	1.1016
1645	3.73	4.26	4.15	121.0	1.1199
1700	3.73	4.28	4.17	115.0	1.1373
1715	3.73	4.29	4.18	108.0	1.1536
1730	3.78	4.31	4.20	128.0	1.1730
1745	3.92	4.37	4.28	219.0	1.2061
1800	4.22	4.41	4.37	297.0	1.2511
1815	4.88	4.42	4.51	300.0	1.2965
1830	5.02	4.43	4.55	283.0	1.3393
1845	5.02	4.43	4.55	262.0	1.3790
1900	5.02	4.44	4.56	241.0	1.4337
1930	5.02	4.44	4.56	208.0	1.4809
1945	5.04	4.46	4.58	194.0	1.5102
2000	5.05	4.60	4.69	180.0	1.5375
2015	5.05	5.04	5.04	173.0	1.5636
2030	5.05	5.29	5.24	165.0	1.5886
2045	5.05	5.49	5.40	187.0	1.6169
2100	5.27	5.70	5.61	225.0	1.6510
2115	5.28	5.91	5.78	245.0	1.6880
2130	5.34	5.91	5.80	293.0	1.7324

STORM RAINFALL AND RUNOFF

08074200 Brickhouse Gully at Clarblak St., Houston, Tex.--Continued

Date and time	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983--Continued			
Aug. 18					
2145	5.79	5.96	5.93	295.0	1.7770
2200	5.82	6.46	6.33	284.0	1.8200
2215	5.83	6.46	6.33	272.0	1.8612
2230	5.83	6.46	6.33	259.0	1.9003
2245	5.83	6.46	6.33	261.0	1.9991
2345	5.83	6.46	6.33	217.0	2.0812
2400	5.83	6.46	6.33	205.0	2.1587
Aug. 19					
0000	5.83	6.46	6.33	205.0	2.1587
0100	5.83	6.46	6.33	167.0	2.2472
0145	5.83	6.46	6.33	147.0	2.2917
0200	5.83	6.49	6.36	140.0	2.3870
0400	5.83	6.49	6.36	114.0	2.5250
0600	5.83	6.49	6.36	97.0	2.6645
0845	5.83	6.49	6.36	79.0	2.7362
0900	5.83	6.49	6.36	78.0	2.7716
1015	5.83	6.49	6.36	82.0	2.8088
1030	5.84	6.49	6.36	81.0	2.8211
1045	5.86	6.49	6.36	79.0	2.8330
1100	5.87	6.49	6.37	77.0	2.8447
1115	5.88	6.49	6.37	75.0	2.8560
1130	5.88	6.49	6.37	73.0	2.8671
1145	5.88	6.49	6.37	82.0	2.8795
1200	5.88	6.49	6.37	80.0	2.9824
1600	5.88	6.49	6.37	65.0	3.1004
1800	5.88	6.49	6.37	60.0	3.2185
2230	5.88	6.49	6.37	49.0	3.3074
2400	5.88	6.49	6.37	46.0	3.3353
Aug. 20					
0000	5.88	6.49	6.37	46.0	3.3353
0030	5.88	6.49	6.37	46.0	3.4188
0600	5.88	6.49	6.37	39.0	3.5546
1200	5.88	6.49	6.37	34.0	3.6780
1800	5.88	6.49	6.37	31.0	3.7906
2400	5.88	6.49	6.37	28.0	3.8415

08074200 Brickhouse Gully at Clarblak St., Houston, Tex.--Continued

Date and time	Rainfall at gage 205R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of September 19-20, 1983			
Sept. 19				
0000	0.0	0.0	1.0	0.0008
0245	.0	.0	1.0	.0017
0300	.01	.01	1.0	.0019
0315	.03	.03	1.0	.0020
0330	.07	.07	1.0	.0022
0345	.12	.12	2.0	.0025
0400	.15	.15	37.0	.0081
0415	.24	.24	49.0	.0155
0430	.30	.30	72.0	.0264
0445	.34	.34	129.0	.0459
0500	.39	.39	193.0	.0751
0515	.73	.73	205.0	.1062
0530	1.13	1.13	221.0	.1396
0545	1.23	1.23	233.0	.1749
0600	1.39	1.39	228.0	.2094
0615	1.70	1.70	222.0	.2430
0630	1.88	1.88	216.0	.2756
0645	1.95	1.95	213.0	.3079
0700	2.01	2.01	209.0	.3395
0715	2.10	2.10	207.0	.3708
0730	2.30	2.30	206.0	.4020
0745	2.39	2.39	204.0	.4329
0800	2.55	2.55	202.0	.4634
0815	2.71	2.71	189.0	.4920
0830	2.85	2.85	176.0	.5187
0845	2.89	2.89	163.0	.5433
0900	2.94	2.94	150.0	.5660
0915	2.96	2.96	136.0	.5866
0930	2.99	2.99	122.0	.6051
0945	3.00	3.00	108.0	.6378
1030	3.00	3.00	85.0	.6699
1100	3.05	3.05	75.0	.6926
1130	3.08	3.08	79.0	.7165
1200	3.13	3.13	82.0	.7413
1230	3.16	3.16	80.0	.7898
1400	3.16	3.16	58.0	.8249
1430	3.16	3.16	52.0	.8406
1500	3.21	3.21	46.0	.8893
1800	3.21	3.21	18.0	.9384

08074200 Brickhouse Gully at Clarblak St., Houston, Tex.--Continued

Date and time	Rainfall at gage 205R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of September 19-20, 1983--Continued			
Sept. 19				
2400	3.21	3.21	12.0	0.9656
Sept. 20				
0000	3.21	3.21	12.0	.9656
0130	3.21	3.21	25.0	.9826
0215	3.21	3.21	32.0	.9923
0230	3.21	3.21	35.0	.9976
0245	3.31	3.31	37.0	1.0032
0300	3.36	3.36	40.0	1.0093
0315	3.36	3.36	79.0	1.0212
0330	3.42	3.42	87.0	1.0344
0345	3.48	3.48	82.0	1.0530
0415	3.48	3.48	73.0	1.0696
0430	3.49	3.49	67.0	1.0797
0445	3.56	3.56	62.0	1.0891
0500	3.56	3.56	56.0	1.0976
0515	3.57	3.57	52.0	1.1054
0530	3.57	3.57	48.0	1.1127
0545	3.58	3.58	44.0	1.1194
0600	3.58	3.58	40.0	1.1254
0615	3.58	3.58	37.0	1.1310
0630	3.59	3.59	34.0	1.1490
0800	3.59	3.59	27.0	1.1940
1200	3.59	3.59	15.0	1.2246
1445	3.59	3.59	11.0	1.2346
1500	3.67	3.67	11.0	1.2404
1630	3.69	3.69	9.0	1.2452
1645	3.69	3.69	8.0	1.2464
1700	3.69	3.69	40.0	1.2524
1715	3.70	3.70	48.0	1.2597
1730	3.70	3.70	42.0	1.2661
1745	4.00	4.00	42.0	1.2724
1800	4.22	4.22	43.0	1.2822
1830	4.25	4.25	39.0	1.2940
1900	4.31	4.31	30.0	1.3031
1930	4.36	4.36	33.0	1.3130
2000	4.39	4.39	34.0	1.3233
2030	4.40	4.40	32.0	1.3500
2245	4.41	4.41	24.0	1.3754
2400	4.41	4.41	18.0	1.3822

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--29°49'40", long 95°28'09", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Costa Rica Street in northwest Houston and 1.0 mi upstream from Whiteoak Bayou.

DRAINAGE AREA.--11.4 mi^2. Prior to Oct. 1, 1973, 11.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (operated as s continuous-recording station prior to Oct. 1, 1981).

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Low-water concrete control since Dec. 9, 1970. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records good. Low flow is partially sustained by sewage effluent. No know diversion above station. Recording rain gage at station.

AVERAGE DISCHARGE.--17 years (water years 1965-81), 14.0 ft^3/s (10,140 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft^3/s Mar: 20, 1972 (elevation, 69.20 ft); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Elevation (ft)	Date	Time	Discharge (ft^3/s)	Elevation (ft)
May 20	a0430	2,240	a63.09	Aug. 11	1345	2,320	63.28
June 17	a1400	2,500	unknown	Aug. 18	2200	2,400	63.47
July 21	1830	2,280	63.20	Sept. 19	0730	*4,050	66.65

a From crest-stage gage peak mark.
b About.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
MAR 02...	1055	3.0	639	8.7	21.5	25	4.5	4.0	1500	520	200

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAR 02...	0	61	11	70	2.3	2.1	250	20	58	.30	13

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR 02...	386	13	13	.020	<.10	.110	.89	1.00	.430	7.0

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR 02...	1055	3	350	<1	<10	1	10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR 02...	<1	21	.1	3	2	4

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR 02...	1055	<.10	<.10	.30	<.10	<.10	<2.0	.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR 02...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08074250 Brickhouse Gully at Costa Rica St., Houston, Tex.

Date and time	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of July 21-22, 1983			
July 21						
0000	0.0	0.0	0.0	0.0	4.1	0.0017
0600	.0	.0	.0	.0	4.0	.0049
1200	.0	.0	.0	.0	3.8	.0077
1645	.0	.0	.0	.0	3.7	.0090
1700	.0	.02	.0	.01	3.7	.0091
1715	1.21	.13	.08	.34	47.0	.0107
1730	1.37	1.19	1.10	1.21	91.0	.0138
1745	1.37	1.89	1.60	1.73	762.0	.0397
1800	1.37	1.98	1.66	1.79	1,970.0	.1066
1815	1.37	2.00	1.70	1.81	2,240.0	.1827
1830	1.37	2.00	1.70	1.81	2,280.0	.2990
1900	1.37	2.00	1.70	1.81	1,860.0	.4254
1930	1.37	2.00	1.70	1.81	1,410.0	.5212
2000	1.37	2.00	1.70	1.81	942.0	.5852
2030	1.37	2.00	1.70	1.81	635.0	.6284
2100	1.37	2.00	1.70	1.81	475.0	.6607
2130	1.37	2.00	1.70	1.81	315.0	.6874
2215	1.37	2.00	1.70	1.81	232.0	.7268
2400	1.37	2.00	1.70	1.81	128.0	.7856
July 22						
0000	1.37	2.00	1.70	1.81	128.0	.7856
0500	1.37	2.00	1.70	1.81	103.0	.8276
0600	1.37	2.00	1.70	1.81	98.0	.8575
0930	1.37	2.00	1.70	1.81	80.0	.8902
1200	1.37	2.00	1.70	1.81	67.0	.9129
1430	1.37	2.00	1.70	1.81	54.0	.9294
1630	1.37	2.00	1.70	1.81	44.0	.9399
1800	1.37	2.00	1.70	1.81	37.0	.9449
1830	1.47	2.27	1.72	2.00	34.0	.9473
1900	1.47	2.35	2.40	2.18	31.0	.9494
1930	1.47	2.35	2.45	2.19	29.0	.9513
2000	1.47	2.35	2.45	2.19	26.0	.9531
2030	1.47	2.40	2.45	2.22	24.0	.9555
2130	1.47	2.40	2.45	2.22	19.0	.9581
2230	1.47	2.40	2.45	2.22	14.0	.9605
2400	1.47	2.40	2.45	2.22	6.0	.9611

08074250 Brickhouse Gully at Costa Rica St., Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-21, 1983				
Aug. 18							
0000	0.0	0.0	0.0	0.0	0.0	5.4	0.0007
0200	.0	.0	.0	.0	.0	5.4	.0017
0230	.0	.02	.07	.05	.05	5.4	.0020
0300	.05	.12	.15	.13	.13	30.0	.0035
0315	.07	.18	.22	.17	.18	43.0	.0050
0330	.10	.22	.30	.22	.25	55.0	.0069
0345	.23	.25	.32	.28	.29	79.0	.0096
0400	.24	.26	.35	.33	.32	103.0	.0131
0415	.24	.30	.37	.38	.35	126.0	.0173
0430	.30	.35	.45	.44	.42	150.0	.0224
0445	.36	.42	.52	.54	.49	226.0	.0301
0500	.42	.47	.59	.60	.55	301.0	.0404
0515	.48	.52	.63	.65	.60	377.0	.0532
0530	.54	.67	.74	.81	.72	452.0	.0685
0545	.62	.82	.94	1.12	.92	598.0	.0888
0600	.84	.95	1.10	1.28	1.08	743.0	.1141
0615	1.00	1.07	1.23	1.38	1.21	828.0	.1422
0630	1.08	1.10	1.33	1.43	1.29	913.0	.1733
0645	1.14	1.17	1.36	1.50	1.34	1,010.0	.2076
0700	1.22	1.27	1.39	1.57	1.39	1,110.0	.2453
0715	1.27	1.36	1.52	1.64	1.49	1,220.0	.2868
0730	1.52	1.42	1.66	1.76	1.63	1,330.0	.3320
0745	1.57	1.60	1.69	1.81	1.69	1,530.0	.3839
0800	1.80	1.65	1.92	1.84	1.86	1,730.0	.4427
0815	2.00	1.68	2.01	1.99	1.97	1,760.0	.5025
0830	2.12	1.75	2.08	2.04	2.04	1,860.0	.5657
0845	2.24	1.83	2.16	2.07	2.12	1,760.0	.6256
0900	2.32	1.88	2.25	2.17	2.21	1,700.0	.6833
0915	2.37	1.88	2.27	2.20	2.23	1,650.0	.7394
0930	2.42	1.92	2.35	2.21	2.29	1,590.0	.7934
0945	2.50	1.93	2.40	2.24	2.34	1,540.0	.8458
1000	2.52	1.95	2.41	2.30	2.36	1,480.0	.8961
1015	2.62	1.97	2.42	2.37	2.39	1,430.0	.9446
1030	2.72	2.00	2.43	2.47	2.44	1,380.0	.9915
1045	2.80	2.05	2.50	2.59	2.52	1,480.0	1.0418
1100	2.90	2.22	2.53	2.72	2.59	1,640.0	1.0976
1115	3.07	2.28	2.65	2.85	2.72	1,780.0	1.1581
1130	3.30	2.38	2.70	3.02	2.82	1,920.0	1.2233
1145	3.47	2.40	2.78	3.16	2.92	1,980.0	1.2906

08074250 Brickhouse Gully at Costa Rica St., Houston, Tex.--Continnued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-21, 1983--Continued				
Aug. 18							
1200	3.62	2.68	2.92	3.33	3.08	2,030.0	1.3596
1215	3.80	2.75	3.04	3.43	3.20	2,080.0	1.4303
1230	3.97	2.78	3.18	3.51	3.32	2,120.0	1.5023
1245	4.12	2.90	3.25	3.62	3.42	2,180.0	1.5764
1300	4.22	3.00	3.34	3.81	3.53	2,160.0	1.6498
1315	4.37	3.08	3.40	3.95	3.62	2,100.0	1.7211
1330	4.47	3.10	3.48	4.01	3.70	2,040.0	1.7905
1345	4.50	3.12	3.50	4.05	3.72	1,870.0	1.8540
1400	4.55	3.12	3.52	4.08	3.75	1,700.0	1.9118
1415	4.57	3.20	3.55	4.10	3.78	1,620.0	1.9668
1430	4.58	3.25	3.61	4.14	3.83	1,540.0	2.0192
1445	4.64	3.25	3.67	4.19	3.88	1,450.0	2.0684
1500	4.67	3.25	3.68	4.21	3.89	1,370.0	2.1150
1515	4.68	3.30	3.72	4.21	3.92	1,290.0	2.1588
1530	4.68	3.30	3.73	4.21	3.93	1,210.0	2.1999
1545	4.68	3.30	3.73	4.23	3.93	1,130.0	2.2383
1600	4.80	3.30	3.73	4.23	3.95	1,050.0	2.2740
1615	4.81	3.30	3.73	4.23	3.95	963.0	2.3067
1630	4.81	3.30	3.73	4.24	3.95	877.0	2.3365
1645	4.81	3.30	3.73	4.26	3.95	790.0	2.3634
1700	4.82	3.32	3.73	4.28	3.96	703.0	1.3873
1715	4.82	3.32	3.73	4.29	3.96	645.0	2.4092
1730	4.82	3.35	3.78	4.31	4.00	586.0	2.4291
1745	4.82	3.60	3.92	4.37	4.11	548.0	2.4477
1800	4.83	4.20	4.22	4.41	4.35	581.0	2.4676
1815	4.83	4.58	4.88	4.42	4.75	1,110.0	2.5052
1830	4.84	4.58	5.02	4.43	4.83	1,680.0	2.5623
1845	4.85	4.60	5.02	4.43	4.83	2,130.0	2.6347
1900	4.85	4.60	5.02	4.44	4.84	2,240.0	2.7108
1915	4.85	4.60	5.02	4.44	4.84	2,110.0	2.7825
1930	4.85	4.72	5.02	4.44	4.85	1,940.0	2.8484
1945	4.85	4.78	5.04	4.46	4.87	1,790.0	2.9092
2000	4.90	4.80	5.05	4.60	4.91	1,640.0	2.9650
2015	4.93	4.80	5.05	5.04	5.00	1,460.0	3.0146
2030	4.93	4.80	5.05	5.29	5.05	1,280.0	3.0581
2045	4.93	4.80	5.05	5.49	5.09	1,150.0	3.0972
2100	4.93	4.80	5.27	5.70	5.26	1,020.0	3.1318
2115	4.93	4.80	5.28	5.91	5.31	974.0	3.1649
2130	4.93	5.38	5.34	5.91	5.40	1,580.0	3.2186

08074250 Brickhouse Gully at Costa Rica St., Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-21--Continued				
Aug. 18							
2145	4.96	5.40	5.79	5.96	5.66	2,130.0	3.2910
2200	5.22	5.40	5.82	6.46	5.82	2,400.0	3.3726
2215	5.53	5.40	5.83	6.46	5.87	2,370.0	3.5336
2300	5.53	5.40	5.83	6.46	5.87	1,840.0	3.6899
2330	5.53	5.40	5.83	6.46	5.87	1,490.0	3.7912
2400	5.53	5.40	5.83	6.46	5.87	1,240.0	3.8966
Aug. 19							
0000	5.53	5.40	5.83	6.46	5.87	1,240.0	3.8966
0045	5.53	5.40	5.83	6.46	5.87	952.0	3.9936
0130	5.53	5.40	5.83	6.46	5.87	749.0	4.0445
0145	5.53	5.40	5.83	6.46	5.87	694.0	4.0681
0200	5.53	5.40	5.83	6.49	5.87	639.0	4.1224
0300	5.53	5.40	5.83	6.49	5.87	508.0	4.1828
0345	5.53	5.40	5.83	6.49	5.87	410.0	4.2385
0500	5.53	5.40	5.83	6.49	5.87	321.0	4.2876
0600	5.53	5.40	5.83	6.49	5.87	265.0	4.3417
0800	5.53	5.40	5.83	6.49	5.87	210.0	4.3952
0945	5.53	5.40	5.83	6.49	5.87	168.0	4.4237
1030	5.53	5.40	5.84	6.49	5.88	154.0	4.4368
1100	5.54	5.40	5.87	6.49	5.90	145.0	4.4467
1130	5.54	5.40	5.88	6.49	5.90	136.0	4.4559
1200	5.55	5.40	5.88	6.49	5.90	142.0	4.4655
1230	5.55	5.40	5.88	6.49	5.90	136.0	4.4748
1300	5.56	5.40	5.88	6.49	5.91	139.0	4.4890
1400	5.57	5.40	5.88	6.49	5.91	123.0	4.5203
1645	5.57	5.46	5.88	6.49	5.91	132.0	4.5472
1700	5.58	5.46	5.88	6.49	5.91	166.0	4.5557
1730	5.78	5.46	5.88	6.49	5.94	147.0	4.5657
1800	5.78	5.46	5.88	6.49	5.94	125.0	4.6209
2400	5.78	5.46	5.88	6.49	5.94	68.0	4.6764
Aug. 20							
0000	5.78	5.46	5.88	6.49	5.94	68.0	4.6764
0600	5.78	5.46	5.88	6.49	5.94	54.0	4.7204
1200	5.78	5.46	5.88	6.49	5.94	42.0	4.7546
1800	5.78	5.46	5.88	6.49	5.94	35.0	4.7832
2400	5.78	5.46	5.88	6.49	5.94	30.0	4.8077
Aug. 21							
0000	5.78	5.46	5.88	6.49	5.94	30.0	4.8077
0600	5.78	5.46	5.88	6.49	5.94	27.0	4.8297
1200	5.78	5.46	5.88	6.49	5.94	23.0	4.8484
1800	5.78	5.46	5.88	6.49	5.94	19.0	4.8639
2400	5.78	5.46	5.88	6.49	5.94	14.0	4.8696

08074250 Brickhouse Gully at Costa Rica St., Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Sept. 19-22, 1983			
Sept. 19						
0000	0.0	0.0	0.0	0.0	23.0	0.0043
0245	.0	.0	.0	.0	19.0	.0082
0300	.0	.0	.01	.01	18.0	.0088
0315	.0	.0	.03	.02	18.0	.0094
0330	.0	.0	.07	.05	18.0	.0100
0345	.0	.02	.12	.09	17.0	.0106
0400	.0	.07	.15	.12	17.0	.0112
0415	.02	.10	.24	.19	16.0	.0117
0430	.07	.14	.30	.25	16.0	.0123
0445	.12	.18	.34	.29	15.0	.0128
0500	.13	.22	.39	.33	15.0	.0133
0515	.18	.22	.73	.60	32.0	.0144
0530	.20	.82	1.13	.96	48.0	.0160
0545	.25	1.15	1.23	1.07	74.0	.0185
0600	.45	1.37	1.39	1.25	265.0	.0275
0615	1.05	1.72	1.70	1.60	1,230.0	.0693
0630	1.25	1.84	1.88	1.78	2,200.0	.1441
0645	2.05	2.02	1.95	1.97	2,730.0	.2368
0700	2.35	2.19	2.01	2.08	3,250.0	.3473
0715	2.85	2.45	2.10	2.25	3,650.0	.4713
0730	3.37	2.50	2.30	2.48	4,050.0	.6089
0745	3.50	2.67	2.39	2.58	3,880.0	.7408
0800	3.60	2.70	2.55	2.72	3,700.0	.8665
0815	3.70	2.94	2.71	2.88	3,450.0	.9838
0830	3.83	3.18	2.85	3.03	3,190.0	1.0922
0845	3.90	3.22	2.89	3.07	2,920.0	1.1914
0900	4.15	3.27	2.94	3.15	3,090.0	1.2964
0915	4.27	3.34	2.96	3.19	2,970.0	1.3973
0930	4.35	3.37	2.99	3.23	2,840.0	1.4938
0945	4.38	3.38	3.00	3.24	2,590.0	1.5819
1000	4.45	3.42	3.00	3.26	2,330.0	1.6610
1015	4.47	3.42	3.00	3.26	2,090.0	1.7321
1030	4.48	3.42	3.00	3.26	1,850.0	1.7949
1045	4.49	3.42	3.01	3.27	1,600.0	1.8493
1100	4.49	3.42	3.05	3.30	1,360.0	1.8955
1115	4.49	3.42	3.07	3.32	1,210.0	1.9366
1130	4.49	3.42	3.08	3.33	1,070.0	1.9730
1145	4.49	3.42	3.11	3.35	921.0	2.0043
1200	4.49	3.44	3.13	3.36	774.0	2.0306

08074250 Brickhouse Gully at Costa Rica St., Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Sept. 19-22--Continued			
Sept. 19						
1215	4.49	3.46	3.14	3.37	713.0	2.0548
1230	4.53	3.46	3.16	3.40	651.0	2.0769
1245	4.53	3.50	3.16	3.40	590.0	2.1170
1330	4.53	3.50	3.16	3.40	477.0	2.1738
1430	4.53	3.50	3.16	3.40	363.0	2.2046
1445	4.58	3.50	3.20	3.44	332.0	2.2159
1500	4.58	3.50	3.21	3.44	301.0	2.2824
1800	4.58	3.50	3.21	3.44	136.0	2.3263
1945	4.58	3.50	3.21	3.44	93.0	2.3389
2000	4.58	3.59	3.21	3.45	87.0	2.3640
2400	4.58	3.59	3.21	3.45	56.0	2.3888
Sept. 20						
0000	4.58	3.59	3.21	3.45	56.0	2.3888
0230	4.58	3.59	3.21	3.45	47.0	2.3976
0245	4.58	3.59	3.31	3.53	46.0	2.3991
0300	4.58	3.73	3.36	3.58	45.0	2.4007
0315	4.58	3.77	3.36	3.58	44.0	2.4022
0330	4.81	3.77	3.42	3.66	142.0	2.4070
0345	5.01	3.77	3.48	3.74	390.0	2.4202
0400	5.01	3.77	3.48	3.74	322.0	2.4312
0415	5.11	3.77	3.48	3.75	241.0	2.4394
0430	5.11	3.79	3.49	3.76	232.0	2.4472
0445	5.11	3.88	3.56	3.82	222.0	2.4548
0500	5.11	3.88	3.56	3.82	252.0	2.4633
0515	5.53	3.88	3.57	3.89	448.0	2.4786
0530	5.53	3.88	3.57	3.89	643.0	2.5004
0545	5.53	3.88	3.58	3.90	517.0	2.5180
0600	5.53	3.88	3.58	3.90	391.0	2.5313
0615	5.53	3.88	3.58	3.90	348.0	2.5431
0630	5.53	3.88	3.59	3.91	305.0	2.5586
0700	5.53	3.88	3.59	3.91	219.0	2.5810
0800	5.53	3.88	3.59	3.91	167.0	2.6008
0845	5.53	3.88	3.59	3.91	128.0	2.6161
0945	5.53	3.88	3.59	3.91	108.0	2.6388
1200	5.53	3.88	3.59	3.91	67.0	2.6570
1345	5.53	3.88	3.59	3.91	57.0	2.6648
1400	5.53	3.89	3.59	3.91	55.0	2.6685
1445	5.53	3.89	3.59	3.91	51.0	2.6720
1500	5.53	4.07	3.67	3.99	49.0	2.6736
1515	5.53	4.07	3.68	4.00	48.0	2.6753

STORM RAINFALL AND RUNOFF

08074250 Brickhouse Gully at Costa Rica St., Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Sept. 19-22, 1986--Continued			
Sept. 20						
1530	5.53	4.07	3.68	4.00	46.0	2.6768
1545	5.55	4.07	3.68	4.00	45.0	2.6784
1600	5.55	4.07	3.68	4.00	43.0	2.6798
1615	5.55	4.07	3.68	4.00	50.0	2.6815
1630	5.55	4.07	3.69	4.01	58.0	2.6835
1645	5.55	4.07	3.69	4.01	65.0	2.6857
1700	5.55	4.07	3.69	4.01	62.0	2.6878
1715	5.55	4.07	3.70	4.01	59.0	2.6898
1730	5.55	4.07	3.70	4.01	57.0	2.6918
1745	5.55	4.08	4.00	4.24	54.0	2.6936
1800	5.55	4.37	4.22	4.43	51.0	2.6953
1815	5.58	4.37	4.24	4.45	48.0	2.6969
1830	6.16	4.37	4.25	4.55	416.0	2.7111
1845	6.48	4.37	4.28	4.62	702.0	2.7349
1900	6.52	4.46	4.31	4.66	988.0	2.7685
1915	6.54	4.49	4.33	4.68	869.0	2.7980
1930	6.54	4.49	4.36	4.70	750.0	2.8235
1945	6.54	4.49	4.38	4.71	665.0	2.8461
2000	6.58	4.49	4.39	4.73	579.0	2.8658
2015	6.58	4.49	4.40	4.74	494.0	2.8826
2030	6.58	4.49	4.40	4.74	408.0	2.8965
2045	6.58	4.49	4.41	4.74	379.0	2.9222
2130	6.58	4.49	4.41	4.74	291.0	2.9469
2200	6.58	4.49	4.41	4.74	232.0	2.9706
2300	6.58	4.49	4.41	4.74	179.0	2.9919
2345	6.58	4.49	4.41	4.74	138.0	3.0013
2400	6.58	4.49	4.41	4.74	125.0	3.0161
Sept. 21						
0000	6.58	4.49	4.41	4.74	125.0	3.0161
0130	6.58	4.49	4.41	4.74	94.0	3.0289
0200	6.58	4.49	4.42	4.75	86.0	3.0377
0300	6.58	4.49	4.42	4.75	69.0	3.0564
0600	6.58	4.49	4.42	4.75	49.0	3.0797
1000	6.58	4.49	4.42	4.75	40.0	3.0960
1200	6.58	4.49	4.42	4.75	36.0	3.1156
1800	6.58	4.49	4.42	4.75	29.0	3.1393
2400	6.58	4.49	4.42	4.75	21.0	3.1650
Sept. 22						
0000	6.58	4.49	4.42	4.75	21.0	3.1650
1200	6.58	4.49	4.42	4.75	17.0	3.1927
2400	6.58	4.49	4.42	4.75	12.0	3.2025

LAZYBROOK STREET STORM SEWER DRAINAGE BASIN

The locations of data-collection sites in the Lazybrook Street Storm Sewer drainage basin are shown in figure 9.

Weighted-mean rainfall for the 1983 water year was not determined.

The storms of Nov. 2, Feb. 20-21, and Sept. 10 were selected for analysis at station 08074400, Lazybrook Street Storm Sewer at Houston.

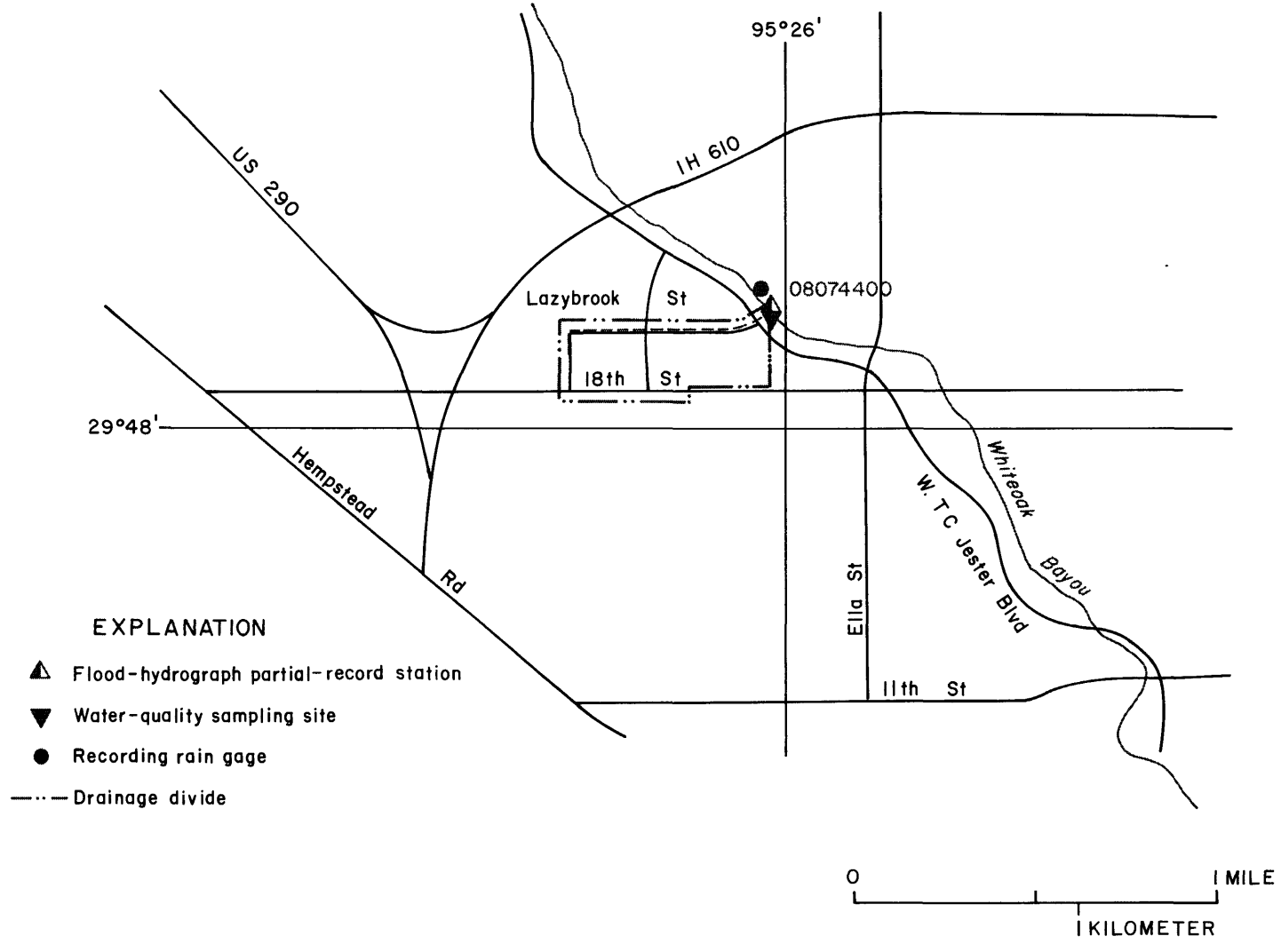

Figure 9.-Locations of data-collection sites in and near the Lazybrook Street Storm Sewer drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 7.--Storm rainfall-runoff data, 1983 Water Year, Lazybrook Street Storm Sewer

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Lazybrook Street Storm Sewer at Houston, TX (Drainage Area -- 0.13 mi^2)								
Nov. 2, 1982	0.8	0.63	0.33	0.51	0.58	0.22	0.23	14
Nov. 2, 1982	1.8	0.30	0.07	0.12	0.20			5
Feb. 20-21, 1983	2.0	1.25	0.46	0.64	0.73	0.78	0.62	63
Sept. 10, 1983	0.6	1.97	1.07	1.50	1.90	1.12	0.57	111

SAN JACINTO RIVER BASIN

08074400 LAZYBROOK STREET STORM SEWER AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'15", long 95°26'04", Harris County, Hydrologic Unit 12040104, over a 54-inch storm sewer 30 ft north of the intersection of Lazybrook Street and West T. C. Jester Boulevard, Houston.

DRAINAGE AREA.--0.13 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Flood-hydrograph and rainfall recorder. Datum of gage is -0.10 ft National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the reports "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 119 ft^3/s represents full storm sewer discharge and usually occurs many times annually, gage height, 58.09 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 85 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 17	1100	94	57.66	Sept. 19	0605	*119	58.16
Aug. 11	1317	93	57.64	Sept. 20	1735	116	58.04
Sept. 10	1805	111	57.95				

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: March 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV												
02...	1700	.59	307	--	--	40	23	--	--	--	--	--
02...	1715	13	53	--	--	40	40	--	--	--	--	--
02...	1745	5.0	215	--	--	35	23	--	--	--	--	--
02...	1815	2.4	166	--	--	50	15	--	--	--	--	--
16...	1807	.55	397	--	--	20	18	--	--	--	--	--
16...	1822	2.0	210	--	--	35	15	--	--	--	--	--
16...	1922	3.0	276	--	--	40	9.0	--	--	--	--	--
FEB												
09...	1143	.55	569	--	--	<1	3.7	--	--	--	--	--
09...	1158	6.3	103	--	--	15	17	--	--	--	--	--
09...	1243	7.6	66	--	--	40	12	--	--	--	--	--
09...	1258	5.9	99	--	--	70	5.1	--	--	--	--	--
15...	0640	.55	605	--	--	<1	12	--	--	--	--	--
15...	0755	3.7	94	--	--	20	19	--	--	--	--	--
20...	2117	.63	559	--	--	5	2.5	--	--	--	--	--
20...	2132	43	66	--	--	40	28	--	--	--	--	--
20...	2147	46	60	--	--	80	20	--	--	--	--	--
20...	2202	20	82	--	--	90	17	--	--	--	--	--
20...	2217	11	68	--	--	100	13	--	--	--	--	--
20...	2232	22	55	--	--	60	12	--	--	--	--	--
MAR												
02...	0935	.27	567	7.8	21.5	<1	3.6	4.4	50	.9	130	110
MAY												
10-10	0800	6.7	106	--	--	30	6.3	--	--	7.7	--	--
JUL												
21-21	1645	3.9	172	--	--	35	4.0	--	--	6.3	--	--

08074400 LAZYBROOK STREET STORM SEWER AT HOUSTON,TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV												
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	200	0	61	11	69	2.2	2.2	210	11	55	.40	13
MAY												
10-10	24	0	7.9	1.0	10	.9	3.5	25	12	8.9	<.10	2.9
JUL												
21-21	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV											
02...	--	122	21	--	<.020	<.10	<.060	--	2.60	.190	17
02...	--	556	40	--	<.020	.20	<.060	--	2.90	.200	25
02...	--	134	21	--	<.020	<.10	<.060	--	1.90	.240	13
02...	--	67	25	.18	.020	.20	.070	1.1	1.20	.240	12
16...	--	41	34	.08	.020	.10	.100	.90	1.00	.130	8.1
16...	--	75	39	--	.020	<.10	.300	5.5	5.80	.490	23
16...	--	18	4	--	<.020	<.10	.190	1.3	1.50	.250	14
FEB											
09...	--	13	12	--	<.020	<.10	.060	.34	.40	.050	5
09...	--	196	66	.44	.060	.50	.150	2.7	2.80	.470	18
09...	--	122	60	.38	.020	.40	.120	1.8	1.90	.370	15
09...	--	58	25	.37	.030	.40	.160	1.3	1.50	.430	15
15...	--	11	4	--	<.020	.10	.140	.06	.20	.060	3.2
15...	--	22	19	.47	.030	.50	.190	1.1	1.30	270	12
20...	--	30	<1	--	<.020	<.10	.060	.24	.30	030	1.1
20...	--	152	29	.37	.030	.40	1.00	5.1	6.10	.890	36
20...	--	71	17	.48	.020	.50	.670	2.2	2.90	.590	14
20...	--	34	<1	.58	.020	.60	.580	2.2	2.80	.600	12
20...	--	24	<1	.67	.030	.70	.650	2.2	2.80	.690	12
20...	--	35	5	.48	.020	.50	.760	2.2	3.00	.670	13
MAR											
02...	349	12	11	--	<.020	<.10	.080	.22	.30	.050	1 1
MAY											
10-10	61	48	10	.65	.050	.70	1.00	2.0	3.00	.780	15
JUL											
21-21	--	33	2	.58	.020	.60	.480	1.5	2.00	.510	10

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
MAR							
02...	0935	3	350	<1	<10	3	16
MAY							
10-10	0800	1	24	<1	<10	1	63

08074400 LAZYBROOK STREET STORM SEWER AT HOUSTON,TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR 02...	<1	23	<.1	1	1	8
MAY 10-10	14	6	<.1	1	<1	77

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR 02...	0935	<.10	<.10	<.10	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR 02...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08074400 Lazybrook Street storm sewer at Houston, Tex.

Date and time	Rainfall at gage 4400 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Nov. 2, 1982		
Nov. 2				
0000	0.0	0.0	0.0	0.0
0600	.0	.0	.0	.0
1200	.0	.0	.0	.0
1440	.0	.0	.2	.0033
1445	.01	.01	.3	.0042
1510	.01	.01	.4	.0054
4515	.02	.02	.4	.0091
1645	.02	.02	.3	.0120
1650	.13	.13	.3	.0123
1655	.24	.24	.4	.0127
1700	.35	.35	.6	.0133
1705	.41	.41	3.1	.0163
1710	.47	.47	8.5	.0248
1715	.53	.53	13.0	.0377
1720	.53	.53	14.0	.0516
1725	.54	.54	14.0	.0655
1730	.55	.55	12.0	.0774
1735	.56	.56	8.5	.0859
1740	.58	.58	6.3	.0921
1745	.60	.60	5.0	.0971
1750	.61	.61	4.4	.1015
1755	.62	.62	3.9	.1053
1800	.63	.63	3.3	.1119
1815	.65	.65	2.4	.1190
1830	.65	.65	1.9	.1530
2115	.66	.66	.3	.1584
2130	.67	.67	.3	.1593
2145	.70	.70	.3	.1602
2200	.74	.74	.6	.1617
2210	.76	.76	1.1	.1638
2220	.79	.79	1.8	.1674
2230	.85	.85	2.6	.1726
2240	.88	.88	3.4	.1777
2245	.90	.90	4.0	.1836
2255	.90	.90	4.9	.1909
2300	.91	.91	4.6	.2023
2320	.91	.91	2.2	.2111
2340	.92	.92	1.0	.2151
2400	.93	.93	.7	.2164

STORM RAINFALL AND RUNOFF

08074400 Lazybrook Street storm sewer at Houston, Tex.

Date and time	Rainfall at gage 4400 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Feb. 20-21, 1983		
Feb. 20				
0000	0.0	0.0	0.0	0.0
1200	.0	.0	.0	.0
1800	.0	.0	.0	.0
2100	.0	.0	.0	.0
2105	.02	.02	.0	.0
2110	.05	.05	.0	.0
2115	.08	.08	.4	.0004
2120	.23	.23	1.0	.0014
2125	.38	.38	12.0	.0133
2130	.54	.54	31.0	.0441
2135	.60	.60	63.0	.1067
2140	.66	.66	61.0	.1673
2145	.72	.72	50.0	.2418
2155	.72	.72	30.0	.2865
2200	.73	.73	22.0	.3083
2205	.75	.75	16.0	.3242
2210	.77	.77	13.0	.3371
2215	.79	.79	11.0	.3481
2220	.87	.87	11.0	.3590
2225	.95	.95	12.0	.3709
2230	1.03	1.03	18.0	.3888
2235	1.03	1.03	29.0	.4176
2240	1.04	1.04	34.0	.4514
2245	1.05	1.05	29.0	.4802
2250	1.05	1.05	22.0	.4802
2255	1.05	1.05	18.0	.5199
2300	1.06	1.06	14.0	.5477
2315	1.13	1.13	11.0	.5805
2330	1.16	1.16	9.5	.6088
2345	1.19	1.19	7.7	.6318
2400	1.19	1.19	7.3	.6535
Feb. 21				
0000	1.19	1.19	7.3	.6535
0015	1.20	1.20	5.0	.6759
0045	1.21	1.21	2.6	.6875
0100	1.24	1.24	2.1	.7532
0600	1.25	1.25	.4	.7794
1200	1.25	1.25	.0	.7794
1800	1.25	1.25	.0	.7794
2400	1.25	1.25	.0	.7794

STORM RAINFALL AND RUNOFF

08074400 Lazybrook Street storm sewer at Houston, Tex.

Date and time	Rainfall at gage 4400 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 10, 1986		
Sept. 10				
0000	0.0	0.0	0.1	0.0036
0600	.0	.0	.1	.0107
1200	.0	.0	.1	.0176
1730	.0	.0	.1	.0209
1735	.14	.14	.1	.0210
1740	.28	.28	.1	.0211
1745	.43	.43	.9	.0220
1750	.78	.78	28.0	.0498
1755	1.14	1.14	70.0	.1193
1800	1.50	1.50	106.0	.2246
1805	1.61	1.61	111.0	.3349
1810	1.72	1.72	105.0	.4392
1815	1.83	1.83	95.0	.5336
1820	1.85	1.85	81.0	.6140
1825	1.87	1.87	61.0	.6746
1830	1.90	1.90	46.0	.7203
1835	1.91	1.91	37.0	.7571
1840	1.92	1.92	30.0	.7869
1845	1.93	1.93	24.0	.8107
1850	1.93	1.93	20.0	.8306
1855	1.94	1.94	17.0	.8475
1900	1.95	1.95	14.0	.8614
1905	1.95	1.95	12.0	.8733
1910	1.96	1.96	9.7	.8829
1915	1.97	1.97	8.2	1.1191
2400	1.97	1.97	.2	1.1248

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 8.--Storm rainfall-runoff data, 1983 Water Year, Whiteoak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Whiteoak Bayou at Houston, TX (Drainage Area -- 86.3 mi^2)								
May 20, 1983	2.5	1.52	0.49	0.98	1.06	2.69	0.54	3000
May 20-21, 1983	2.5	1.48	0.85	1.70	2.08			5090
May 21-24, 1983	5.5	2.02	0.52	1.04	1.56			5960
Sept. 19-20, 1983	5.5	3.38	0.55	1.10	2.12	3.18	0.69	11200
Sept. 20-23, 1983	15.5	1.25	0.31	0.61	0.97			5970

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°46'30", long 95°23'49", Harris County, Hydrologic Unit 12040104, at downstream side of downstream bridge on Heights Boulevard in Houston, 560 ft downstream from Texas and New Orleans Railroad Co. bridge, 2.4 mi upstream from Little Whiteoak Bayou, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--86.3 mi^2. Prior to Oct. 1, 1976, 84.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year (October 1965 to September 1966, monthly discharge only).

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 7.35 ft below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to June 17, 1936, nonrecording gage, and June 17, 1936, to Apr. 28, 1965, water-stage recorder at site 480 ft upstream at same datum.

REMARKS.--Water-discharge records good except those for period of no gage-height record, which are poor. Low flow is partly sustained by industrial waste. No diversion above station.

AVERAGE DISCHARGE.--47 years, 83.8 ft^3/s (60,710 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft^3/s Mar. 20, 1972 (gage height, 43.50 ft); maximum gage height, 43.60 ft Nov. 13, 1961; no flow for many days during 1965 water year (result of construction dams).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1919, 51.5 ft Dec. 9, 1935, prior to channel rectification, present site and datum (discharge, 14,750 ft^3/s), furnished by the engineer for Harris County. The flood of May 31, 1929, reached a stage of 47.0 + 0.5 ft, prior to channel rectification, present site and datum (discharge, 9,360 ft^3/s), computed on basis of current-meter measurement at stage 1.0 ft below crest, furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 23	1600	4,660	27.67	Aug. 18	unknown	*11,500	a36.79
May 20	1615	5,090	28.35	Sept. 19	1000	11,200	36.45
May 21	1645	5,960	29.65	Sept. 20	1930	5,970	29.67

a From crest-stage gage peak mark.

Minimum daily discharge, 26 ft^3/s Oct. 25, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	37	497	335	128	43	109	32	38	37	120	56
2	28	216	200	154	50	43	65	31	38	34	60	50
3	44	426	120	78	40	42	48	45	42	34	50	48
4	28	69	50	56	36	115	50	32	155	32	75	32
5	29	44	45	50	695	193	49	37	44	34	65	31
6	28	34	42	47	278	55	44	32	87	34	70	374
7	40	34	43	43	105	43	40	31	40	32	320	82
8	42	33	38	41	69	40	44	32	35	33	280	50
9	34	29	36	39	1030	37	42	71	37	32	340	217
10	30	30	79	37	614	35	38	738	36	33	400	468
11	41	30	120	36	221	34	37	143	34	32	1350	154
12	1240	34	67	35	143	35	37	42	33	36	550	60
13	350	29	42	34	91	37	38	34	34	464	155	42
14	71	28	65	33	65	38	38	34	36	260	75	34
15	38	28	250	33	430	39	37	85	507	1100	80	34
16	34	169	80	33	312	79	35	40	658	1700	75	33
17	32	1290	47	34	114	68	34	35	1220	320	70	36
18	31	221	40	68	70	37	35	32	213	120	7600	136
19	35	900	38	665	56	37	33	32	55	55	3250	3920
20	29	650	36	323	344	116	33	1820	45	50	550	1920
21	29	169	35	146	1100	48	35	2650	193	1450	200	810
22	27	93	36	81	228	37	110	1040	122	560	110	233
23	28	76	124	67	140	1660	46	383	71	330	115	132
24	27	91	66	45	88	635	34	197	168	90	80	82
25	26	42	585	43	67	208	32	114	446	70	105	59
26	29	302	383	40	55	332	32	72	436	50	80	164
27	26	1200	348	39	52	160	32	53	174	45	50	62
28	27	356	136	35	46	75	33	44	67	50	123	48
29	578	138	65	36	---	55	33	41	44	45	76	43
30	162	455	48	39	---	709	38	37	38	45	41	43
31	100	---	199	196	---	244	---	40	---	50	55	---
TOTAL	3291	7253	3960	2941	6667	5329	1311	8049	5146	7257	16570	9453
MEAN	106	242	128	94.9	238	172	43.7	260	172	234	535	315
MAX	1240	1290	585	665	1100	1660	110	2650	1220	1700	7600	3920
MIN	26	28	35	33	36	34	32	31	33	32	41	31
AC-FT	6530	14390	7850	5830	13220	10570	2600	15970	10210	14390	32870	18750

CAL YR 1982 TOTAL 39247 MEAN 108 MAX 2910 MIN 25 AC-FT 77850
WTR YR 1983 TOTAL 77227 MEAN 212 MAX 7600 MIN 26 AC-FT 153200

NOTE.--No gage-height record July 14 to Aug. 24.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
01...	0906	40	831	8.0	17.0	15	23	9.2	95	6.5	160	150
MAY												
20...	1330	881	294	8.0	19.5	60	350	7.2	79	10	25000	56000
20...	1555	4730	121	8.0	21.5	130	430	7.0	80	8.0	160000	280000
20...	1805	4180	118	--	20.0	120	470	--	--	7.5	150000	310000
21...	1000	693	188	7.0	20.0	130	170	6.8	75	7.0	34000	35000
21...	1330	3930	118	--	20.5	75	190	--	--	7.2	180000	260000
22...	0940	1030	147	--	20.5	50	92	--	--	5.2	--	--

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAR												
01...	200	0	62	12	94	3.0	4.8	250	27	92	.30	20
MAY												
20...	64	0	21	2.9	21	1.2	4.8	67	15	20	.20	7.1
20...	39	0	13	1.6	7.8	.6	3.0	39	12	7.5	.20	4.6
20...	--	--	--	--	--	--	--	--	--	--	--	--
21...	61	0	20	2.6	12	.7	3.6	62	12	10	.20	7.4
21...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR											
01...	462	44	29	2.8	.320	3.1	.910	1.7	2.60	2.30	11
MAY											
20...	132	608	192	.55	.250	.80	.870	1.5	2.40	.870	20
20...	73	676	92	.18	.220	.40	.760	1.9	2.70	.600	21
20...	--	808	172	.23	.170	.40	.750	1.2	1.90	.520	21
21...	105	212	38	.32	.180	.50	.670	1.0	1.70	.530	14
21...	--	392	136	.13	.170	.30	.760	1.4	2.20	.500	16
22...	--	184	34	.12	.080	.20	.270	.93	1.20	.340	12

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
01...	0906	10	270	<1	20	3	7
MAY							
20...	1330	8	85	<1	<10	5	110
20...	1555	4	49	<1	<10	4	100
21...	1000	3	86	<1	<10	4	150

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
01...	<1	94	<.1	1	<1	16
MAY						
20...	1	9	<.1	<1	<1	11
20...	3	4	<.1	<1	<1	9
21...	1	6	<.1	<1	<1	14.

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR								
01...	0906	<.10	<.10	.10	<.10	<.10	--	.2
MAY								
20...	1330	<.10	<.10	1.2	<.10	<.10	<2.0	.7
20...	1555	<.10	<.10	1.1	<.10	<.10	<2.0	.3
21...	1000	<.10	<.10	.70	<.10	<.10	<2.0	.7

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR							
01...	<.1	<.10	--	--	<.10	<.10	<.1
MAY							
20...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1
20...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
21...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08074500 Whiteoak Bayou at Houston, Tex.

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4200 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 204R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of May 20-24, 1983					
May 20									
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0003
0100	.0	.0	.0	.0	.0	.0	.0	32.0	.0007
0130	.0	.0	.0	.0	.0	.80	.28	32.0	.0010
0200	.0	.0	.0	.0	.0	.90	.31	32.0	.0013
0230	.0	.0	.74	.95	.98	1.22	.74	366.0	.0046
0300	.80	.0	.84	1.04	1.06	1.40	1.04	700.0	.0109
0330	.95	.0	1.08	1.36	1.24	1.40	1.15	1,850.0	.0275
0400	1.50	.0	1.33	1.69	1.36	1.40	1.35	3,000.0	.0544
0430	1.75	.0	1.42	1.73	1.36	1.40	1.43	2,700.0	.0786
0500	1.75	.12	1.42	1.73	1.36	1.40	1.43	2,400.0	.1002
0530	1.75	.96	1.42	1.73	1.36	1.40	1.48	2,050.0	.1186
0600	1.75	1.08	1.42	1.73	1.36	1.40	1.48	1,700.0	.1339
0630	1.75	1.44	1.42	1.73	1.36	1.40	1.50	1,490.0	.1472
0700	1.75	1.68	1.42	1.73	1.36	1.40	1.51	1,280.0	.1645
0800	1.75	1.68	1.42	1.73	1.36	1.40	1.51	850.0	.1797
0900	1.75	1.68	1.42	1.73	1.36	1.40	1.51	848.0	.1912
0930	1.75	1.80	1.42	1.73	1.36	1.40	1.52	847.0	.2026
1030	1.75	1.80	1.42	1.73	1.36	1.40	1.52	846.0	.2140
1100	1.77	1.80	1.42	1.73	1.36	1.40	1.52	845.0	.2215
1130	1.77	1.80	1.42	1.73	1.36	2.47	1.90	844.0	.2291
1200	1.77	1.80	1.43	1.73	1.36	2.47	1.90	843.0	.2367
1230	1.77	1.80	1.43	1.73	3.06	2.85	2.37	842.0	.2442
1300	2.04	1.80	2.15	2.18	3.44	2.96	2.65	842.0	.2518
1330	2.15	1.80	2.18	2.19	3.52	3.00	2.71	841.0	.2594
1400	2.24	1.80	2.32	2.42	3.80	3.02	2.82	840.0	.2669
1430	2.30	1.80	2.40	2.52	3.80	3.02	2.85	1,950.0	.2844
1500	2.33	1.92	2.48	2.54	3.80	3.05	2.88	3,070.0	.3120
1530	2.35	2.28	2.48	2.56	3.80	3.05	2.90	4,080.0	.3486
1600	2.35	2.28	2.48	2.56	3.80	3.05	2.90	5,090.0	.3943
1630	2.35	2.40	2.48	2.58	3.80	3.05	2.91	4,970.0	.4389
1700	2.35	2.52	2.48	2.58	3.80	3.05	2.92	4,860.0	.4825
1730	2.35	2.64	2.48	2.58	3.80	3.05	2.92	4,560.0	.5235
1800	2.35	2.64	2.48	2.58	3.80	3.05	2.92	4,250.0	.5616
1830	2.35	2.64	2.48	2.58	3.80	3.05	2.92	3,810.0	.5958
1900	2.36	2.64	2.48	2.60	3.80	3.05	2.93	3,370.0	.6261
1930	2.37	2.64	2.48	2.61	3.80	3.05	2.93	3,090.0	.6538
2000	2.39	2.64	2.48	2.62	3.84	3.05	2.94	2,820.0	.6792
2030	2.39	2.64	2.48	2.62	3.88	3.05	2.95	2,540.0	.7020
2100	2.39	2.64	2.48	2.63	3.88	3.05	2.95	2,270.0	.7223

08074500 Whiteoak Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4200 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 204R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of May 20-24--Continued					
May 20									
2130	2.43	2.64	2.48	2.63	3.88	3.07	2.97	2,160.0	0.7417
2200	2.45	2.64	2.48	2.65	3.88	3.12	2.99	2,050.0	.7878
2400	2.45	2.64	2.48	2.65	3.88	3.12	2.99	1,600.0	.8237
May 21									
0000	2.45	2.64	2.48	2.65	3.88	3.12	2.99	1,600.0	.8237
0030	2.45	2.64	2.48	2.65	3.88	3.12	2.99	1,520.0	.8373
0100	2.45	2.64	2.48	2.66	3.88	3.12	2.99	1,440.0	.8502
0130	2.45	2.64	2.48	2.66	3.88	3.12	2.99	1,360.0	.8624
0200	2.45	2.64	2.48	2.67	3.88	3.12	2.99	1,280.0	.8739
0230	2.45	2.64	2.48	2.67	3.88	3.12	2.99	1,190.0	.8846
0300	2.45	2.64	2.48	2.68	3.88	3.12	2.99	1,110.0	.8946
0330	2.45	2.64	2.48	2.68	3.88	3.12	2.99	1,060.0	.9041
0400	2.45	2.64	2.48	2.69	3.88	3.12	2.99	1,020.0	.9133
0430	2.45	2.64	2.48	2.69	3.88	3.12	2.99	974.0	.9220
0500	2.45	2.64	2.48	2.70	3.88	3.12	3.00	929.0	.9303
0530	2.45	2.64	2.48	2.70	3.88	3.12	3.00	884.0	.9383
0600	2.45	2.64	2.48	2.71	3.88	3.12	3.00	839.0	.9458
0630	2.45	2.64	2.48	2.71	3.88	3.12	3.00	821.0	.9532
0700	2.45	2.64	2.48	2.72	3.88	3.12	3.00	803.0	.9640
0800	2.45	2.64	2.48	2.72	3.88	3.12	3.00	766.0	.9743
0830	2.45	2.64	2.48	2.72	3.88	3.22	3.03	748.0	.9810
0900	2.45	2.64	2.48	2.72	3.88	4.02	3.31	730.0	.9876
0930	2.45	2.64	2.48	2.72	3.88	4.18	3.37	711.0	.9940
1000	2.45	2.64	2.53	2.72	4.92	4.20	3.59	693.0	1.0002
1030	2.77	2.64	3.28	3.17	5.44	4.21	3.87	1,070.0	1.0098
1100	3.30	2.64	3.64	3.51	5.54	4.22	4.08	1,450.0	1.0228
1130	3.30	2.64	3.64	3.53	5.54	4.24	4.09	2,410.0	1.0444
1200	3.30	2.64	3.64	3.55	5.54	4.27	4.10	3,370.0	1.0747
1230	3.30	2.76	3.64	3.55	5.62	4.82	4.32	3,690.0	1.1078
1300	3.41	3.24	3.64	3.56	5.62	4.90	4.40	4,010.0	1.1438
1330	3.41	3.48	3.64	3.56	5.80	5.06	4.50	3,930.0	1.1791
1400	3.43	3.48	3.92	3.73	6.04	5.27	4.66	3,860.0	1.2138
1430	3.81	3.48	3.94	3.92	6.08	5.34	4.80	4,270.0	1.2521
1500	3.85	3.48	4.08	3.95	6.26	5.34	4.86	4,680.0	1.2941
1530	4.03	3.48	4.23	4.08	6.30	5.34	4.94	5,100.0	1.3399
1600	4.06	3.48	4.23	4.09	6.31	5.34	4.95	5,520.0	1.3895
1630	4.06	3.84	4.23	4.10	6.32	5.34	4.97	5,740.0	1.4410
1700	4.07	3.84	4.23	4.10	6.33	5.34	4.97	5,960.0	1.4945
1730	4.08	3.96	4.23	4.11	6.34	5.34	4.98	5,740.0	1.5460
1800	4.10	4.08	4.23	4.12	6.35	5.34	5.00	5,520.0	1.5956

08074500 Whiteoak Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4200 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 204R (inches)	Rainfall at gage 21R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of May 20-24, 1983--Continued					
May 21									
1830	4.12	4.08	4.23	4.13	6.36	5.34	5.00	5,190.0	1.6422
1900	4.12	4.08	4.23	4.14	6.37	5.34	5.01	4,860.0	1.6858
1930	4.14	4.08	4.23	4.14	6.38	5.34	5.01	4,520.0	1.7264
2000	4.15	4.08	4.23	4.14	6.38	5.34	5.02	4,190.0	1.8016
2130	4.15	4.08	4.23	4.14	6.38	5.34	5.02	3,170.0	1.8870
2300	4.15	4.08	4.23	4.14	6.38	5.34	5.02	2,480.0	1.9427
2400	4.15	4.08	4.23	4.14	6.38	5.34	5.02	2,120.0	2.0188
May 22									
0000	4.15	4.08	4.23	4.14	6.38	5.34	5.02	2,120.0	2.0188
0300	4.15	4.08	4.23	4.14	6.38	5.34	5.02	1,580.0	2.1039
0600	4.15	4.08	4.23	4.14	6.38	5.34	5.02	1,240.0	2.1930
1100	4.15	4.08	4.23	4.14	6.38	5.34	5.02	988.0	2.2462
1200	4.15	4.08	4.23	4.14	6.38	5.34	5.02	938.0	2.2967
1700	4.15	4.08	4.23	4.14	6.38	5.34	5.02	739.0	2.3365
1800	4.15	4.08	4.23	4.14	6.38	5.34	5.02	699.0	2.3805
2400	4.15	4.08	4.23	4.14	6.38	5.34	5.02	558.0	2.4406
May 23									
0000	4.15	4.08	4.23	4.14	6.38	5.34	5.02	558.0	2.4406
0600	4.15	4.08	4.23	4.14	6.38	5.34	5.02	527.0	2.4976
1200	4.15	4.08	4.23	4.14	6.38	5.34	5.02	509.0	2.5522
1800	4.15	4.08	4.23	4.14	6.38	5.34	5.02	371.0	2.5922
2400	4.15	4.08	4.23	4.14	6.38	5.34	5.02	233.0	2.6173
May 24									
0000	4.15	4.08	4.23	4.14	6.38	5.34	5.02	233.0	2.6173
0600	4.15	4.08	4.23	4.14	6.38	5.34	5.02	212.0	2.6401
1200	4.15	4.08	4.23	4.14	6.38	5.34	5.02	202.0	2.6619
1800	4.15	4.08	4.23	4.14	6.38	5.34	5.02	173.0	2.6805
2400	4.15	4.08	4.23	4.14	6.38	5.34	5.02	143.0	2.6882

08074500 Whiteoak Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 204R (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of Sept. 19-23, 1983				
Sept. 19								
0000	0.0	0.0	0.0	0.0	0.0	0.0	138.0	0.0025
0200	.0	.0	.0	.0	.06	.01	143.0	.0057
0230	.0	.0	.0	.0	.25	.06	554.0	.0101
0300	.0	.0	.01	.04	.49	.13	969.0	.0193
0330	.0	.0	.07	.06	.94	.26	1,380.0	.0317
0400	.0	.07	.15	.20	1.42	.43	1,790.0	.0478
0430	.07	.14	.30	.26	1.67	.56	2,200.0	.0675
0500	.13	.22	.39	.96	1.97	.82	2,610.0	.0910
0530	.20	.82	1.13	1.56	2.01	1.17	3,020.0	.1181
0600	.45	1.37	1.39	1.70	2.07	1.38	3,430.0	.1489
0630	1.25	1.84	1.88	1.82	2.21	1.79	3,840.0	.1834
0700	2.35	2.19	2.01	2.00	2.39	2.21	4,250.0	.2215
0730	3.37	2.50	2.30	2.40	2.39	2.63	7,120.0	.2854
0800	3.60	2.70	2.55	2.65	2.44	2.82	10,000.0	.3752
0830	3.83	3.18	2.85	2.71	2.44	3.00	10,500.0	.4695
0900	4.15	3.27	2.94	2.78	2.47	3.13	11,000.0	.5682
0930	4.35	3.37	2.99	2.80	2.47	3.20	11,100.0	.6679
1000	4.45	3.42	3.00	2.80	2.53	3.25	11,200.0	.7684
1030	4.48	3.42	3.00	2.85	2.54	3.27	10,900.0	.8663
1100	4.49	3.42	3.05	2.86	2.60	3.30	10,600.0	.9615
1130	4.49	3.42	3.08	2.86	2.60	3.30	9,890.0	1.0503
1200	4.49	3.44	3.13	2.86	2.60	3.31	9,180.0	1.1327
1230	4.53	3.46	3.16	2.86	2.60	3.33	8,400.0	1.2081
1300	4.53	3.50	3.16	2.86	2.60	3.34	7,630.0	1.3108
1400	4.53	3.50	3.16	2.86	2.60	3.34	6,160.0	1.3938
1430	4.53	3.50	3.16	2.86	2.60	3.34	5,420.0	1.4425
1500	4.58	3.50	3.21	2.86	2.60	3.36	4,680.0	1.5265
1630	4.58	3.50	3.21	2.86	2.60	3.36	3,480.0	1.6046
1730	4.58	3.50	3.21	2.86	2.60	3.36	2,690.0	1.6408
1800	4.58	3.50	3.21	2.86	2.60	3.36	2,290.0	1.6819
1930	4.58	3.50	3.21	2.86	2.60	3.36	1,760.0	1.7135
2000	4.58	3.59	3.21	2.86	2.60	3.37	1,580.0	1.7561
2230	4.58	3.59	3.21	2.86	2.60	3.37	1,250.0	1.8010
2400	4.58	3.59	3.21	2.86	2.60	3.37	1,060.0	1.8248
Sept. 20								
0000	4.58	3.59	3.21	2.86	2.60	3.37	1,060.0	1.8248
0100	4.58	3.59	3.21	2.86	2.63	3.38	993.0	1.8426
0200	4.58	3.59	3.21	2.86	2.65	3.38	872.0	1.8543
0230	4.58	3.59	3.21	2.86	2.65	3.38	811.0	1.8616
0300	4.58	3.73	3.36	2.93	2.66	3.44	750.0	1.8684

08074500 Whiteoak Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4150 (inches)	Rainfall at gage 205R (inches)	Rainfall at gage 204R (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Sept. 19-23, 1983--Continued					
Sept. 20								
0330	4.81	3.77	3.42	3.11	2.72	3.57	750.0	1.8751
0400	5.01	3.77	3.48	3.20	2.82	3.67	1,060.0	1.8846
0430	5.11	3.79	3.49	3.21	2.82	3.70	1,360.0	1.8968
0500	5.11	3.88	3.56	3.25	2.82	3.73	1,340.0	1.9149
0600	5.53	3.88	3.58	3.25	2.84	3.85	2,130.0	1.9531
0700	5.53	3.88	3.59	3.25	2.85	3.85	1,710.0	1.9915
0830	5.53	3.88	3.59	3.25	2.85	3.85	1,300.0	2.0382
1100	5.53	3.88	3.59	3.25	2.88	3.86	1,020.0	2.0702
1200	5.53	3.88	3.59	3.25	2.88	3.86	987.0	2.0835
1230	5.53	3.88	3.59	3.25	2.88	3.86	970.0	2.0922
1300	5.53	3.88	3.59	3.25	2.89	3.86	953.0	2.1051
1400	5.53	3.89	3.59	3.25	2.91	3.87	942.0	2.1220
1500	5.53	4.07	3.67	3.28	2.93	3.91	931.0	2.1345
1530	5.53	4.07	3.68	3.29	2.99	3.93	756.0	2.1413
1600	5.55	4.07	3.68	3.29	3.09	3.96	878.0	2.1492
1630	5.55	4.07	3.69	3.29	3.33	4.02	1,000.0	2.1582
1700	5.55	4.07	3.69	3.29	3.63	4.10	909.0	2.1663
1730	5.55	4.07	3.70	3.29	3.63	4.10	2,000.0	2.1843
1800	5.55	4.37	4.22	3.50	3.67	4.29	3,100.0	2.2121
1830	6.16	4.37	4.25	3.60	3.67	4.46	4,310.0	2.2508
1900	6.52	4.46	4.31	3.65	3.70	4.59	5,520.0	2.3004
1930	6.54	4.49	4.36	3.66	3.70	4.61	5,970.0	2.3540
2000	6.58	4.49	4.39	3.66	3.70	4.63	5,720.0	2.4053
2030	6.58	4.49	4.40	3.66	3.70	4.63	5,290.0	2.4528
2100	6.58	4.49	4.41	3.66	3.70	4.63	4,860.0	2.5182
2200	6.58	4.49	4.41	3.66	3.70	4.63	3,870.0	2.5877
2300	6.58	4.49	4.41	3.66	3.70	4.63	2,870.0	2.6393
2400	6.58	4.49	4.41	3.66	3.70	4.63	1,880.0	2.7574
Sept. 21								
0000	6.58	4.49	4.41	3.66	3.70	4.63	1,880.0	2.7574
0600	6.58	4.49	4.42	3.66	3.70	4.63	1,070.0	2.8727
1200	6.58	4.49	4.42	3.66	3.70	4.63	663.0	2.9441
1800	6.58	4.49	4.42	3.66	3.70	4.63	468.0	2.9945
2400	6.58	4.49	4.42	3.66	3.70	4.63	378.0	3.0556
Sept. 22								
0000	6.58	4.49	4.42	3.66	3.70	4.63	378.0	3.0556
1200	6.58	4.49	4.42	3.66	3.70	4.63	213.0	3.1015
2400	6.58	4.49	4.42	3.66	3.70	4.63	165.0	3.1371
Sept. 23								
0000	6.58	4.49	4.42	3.66	3.70	4.63	165.0	3.1371
1200	6.58	4.49	4.42	3.66	3.70	4.63	126.0	3.1642
2400	6.58	4.49	4.42	3.66	3.70	4.63	114.0	3.1765

LITTLE WHITEOAK BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Little Whiteoak Bayou drainage basin are shown in figure 10.

Weighted-mean rainfall for the 1983 water year was not determined.

The storms of Feb. 20-21, June 15-16, Aug. 18-19, and Sept. 19-21 were selected for analysis at station 08074540, Little Whiteoak Bayou at Houston.

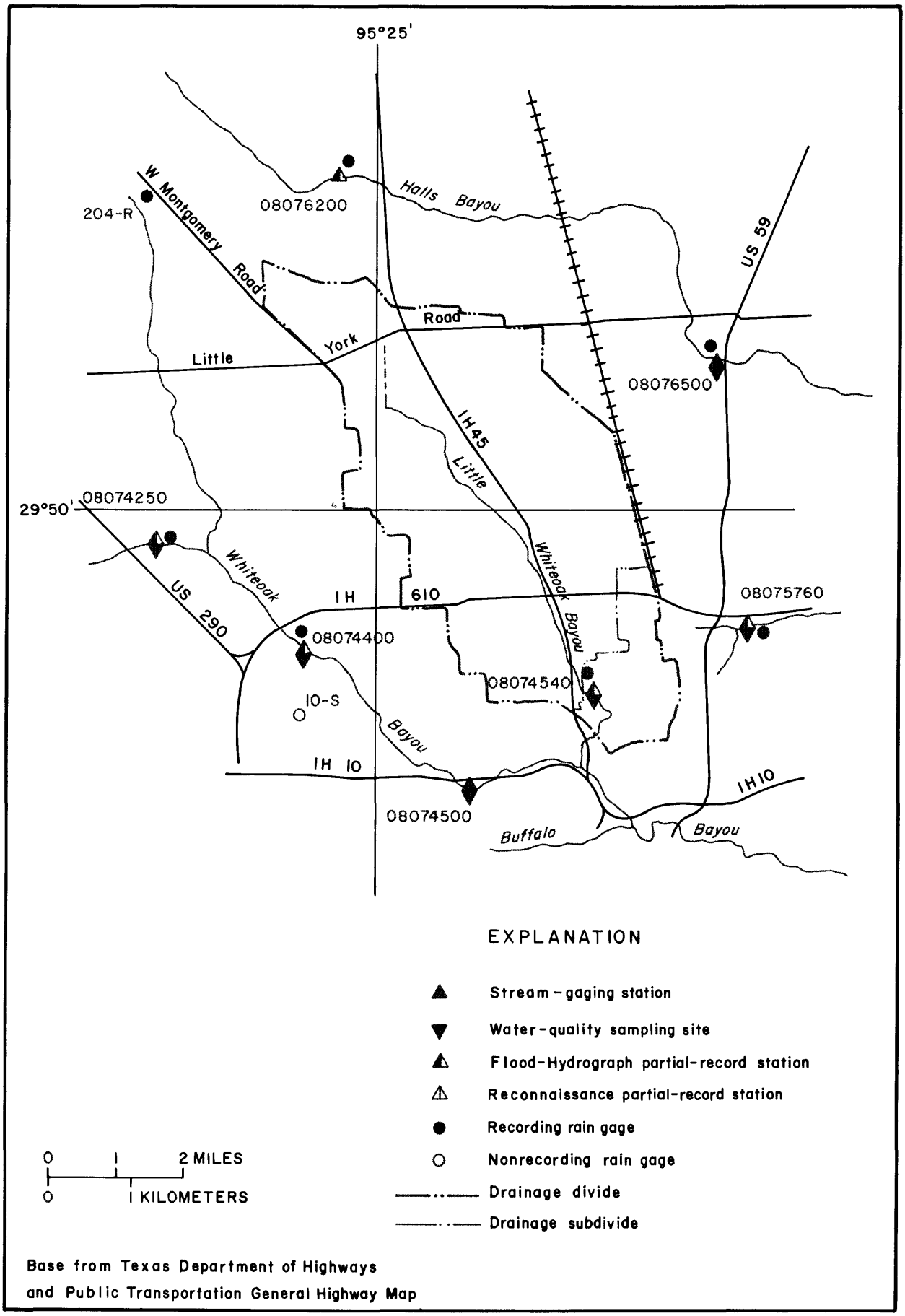

Figure 10.-Locations of data-collection sites in and near the Little Whiteoak Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 9.--Storm rainfall-runoff data, 1983 Water Year, Little Whiteoak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Little Whiteoak Bayou at Trimble St., Houston, TX (Drainage Area -- 18.0 mi^2)								
Feb. 20-21, 1983	2.5	1.58	0.45	0.64	0.85	1.00	0.64	2160
June 15-16, 1983	2.0	1.62	0.62	1.07	1.42	0.49	0.20	1410
June 16, 1983	4.0	0.78	0.13	0.25	0.50			61
Aug. 18-19, 1983	12.8	6.61	0.56	0.81	1.43	5.12	0.78	4860*,++
Sept. 19-20, 1983	22.3	4.73	0.84	1.10	2.12	5.42	0.98	4520
Sept. 20-21, 1983	3.5	0.80	0.58	0.90	0.97			3860

* - Peak Discharge for 1983 Water Year
++- Peak Discharge for Period of Record

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°47'33", long 95°22'06", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Trimble Street, Houston.

DRAINAGE AREA.--18.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1979 to current year. June to September 1979 published as Little Whiteoak Bayou at Houston (08074550).

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment. Prior to June 1979 occasional discharge measurements to arbitrary datum and water-quality samples were obtained at site 6,200 ft downstream at North Main Street bridge (station 08074550, Little Whiteoak Bayou at Houston).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area." The record for June to September 1979 was published in the 1979 edition of this publication as station Little Whiteoak Bayou at Houston (08074550).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,860 ft^3/s Aug. 18, 1983 (elevation, 39.42 ft).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Elevation (ft)	Date	Time	Discharge (ft^3/s)	Elevation (ft)
Feb. 20	2400	2,160	31.79	Aug. 18	1245	*4,860	39.42
Mar. 23	unknown	1,840	30.82	Sept. 10	1845	1,650	31.11
May 20	0445	2,670	33.24	Sept. 19	0915	4,520	38.71
June 17	1315	2,090	31.60	Sept. 20	1930	3,860	37.22

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: June 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
01...	0948	4.1	902	7.9	15.0	5	2.0	12.5	124	4.7	200000	13000
JUN												
15...	1355	78	284	--	--	45	72	--	--	--	--	--
15...	1440	76	297	--	--	30	170	--	--	--	--	--
15...	1510	871	186	--	--	35	48	--	--	--	--	--
15...	1610	1340	123	--	--	30	84	--	--	--	--	--
JUL												
13-14	0445	133	200	--	--	25	12	--	--	8.2	--	--
21-22	1630	255	175	--	--	45	26	--	--	5.9	--	--
SEP												
19-19	0500	1950	108	--	--	50	37	--	--	5.2	--	--

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAR												
01...	230	0	67	16	98	2.9	2.9	320	39	81	.60	18
JUN												
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
13-14	--	--	--	--	--	--	--	--	--	--	--	--
21-22	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
19-19	--	--	--	--	--	--	--	--	--	--	--	--

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE ST, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR											
01...	515	6	<1	.14	.060	.20	1.90	1.0	2.90	1.20	7.2
JUN											
15...	--	288	74	.10	.500	.60	.420	4.0	4.40	.730	39
15...	--	490	86	.32	.080	.40	.280	4.0	4.30	.920	30
15...	--	195	35	.52	.080	.60	.430	4.3	4.70	.810	29
15...	--	310	74	.71	.090	.80	.210	2.7	2.90	.590	22
JUL											
13-14	--	39	21	.24	.060	.30	.330	1.3	1.60	.430	17
21-22	--	63	1	.43	.070	.50	.290	1.4	1.70	.520	12
SEP											
19-19	--	103	18	.34	.060	.40	.220	1.4	1.60	.560	11

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
01...	0948	3	250	<1	<10	2	25

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
01...	<1	120	<.1	1	<1	10

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR												
01...	0948	<.10	<.10	.10	<.10	<.10	.2	<.1	<.10	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08074540 Little Whiteoak Bayou at Trimble St., Houston, Tex.

Date and time	Rainfall at gage 4540 (inches)	Rainfall at gage 4400 (inches)	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Feb. 20-21, 1983			
Feb. 20						
0000	0.0	0.0	0.0	0.0	5.0	0.0013
0600	.0	.0	.0	.0	5.0	.0039
1200	.0	.0	.0	.0	5.0	.0065
1800	.0	.0	.0	.0	5.0	.0083
2030	.0	.0	.0	.0	5.0	.0089
2045	.0	.0	.04	.01	5.0	.0090
2100	.0	.0	.06	.01	5.0	.0091
2115	.02	.08	.38	.09	5.0	.0092
2130	.16	.53	.60	.34	10.0	.0094
2145	.60	.72	.84	.67	30.0	.0101
2200	.71	.73	.86	.74	223.0	.0149
2215	.75	.78	.88	.78	513.0	.0259
2230	1.01	1.02	.97	1.01	734.0	.0417
2245	1.37	1.04	1.02	1.22	1,010.0	.0634
2300	1.43	1.06	1.08	1.27	1,400.0	.0936
2315	1.47	1.12	1.11	1.31	1,730.0	.1308
2330	1.51	1.15	1.14	1.35	1,980.0	.1734
2345	1.53	1.18	1.18	1.37	2,110.0	.2188
2400	1.53	1.19	1.18	1.38	2,160.0	.2886
Feb. 21						
0000	1.53	1.19	1.18	1.38	2,160.0	.2886
0030	1.56	1.20	1.18	1.39	2,040.0	.3764
0100	1.67	1.24	1.18	1.47	1,820.0	.4547
0130	1.86	1.25	1.18	1.57	1,610.0	.5240
0200	1.86	1.25	1.18	1.57	1,420.0	.5851
0230	1.87	1.25	1.18	1.58	1,220.0	.6639
0330	1.87	1.25	1.18	1.58	850.0	.7371
0430	1.87	1.25	1.18	1.58	594.0	.7882
0530	1.87	1.25	1.18	1.58	439.0	.8166
0600	1.87	1.25	1.18	1.58	386.0	.8415
0700	1.87	1.25	1.18	1.58	300.0	.8673
0800	1.87	1.25	1.18	1.58	237.0	.9183
1200	1.87	1.25	1.18	1.58	119.0	.9695
1800	1.87	1.25	1.18	1.58	55.0	.9979
2400	1.87	1.25	1.18	1.58	22.0	1.0036

08074540 Little Whiteoak Bayou at Trimble St., Houston, Tex.--Continued

Date and time	Rainfall at gage 4250 (inches)	Rainfall at gage 4540 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of June 15-16, 1983			
June 15					
0000	0.0	0.0	0.0	5.0	0.0026
1200	.0	.0	.0	5.0	.0054
1315	.0	.0	.0	5.0	.0058
1330	.0	.28	.20	5.0	.0059
1345	.0	.55	.38	30.0	.0065
1400	.0	.58	.41	88.0	.0084
1415	.0	.58	.41	62.0	.0097
1430	.0	.65	.45	57.0	.0110
1445	.0	.73	.51	85.0	.0128
1500	.10	1.18	.86	559.0	.0248
1515	.15	1.80	1.30	1,050.0	.0474
1530	.20	2.07	1.51	1,350.0	.0765
1545	.32	2.15	1.60	1,410.0	.1068
1600	.36	2.15	1.61	1,380.0	.1662
1645	.36	2.15	1.61	1,160.0	.2162
1700	.36	2.16	1.62	1,080.0	.2626
1745	.36	2.16	1.62	784.0	.2964
1800	.36	2.16	1.62	685.0	.3259
1845	.36	2.16	1.62	510.0	.3533
1915	.36	2.16	1.62	393.0	.3702
1945	.36	2.16	1.62	276.0	.3791
2000	.36	2.16	1.62	218.0	.3885
2045	.36	2.16	1.62	172.0	.4181
2400	.36	2.16	1.62	58.0	.4288
June 16					
0000	.36	2.16	1.62	58.0	.4288
0100	.36	2.16	1.62	47.0	.4368
0400	.36	2.16	1.62	29.0	.4431
0600	.36	2.16	1.62	20.0	.4500
1200	.36	2.16	1.62	12.0	.4546
1500	.56	2.16	1.68	9.0	.4562
1600	1.06	2.28	1.91	15.0	.4575
1700	1.31	2.45	2.11	30.0	.4600
1800	1.46	2.50	2.19	40.0	.4635
1900	1.61	2.54	2.26	35.0	.4665
2000	1.68	2.67	2.37	48.0	.4706
2100	1.73	2.69	2.40	61.0	.4785
2300	1.73	2.69	2.40	48.0	.4847
2400	1.73	2.69	2.40	40.0	.4864

08074540 Little Whiteoak Bayou at Trimble St., Houston, Tex.--Continued

Date and time	Rainfall at gage 6500 (inches)	Rainfall at gage 6200 (inches)	Rainfall at gage 4540 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-19, 1983			
Aug. 18						
0000	0.0	0.0	0.0	0.0	5.0	0.0002
0100	.0	.0	.01	.00	5.0	.0005
0130	.0	.0	.07	.03	5.0	.0007
0145	.0	.0	.12	.06	12.0	.0010
0200	.0	.0	.18	.09	18.0	.0013
0215	.0	.12	.22	.15	22.0	.0018
0230	.12	.12	.29	.20	29.0	.0024
0245	.12	.12	.35	.23	35.0	.0032
0300	.12	.24	.41	.30	45.0	.0042
0315	.24	.24	.47	.35	55.0	.0053
0330	.24	.24	.50	.37	65.0	.0067
0345	.24	.24	.57	.40	93.0	.0087
0400	.24	.36	.67	.49	131.0	.0116
0415	.36	.36	.88	.62	182.0	.0155
0430	.36	.48	1.10	.77	273.0	.0214
0445	.48	.60	1.27	.91	416.0	.0303
0500	.48	.60	1.40	.98	543.0	.0420
0515	.48	.72	1.72	1.17	652.0	.0560
0530	.60	.84	1.87	1.31	796.0	.0732
0545	.60	.96	2.00	1.41	968.0	.0940
0600	.60	1.08	2.08	1.48	1,090.0	.1175
0615	.72	1.08	2.17	1.55	1,190.0	.1431
0630	.72	1.20	2.34	1.67	1,300.0	.1710
0645	.84	1.32	2.54	1.83	1,390.0	.2010
0700	.96	1.32	2.60	1.89	1,500.0	.2332
0715	1.20	1.44	2.79	2.07	1,630.0	.2683
0730	1.20	1.56	2.95	2.18	1,710.0	.3051
0745	1.32	1.56	3.10	2.28	1,880.0	.3456
0800	1.32	1.68	3.28	2.41	2,040.0	.3895
0815	1.44	1.68	3.44	2.51	2,250.0	.4379
0830	1.68	1.80	3.60	2.68	2,440.0	.4904
0845	1.68	1.92	3.68	2.75	2,600.0	.5464
0900	1.68	1.92	3.82	2.82	2,680.0	.6041
0915	1.80	1.92	3.91	2.89	2,730.0	.6628
0930	1.92	2.04	4.11	3.05	2,750.0	.7220
0945	2.16	2.04	4.39	3.24	2,800.0	.7823
1000	2.40	2.16	4.61	3.43	2,930.0	.8453
1015	2.64	2.28	4.76	3.59	3,120.0	.9125
1030	2.76	2.40	5.32	3.93	3,300.0	.9835

08074540 Little Whiteoak Bayou at Trimble St., Houston, Tex.--Continued

Date and time	Rainfall at gage 6500 (inches)	Rainfall at gage 6200 (inches)	Rainfall at gage 4540 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-19, 1983--Continued			
Aug. 18						
1045	3.00	2.52	5.57	4.14	3,530.0	1.0595
1100	3.12	2.64	5.89	4.36	3,760.0	1.1404
1115	3.24	2.88	6.19	4.61	4,000.0	1.2265
1130	3.24	3.00	6.40	4.75	4,200.0	1.3169
1145	3.36	3.12	6.67	4.94	4,380.0	1.4111
1200	3.36	3.24	6.85	5.07	4,550.0	1.5091
1215	3.48	3.36	6.98	5.19	4,680.0	1.6098
1230	3.60	3.48	7.07	5.30	4,800.0	1.7131
1245	3.60	3.60	7.13	5.36	4,860.0	1.8177
1300	3.72	3.84	7.21	5.50	4,850.0	1.9221
1315	3.72	3.84	7.25	5.52	4,790.0	2.0252
1330	3.72	3.96	7.28	5.57	4,680.0	2.1762
1400	3.72	3.96	7.29	5.58	4,420.0	2.3665
1430	3.72	4.08	7.32	5.63	4,070.0	2.5417
1500	3.72	4.08	7.33	5.63	3,680.0	2.6605
1515	3.72	4.08	7.35	5.64	3,490.0	2.7356
1530	4.08	4.08	7.62	5.85	3,330.0	2.8073
1545	4.08	4.08	7.63	5.85	3,230.0	2.8768
1600	4.20	4.08	7.64	5.88	3,130.0	2.9441
1615	4.20	4.08	7.64	5.88	3,040.0	3.0096
1630	4.32	4.08	7.70	5.94	2,930.0	3.0726
1645	4.32	4.08	7.78	5.98	2,830.0	3.1335
1700	4.44	4.08	7.78	6.00	2,750.0	3.1927
1715	4.44	4.08	7.82	6.02	2,660.0	3.2500
1730	4.44	4.08	7.83	6.03	2,560.0	3.3051
1745	4.44	4.20	7.86	6.08	2,440.0	3.3576
1800	4.44	4.32	7.87	6.12	2,320.0	3.4325
1830	4.44	4.56	7.89	6.20	2,060.0	3.5655
1930	4.44	4.56	7.89	6.20	1,690.0	3.7473
2100	4.44	4.68	7.90	6.24	1,320.0	3.8610
2130	4.44	5.16	7.90	6.39	1,300.0	3.9169
2200	4.68	5.64	7.90	6.58	1,290.0	3.9725
2230	4.80	5.64	7.90	6.60	1,310.0	4.0852
2400	4.80	5.64	7.90	6.60	1,500.0	4.5695
Aug. 19						
0000	4.80	5.64	7.90	6.60	1500.0	4.5695
0600	4.80	5.64	7.90	6.60	555.0	4.8562
1200	4.80	5.64	7.90	6.60	303.0	5.0127
1800	4.80	5.64	7.91	6.61	163.0	5.0969
2400	4.80	5.64	7.91	6.61	92.0	5.1206

08074540 Little Whiteoak Bayou at Trimble St., Houston, Tex.--Continued

Date and time	Rainfall at gage 6200 (inches)	Rainfall at gage 4250 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-21, 1983			
Sept. 19					
0000	0.0	0.0	0.0	5.0	0.0009
0400	.0	.0	.0	6.0	.0020
0415	.12	.02	.07	8.0	.0021
0430	.12	.07	.10	5.0	.0023
0500	.24	.13	.19	15.0	.0029
0530	.24	.20	.22	30.0	.0039
0545	.36	.25	.31	45.0	.0049
0600	.60	.45	.53	80.0	.0066
0615	1.44	1.05	1.26	242.0	.0118
0630	1.68	1.25	1.49	946.0	.0322
0645	1.92	2.05	1.98	1570.0	.0660
0700	2.04	2.35	2.18	2330.0	.1161
0715	2.16	2.85	2.47	3060.0	.1820
0730	2.16	3.37	2.70	3480.0	.2569
0745	2.28	3.50	2.83	3730.0	.3371
0800	2.40	3.60	2.94	3910.0	.4213
0815	2.40	3.70	2.98	4070.0	.5089
0830	2.52	3.83	3.11	4270.0	.6008
0845	2.76	3.90	3.27	4430.0	.6961
0900	2.88	4.15	3.45	4510.0	.7932
0915	3.00	4.27	3.57	4520.0	.8905
0930	3.00	4.35	3.61	4470.0	.9867
0945	3.00	4.38	3.62	4390.0	1.0811
1000	3.12	4.45	3.72	4300.0	1.1737
1015	3.12	4.47	3.73	4240.0	1.2649
1030	3.12	4.48	3.73	4180.0	1.3549
1045	3.12	4.49	3.74	4050.0	1.5728
1145	3.12	4.49	3.74	3300.0	1.7504
1200	3.12	4.49	3.74	3100.0	1.8505
1230	3.12	4.53	3.75	2690.0	1.9952
1315	3.12	4.53	3.75	2120.0	2.1321
1400	3.12	4.53	3.75	1680.0	2.2225
1430	3.12	4.53	3.75	1460.0	2.2696
1445	3.12	4.58	3.78	1360.0	2.3135
1515	3.12	4.58	3.78	1210.0	2.3526
1530	3.24	4.58	3.84	1130.0	2.4134
1630	3.24	4.58	3.84	908.0	2.5111
1800	3.24	4.58	3.84	681.0	2.5990
1930	3.24	4.58	3.84	545.0	2.6459

08074540 Little Whiteoak Bayou at Trimble St., Houston, Tex.--Continued

Date and time	Rainfall at gage 6200 (inches)	Rainfall at gage 4250 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-21, 1983--Continued			
Sept. 19					
2000	3.24	4.58	3.84	521.0	2.6740
2045	3.24	4.58	3.84	671.0	2.7173
2130	3.24	4.58	3.84	754.0	2.7660
2215	3.24	4.58	3.84	687.0	2.8251
2330	3.24	4.58	3.84	540.0	2.8658
2400	3.24	4.58	3.84	491.0	2.9397
Sept. 20					
0000	3.24	4.58	3.84	491.0	2.9397
0300	3.24	4.58	3.84	330.0	2.9895
0330	3.72	4.81	4.21	313.0	3.0029
0400	3.72	5.01	4.30	309.0	3.0229
0500	4.08	5.11	4.54	339.0	3.0521
0600	4.08	5.53	4.73	413.0	3.0876
0700	4.08	5.53	4.73	675.0	3.1457
0800	4.08	5.53	4.73	602.0	3.2753
1200	4.08	5.53	4.73	319.0	3.3714
1500	4.08	5.53	4.73	223.0	3.4026
1515	4.32	5.53	4.86	214.0	3.4072
1530	4.32	5.53	4.86	207.0	3.4184
1630	4.32	5.55	4.87	478.0	3.4595
1730	4.32	5.55	4.87	386.0	3.4803
1745	4.32	5.55	4.87	885.0	3.4993
1800	4.44	5.55	4.94	1,530.0	3.5322
1815	4.56	5.58	5.02	2,150.0	3.5785
1830	4.56	6.16	5.28	2,800.0	3.6388
1845	4.56	6.48	5.42	3,270.0	3.7092
1900	4.56	6.52	5.44	3,630.0	3.7873
1915	4.56	6.54	5.45	3,820.0	3.8695
1930	4.68	6.54	5.52	3,860.0	3.9526
1945	4.68	6.54	5.52	3,820.0	4.0348
2000	4.68	6.58	5.53	3,690.0	4.2333
2100	4.68	6.58	5.53	2,770.0	4.4420
2145	4.68	6.58	5.53	2,070.0	4.5756
2230	4.68	6.58	5.53	1,590.0	4.7296
2400	4.68	6.58	5.53	1,020.0	5.0589
Sept. 21					
0000	4.68	6.58	5.53	1,020.0	5.0589
0600	4.68	6.58	5.53	360.0	5.2449
1200	4.68	6.58	5.53	196.0	5.3461
1800	4.68	6.58	5.53	109.0	5.4024
2400	4.68	6.58	5.53	66.0	5.4194

BRAYS BAYOU DRAINAGE BASIN

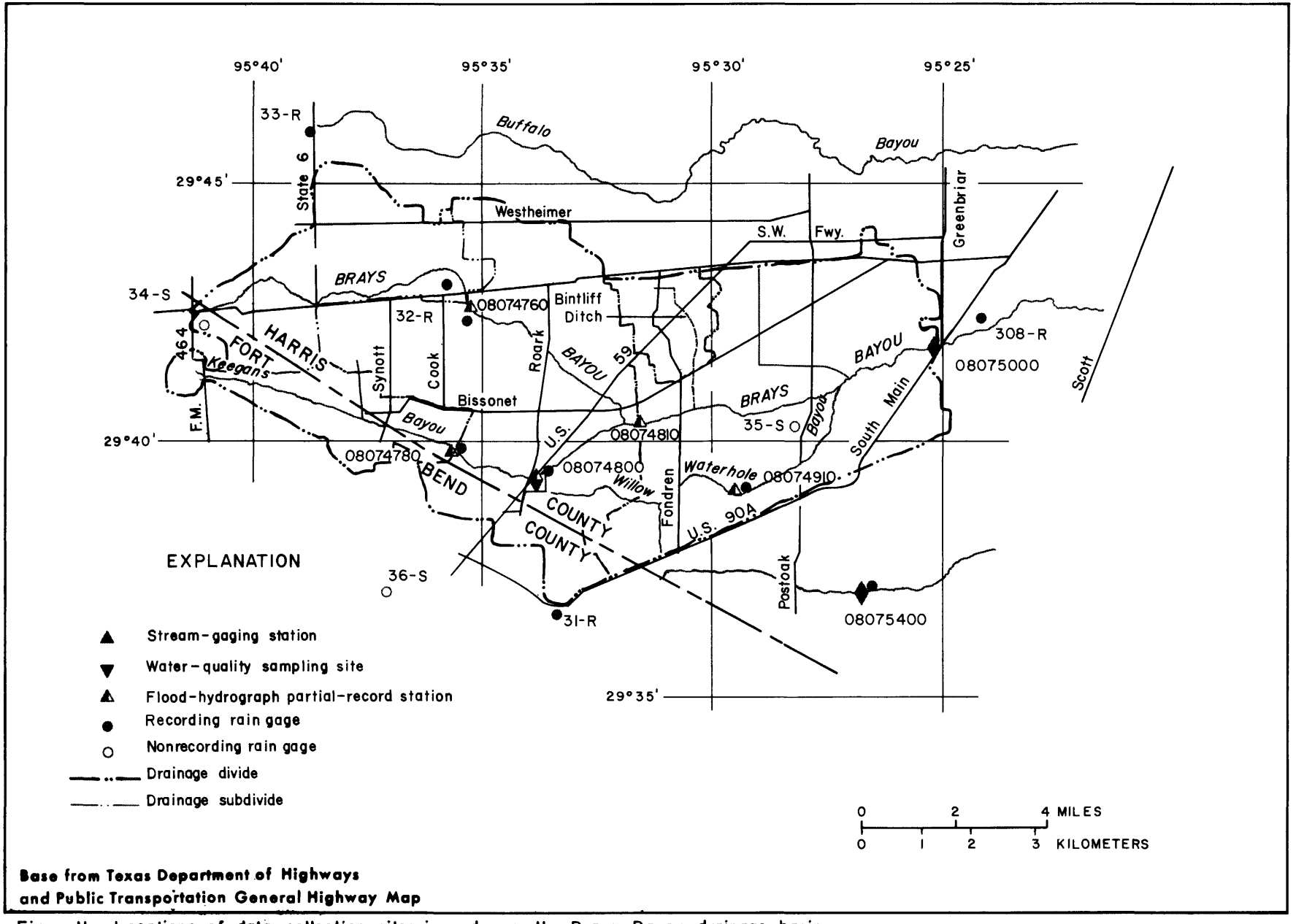
The locations of data-collection sites in and near the Brays Bayou drainage basin are shown in figure 11.

Keegans Bayou, Bintliff Ditch, and Hummingbird Street Ditch are shown as separate drainage basins within the Brays Bayou section.

Weighted-mean rainfall in the drainage basin for the 1983 water year based on nine rain gages was 65.24 inches or 17.05 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
2.50	6.48	3.13	2.03	4.50	3.42	0.38	6.35	4.68	7.52	12.61	11.64	65.24

The storms of Feb. 9-10 and Sept. 19-22 were selected for analysis at station 08074760, Brays Bayou at Alief. The storms of Aug. 10-11, Aug. 18-21, and Sept. 19-24 were selected for analysis at station 08074810, Brays Bayou at Gessner Drive, Houston. The storms of Feb. 9-10, Aug. 18-21, and Sept. 18-24 were selected for analysis at station 08075000, Brays Bayou at Houston.



Base from Texas Department of Highways and Public Transportation General Highway Map

Figure 11.- Locations of data-collection sites in and near the Brays Bayou drainage basin

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ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 10.--Storm rainfall-runoff data, 1983 Water Year, Brays Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Alief, TX (Drainage Area -- 14.1 mi^2)								
Feb. 9-10, 1983	2.5	1.18	0.12	0.24	0.48	1.05	0.88	975
Sept. 19-22, 1983	26.0	7.86	0.45	0.90	1.75	6.79	0.86	5090*,++
Brays Bayou at Gessner Dr., Houston, TX (Drainage Area -- 53.2 mi^2)								
Aug. 10-11, 1983	1.8	2.06	1.20	1.98	2.94	1.51	0.53	5660
Aug. 11, 1983	2.5	0.79	0.40	0.80	1.44			2260
Aug. 18-21, 1983	15.5	4.04	0.50	0.63	1.18	3.85	0.95	9320
Sept. 19-24, 1983	24.3	8.46	1.20	2.06	3.89	6.70	0.79	16800*,++

* - Peak Discharge for 1983 Water Year

++ - Peak Discharge for Period of Record

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UNITED STATES DEPARTMENT OF THE INTERIOR
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ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table10.--Storm rainfall-runoff data, 1983 Water Year, Brays Bayou--Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Houston, TX (Drainage Area -- 94.9 mi^2)								
Feb. 9-10, 1983	2.3	1.17	0.55	0.82	0.98	0.75	0.64	4940
Aug. 18-21, 1983	17.3	5.10	0.61	1.23	1.68	5.05	0.99	20200
Sept 18-19, 1983	7.0	0.31	0.11	0.21	0.29	6.91	0.25	969
Sept. 19-24, 1983	23.0	7.82	1.20	2.06	3.89			29000*,++

* - Peak Discharge for 1983 Water Year

++ - Peak Discharge for Period of Record

08074760 BRAYS BAYOU AT ALIEF, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°42'39", long 95°35'13", Harris County, Hydrologic unit 12040104, near center of channel on downstream side of bridge on High Star Street in Alief, Tex.

DRAINAGE AREA.--14.1 mi^2. Prior to Jan. 1, 1978, 12.9 mi^2.

PERIOD OF RECORD.--Feb. 3, 1977 to present.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gage is 55.88 ft National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 5,090 ft^3/s, Sept. 19, 1983. (Gage-height 19.23 ft); maximum gage height, 19.59 ft, Aug. 31, 1981. Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,000 ft^3/s (revised) or maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Mar. 23	unknown	1,070	11.46
May 20	about 0700	1,150	12.37
June 17	1430	1,030	11.91
July 15	unknown	2,300	15.07
Aug. 10	unknown	1,900	unknown
Aug. 18	2200	2,580	14.13
Sept. 19	0830	*5,090	19.23

Minimum discharge not determined.

STORM RAINFALL AND RUNOFF

08074760 Brays Bayou at Alief, Tex.

Date and time	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Feb. 9-10, 1983			
Feb. 9					
0000	0.0	0.0	0.0	7.0	0.0023
0600	.0	.0	.0	7.0	.0065
1100	.0	.0	.0	7.0	.0087
1130	.11	.19	.17	7.0	.0090
1200	.23	.43	.37	10.0	.0096
1230	.46	.55	.52	25.0	.0110
1300	.70	.67	.68	35.0	.0129
1330	.89	.91	.90	40.0	.0151
1400	1.13	1.15	1.14	127.0	.0221
1430	1.13	1.15	1.14	273.0	.0371
1500	1.16	1.17	1.17	594.0	.0697
1530	1.16	1.17	1.17	828.0	.1152
1600	1.17	1.19	1.18	941.0	.1669
1630	1.17	1.19	1.18	975.0	.2741
1800	1.17	1.19	1.18	863.0	.4163
1930	1.17	1.19	1.18	701.0	.5319
2100	1.17	1.19	1.18	558.0	.6239
2230	1.17	1.19	1.18	435.0	.6956
2400	1.17	1.19	1.18	349.0	.7531
Feb. 10					
0000	1.17	1.19	1.18	349.0	.7531
0130	1.17	1.19	1.18	283.0	.8075
0330	1.17	1.19	1.18	219.0	.8557
0530	1.17	1.19	1.18	175.0	.8797
0600	1.17	1.19	1.18	165.0	.9024
0800	1.17	1.19	1.18	134.0	.9355
1030	1.17	1.19	1.18	105.0	.9586
1200	1.17	1.19	1.18	90.0	.9957
1800	1.17	1.19	1.18	58.0	1.0339
2400	1.17	1.19	1.18	35.0	1.0455

08074760 Brays Bayou at Alief, Tex.--Continued

Date and time	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-22, 1983			
Sept. 19					
0000	0.0	0.0	0.0	10.0	0.0005
0100	.0	.0	.0	10.0	.0014
0130	.0	.03	.02	10.0	.0019
0200	.0	.09	.06	10.0	.0025
0230	.36	.39	.38	10.0	.0030
0300	.73	.72	.72	15.0	.0038
0330	1.24	1.21	1.22	30.0	.0055
0400	1.78	1.75	1.76	45.0	.0080
0430	1.78	2.47	2.26	70.0	.0118
0500	1.78	3.24	2.80	500.0	.0393
0530	2.44	3.96	3.50	1,100.0	.0997
0600	3.10	4.74	4.25	1,850.0	.2014
0630	3.16	4.74	4.27	2,800.0	.3553
0700	3.25	4.74	4.29	3,850.0	.5668
0730	3.31	4.74	4.31	4,570.0	.8179
0800	3.40	4.74	4.34	4,920.0	1.0883
0830	3.40	4.74	4.34	5,090.0	1.3680
0900	3.45	4.74	4.35	5,050.0	1.6455
0930	3.45	4.74	4.35	4,880.0	1.9136
1000	3.50	4.74	4.37	4,670.0	2.1702
1030	3.53	4.74	4.38	4,360.0	2.4098
1100	3.59	4.74	4.39	4,030.0	2.6313
1130	3.59	4.74	4.39	3,690.0	2.8340
1200	3.60	4.74	4.40	3,330.0	3.0170
1230	3.60	5.59	4.99	2,980.0	3.1808
1300	3.60	6.49	5.62	2,620.0	3.3967
1400	3.60	6.49	5.62	1,980.0	3.5599
1430	3.60	6.49	5.62	1,720.0	3.6544
1500	3.60	6.50	5.63	1,510.0	3.7374
1530	3.60	6.50	5.63	1,360.0	3.8121
1600	3.60	6.51	5.64	1,230.0	3.8797
1630	3.60	6.51	5.64	1,130.0	3.9418
1700	3.60	6.52	5.64	1,040.0	4.0275
1800	3.60	6.52	5.64	900.0	4.1512
1930	3.60	6.52	5.64	743.0	4.2328
2000	3.60	6.53	5.65	694.0	4.3282
2200	3.60	6.53	5.65	564.0	4.4521
2400	3.60	6.53	5.65	468.0	4.5164
Sept. 20					
0000	3.60	6.53	5.65	468.0	4.5164

08074760 Brays Bayou at Alief, Tex.--Continued

Date and time	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-22, 1983--Continued			
Sept. 20					
0030	3.64	6.58	5.70	446.0	4.5409
0100	3.70	6.64	5.76	427.0	4.5644
0130	3.82	6.94	6.00	412.0	4.5870
0200	4.00	7.27	6.29	397.0	4.6089
0230	4.00	7.51	6.46	382.0	4.6298
0300	4.05	7.78	6.66	389.0	4.6512
0330	4.08	7.80	6.68	556.0	4.6818
0400	4.14	7.86	6.74	753.0	4.7852
0600	4.14	7.86	6.74	907.0	5.0344
0900	4.14	7.86	6.74	714.0	5.2306
1100	4.14	7.86	6.74	576.0	5.3255
1200	4.14	7.86	6.74	521.0	5.4401
1500	4.14	7.86	6.74	384.0	5.5139
1530	4.29	8.34	7.12	367.0	5.5341
1600	4.47	8.83	7.52	349.0	5.5532
1630	4.59	8.98	7.66	332.0	5.5715
1700	4.72	9.16	7.83	320.0	5.5891
1730	4.72	9.16	7.83	422.0	5.6123
1800	4.72	9.18	7.84	558.0	5.6429
1830	4.72	9.18	7.84	660.0	5.6792
1900	4.72	9.20	7.86	710.0	5.7377
2000	4.72	9.20	7.86	733.0	5.7981
2030	4.72	9.20	7.86	727.0	5.8381
2100	4.72	9.21	7.86	701.0	5.9536
2330	4.72	9.21	7.86	541.0	6.0428
2400	4.72	9.21	7.86	510.0	6.2250
Sept. 21					
0000	4.72	9.21	7.86	510.0	6.2250
0600	4.72	9.21	7.86	268.0	6.4017
1200	4.72	9.21	7.86	168.0	6.5125
1800	4.72	9.21	7.86	117.0	6.5896
2400	4.72	9.21	7.86	77.0	6.6404
Sept. 22					
0000	4.72	9.21	7.86	77.0	6.6404
0600	4.72	9.21	7.86	70.0	6.6866
1200	4.72	9.21	7.86	65.0	6.7294
1800	4.72	9.21	7.86	61.0	6.7696
2400	4.72	9.21	7.86	57.0	6.7884

KEEGANS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Keegans Bayou drainage basin are shown in figure 12.

Weighted-mean rainfall in the drainage basin, based on three rain gages for the 1983 water year was 69.35 inches or 21.16 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
2.72	5.97	2.75	2.18	4.43	3.71	0.38	6.18	4.81	8.05	13.84	14.33	69.35

The storms of Aug. 18-21 and Sept. 19-22 were analyzed at station 08074780, Keegans Bayou at Keegan Road near Houston. The storms of Nov. 2-3, Nov. 19-21, Feb. 9-11, Feb. 15-17, Aug. 18-20, and Sept. 19-22 were selected for analysis at station 08074800, Keegans Bayou at Roark Road near Houston.

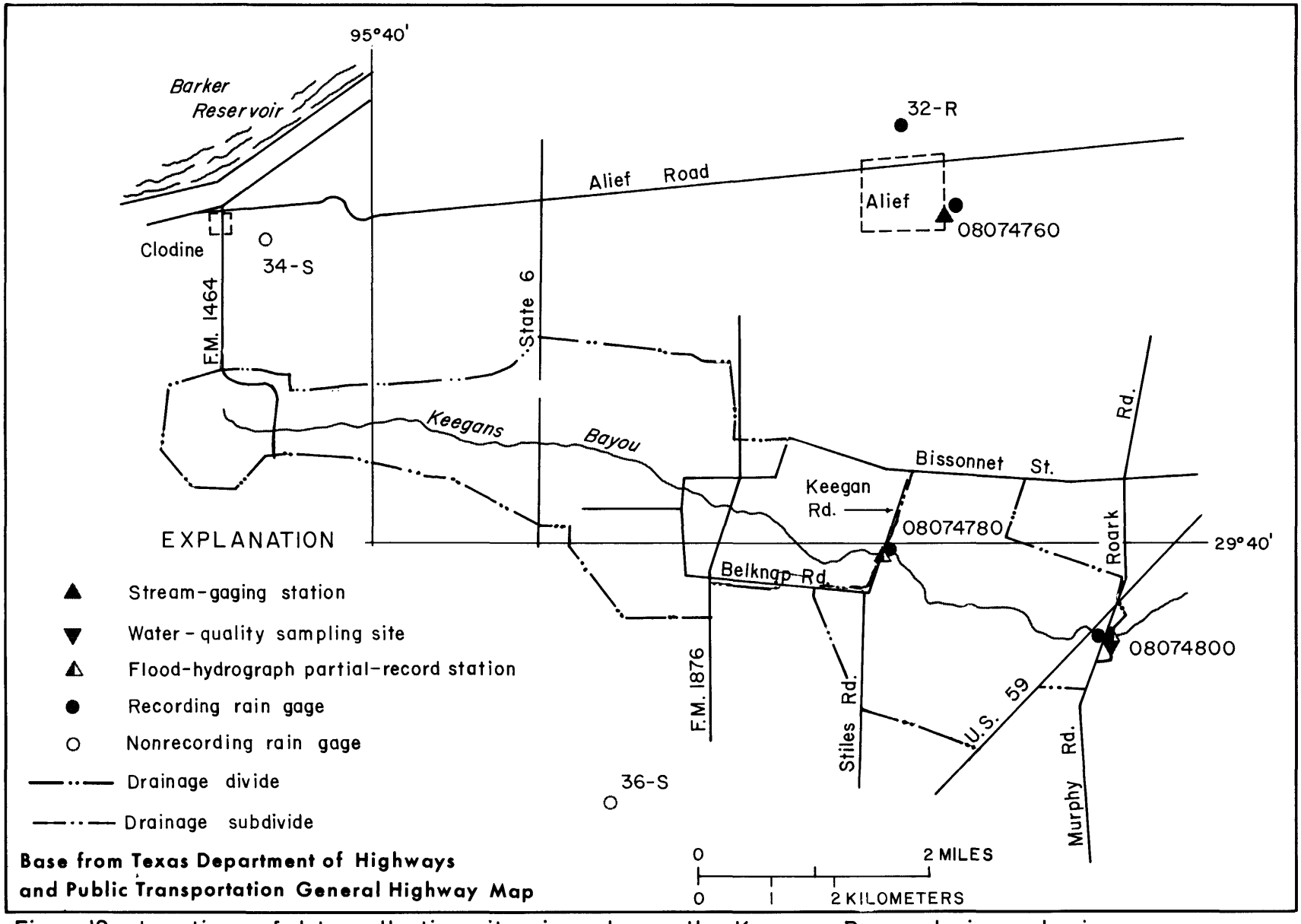

Figure 12.-Locations of data-collection sites in and near the Keegans Bayou drainage basin

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ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 11.--Storm rainfall-runoff data, 1983 Water Year, Keegans Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Keegans Bayou at Keegan Rd. near Houston, TX (Drainage Area -- 7.47 mi^2)								
Aug. 18-21, 1983	13.8	4.87	0.50	0.63	1.02	3.02	0.62	967
Sept. 19-20, 1983	3.5	9.01	1.20	2.06	3.89	8.04	0.75	2760*,++
Sept. 20-22, 1983	15.0	1.74	0.36	0.71	0.96			784
Keegans Bayou at Roark Rd. near Houston, TX (Drainage Area -- 11.5 mi^2)								
Nov. 2-3, 1982	7.8	1.90	0.50	0.97	1.15	0.39	0.20	338
Nov. 19-21, 1982	9.0	1.73	0.15	0.25	0.33	0.78	0.45	467
Feb. 9-11, 1983	2.3	0.99	0.40	0.68	0.90	0.85	0.86	631

* - Peak Discharge for 1983 Water Year

++ - Peak Discharge for Period of Record

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table11.--Storm rainfall-runoff data, 1983 Water Year, Keegans Bayou--Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
		Keegans Bayou at Roark Rd. near Houston, TX --Continued						
Feb. 15-17, 1983	13.5	1.38	0.20	0.31	0.40	0.91	0.66	338
Aug. 18-20, 1983	13.8	4.73	0.32	0.63	1.02	3.62	0.76	1900
Sept. 19-20, 1983	3.5	8.72	1.20	2.06	3.89	9.06	0.87	4250*,++
Sept. 20-22, 1983	15.0	1.70	0.36	0.71	0.96			1250

* - Peak Discharge for 1983 Water Year
++ - Peak Discharge for Period of Record

08074780 KEEGANS BAYOU AT KEEGAN ROAD NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'55", long 95°35'42", Harris County, Hydrologic Unit 12040104 on downstream side of bridge on Keegan Road, 2.35 miles upstream from station, Keegans Bayou at Roark Road, and about 16 miles southwest of Houston.

DRAINAGE AREA.--7.47 mi^2. Prior to Jan. 1, 1978, 7.87 mi^2.
Prior to Oct. 1, 1973, 6.93 mi^2.

PERIOD OF RECORD.--August 1964 to September 1971; August 5, 1974 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 25, 1978 a flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 2,760 ft^3/s, Sept. 19, 1983. (Gage height 81.93 ft).
Maximum elevation 83.55 ft April 14, 1966, (prior to channel improvement).
Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 350 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Mar. 23	1415	414	75.07
May 20	0430	403	75.48
June 12	unknown	430	75.16
July 15	2015	916	77.34
Aug. 15	1930	374	74.82
Aug. 18	1215	967	77.52
Sept. 10	2115	416	75.08
Sept. 19	0815	*2,760	81.93

Minimum discharge not determined.

STORM RAINFALL AND RUNOFF

08074780 Keegans Bayou at Keegan Road near Houston, Tex.

Date and time	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-21, 1983		
Aug. 18				
0000	0.0	0.0	4.0	0.0005
0115	.0	.0	4.0	.0011
0130	.02	.02	4.0	.0013
0145	.06	.06	4.0	.0016
0200	.09	.09	5.0	.0018
0215	.14	.14	5.0	.0021
0230	.19	.19	5.0	.0023
0245	.26	.26	5.0	.0026
0300	.31	.31	15.0	.0034
0315	.34	.34	15.0	.0041
0330	.37	.37	15.0	.0049
0345	.38	.38	15.0	.0057
0400	.41	.41	20.0	.0067
0415	.54	.54	33.0	.0085
0430	.67	.67	42.0	.0106
0445	.81	.81	65.0	.0140
0500	.91	.91	98.0	.0191
0515	1.02	1.02	130.0	.0258
0530	1.18	1.18	170.0	.0346
0545	1.24	1.24	205.0	.0453
0600	1.29	1.29	228.0	.0571
0615	1.30	1.30	233.0	.0692
0630	1.30	1.30	236.0	.0814
0645	1.35	1.35	242.0	.0940
0700	1.42	1.42	248.0	.1068
0715	1.49	1.49	261.0	.1204
0730	1.58	1.58	276.0	.1347
0745	1.64	1.64	297.0	.1501
0800	1.70	1.70	307.0	.1660
0815	1.72	1.72	314.0	.1823
0830	1.77	1.77	316.0	.1987
0845	1.82	1.82	322.0	.2154
0900	1.86	1.86	328.0	.2324
0915	1.96	1.96	346.0	.2503
0930	2.08	2.08	363.0	.2692
0945	2.17	2.17	398.0	.2898
1000	2.21	2.21	406.0	.3109
1015	2.23	2.23	403.0	.3317
1030	2.39	2.39	416.0	.3533

STORM RAINFALL AND RUNOFF

08074780 Keegans Bayou at Keegan Road near Houston, Tex.

Date and time	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-21, 1983		
Aug. 18				
1045	2.65	2.65	502.0	0.3794
1100	2.97	2.97	627.0	.4119
1115	3.22	3.22	739.0	.4502
1130	3.41	3.41	846.0	.4941
1145	3.55	3.55	916.0	.5416
1200	3.65	3.65	952.0	.5909
1215	3.70	3.70	967.0	.6411
1230	3.74	3.74	955.0	.6906
1245	3.79	3.79	934.0	.7391
1300	3.81	3.81	913.0	.7864
1315	3.82	3.82	874.0	.8317
1330	3.83	3.83	835.0	.8750
1345	3.83	3.83	797.0	.9164
1400	3.84	3.84	759.0	.9951
1445	3.84	3.84	653.0	1.0628
1500	4.12	4.12	664.0	1.0973
1515	4.14	4.14	685.0	1.1861
1615	4.14	4.14	576.0	1.3205
1730	4.14	4.14	461.0	1.4042
1800	4.14	4.14	423.0	1.4809
1915	4.14	4.14	379.0	1.5399
1930	4.23	4.23	374.0	1.5593
1945	4.73	4.73	458.0	1.5831
2000	4.86	4.86	574.0	1.6128
2015	4.86	4.86	576.0	1.7024
2130	4.86	4.86	465.0	1.8351
2300	4.86	4.86	364.0	1.9295
2400	4.86	4.86	324.0	2.1647
Aug. 19				
0000	4.86	4.86	324.0	2.1647
0600	4.86	4.86	199.0	2.4124
1200	4.86	4.86	136.0	2.5816
1800	4.87	4.87	97.0	2.7024
2400	4.87	4.87	71.0	2.8349
Aug. 20				
0000	4.87	4.87	71.0	2.8349
1200	4.87	4.87	38.0	2.9295
2400	4.87	4.87	21.0	2.9818
Aug. 21				
0000	4.87	4.87	21.0	2.9818
1200	4.87	4.87	11.0	3.0092
2400	4.87	4.87	5.0	3.0154

08074780 Keegans Bayou at Keegan Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-22-1983		
Sept. 19				
0000	0.0	0.0	4.0	0.0011
0245	.0	.0	4.0	.0024
0300	.20	.20	10.0	.0029
0315	.44	.44	25.0	.0042
0330	.46	.46	56.0	.0071
0345	.49	.49	63.0	.0104
0400	.69	.69	77.0	.0144
0415	.84	.84	125.0	.0208
0430	1.22	1.22	195.0	.0310
0445	2.42	2.42	496.0	.0567
0500	2.72	2.72	797.0	.0980
0515	3.15	3.15	1,060.0	.1530
0530	4.10	4.10	1,380.0	.2246
0545	5.10	5.10	1,680.0	.3117
0600	6.16	6.16	2,000.0	.4154
0615	7.04	7.04	2,270.0	.5331
0630	7.10	7.10	2,420.0	.6586
0645	7.44	7.44	2,530.0	.7898
0700	7.63	7.63	2,580.0	.9236
0715	7.74	7.74	2,640.0	1.0605
0730	8.00	8.00	2,680.0	1.1995
0745	8.24	8.24	2,710.0	1.3401
0800	8.62	8.62	2,750.0	1.4827
0815	8.67	8.67	2,760.0	1.6258
0830	8.72	8.72	2,750.0	1.7684
0845	8.79	8.79	2,720.0	1.9095
0900	8.84	8.84	2,700.0	2.0495
0915	8.85	8.85	2,680.0	2.1885
0930	8.85	8.85	2,660.0	2.3265
0945	8.86	8.86	2,620.0	2.5982
1030	8.86	8.86	2,480.0	2.8554
1045	8.88	8.88	2,420.0	2.9809
1100	8.94	8.94	2,360.0	3.1645
1130	8.97	8.97	2,210.0	3.3937
1200	8.99	8.99	2,060.0	3.7142
1300	9.01	9.01	1,700.0	4.0669
1400	9.01	9.01	1,320.0	4.3407
1500	9.01	9.01	1,040.0	4.5564
1600	9.01	9.01	838.0	4.7520

08074780 Keegans Bayou at Keegan Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-22, 1983		
Sept. 19				
1715	9.01	9.01	668.0	4.8906
1800	9.01	9.01	594.0	5.0446
1945	9.01	9.01	475.0	5.2294
2145	9.01	9.01	385.0	5.3991
2400	9.01	9.01	311.0	5.5362
Sept. 20				
0000	9.01	9.01	311.0	5.5362
0200	9.01	9.01	271.0	5.6064
0230	9.26	9.26	276.0	5.6351
0300	9.97	9.97	495.0	5.6864
0330	10.09	10.09	704.0	5.7594
0400	10.10	10.10	732.0	5.8353
0430	10.32	10.32	784.0	5.9167
0500	10.32	10.32	774.0	5.9969
0530	10.33	10.33	732.0	6.0729
0600	10.33	10.33	685.0	6.2150
0730	10.33	10.33	549.0	6.4143
0930	10.33	10.33	426.0	6.5247
1000	10.33	10.33	401.0	6.5663
1030	10.34	10.34	383.0	6.6458
1200	10.34	10.34	327.0	6.7814
1430	10.34	10.34	267.0	6.9199
1700	10.34	10.34	221.0	6.9887
1730	10.61	10.61	228.0	7.0123
1800	10.72	10.72	277.0	7.0554
1900	10.72	10.72	283.0	7.0994
1930	10.73	10.73	287.0	7.1292
2000	10.74	10.74	289.0	7.2341
2300	10.74	10.74	235.0	7.3316
2400	10.74	10.74	214.0	7.4204
Sept. 21				
0000	10.74	10.74	214.0	7.4204
0300	10.74	10.74	165.0	7.5231
0600	10.75	10.75	131.0	7.6454
1200	10.75	10.75	92.0	7.7599
1800	10.75	10.75	69.0	7.8457
2400	10.75	10.75	53.0	7.9117
Sept. 22				
0000	10.75	10.75	53.0	7.9117
0600	10.75	10.75	39.0	7.9603
1200	10.75	10.75	30.0	8.0163
2400	10.75	10.75	20.0	8.0412

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'23", long 95°33'43", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on Roark Road in southwest Houston.

DRAINAGE AREA.--11.5 mi². Oct. 1, 1976, to Dec. 31, 1977, 12.0 mi²; August 1964 to Sept. 30, 1976, 11.6 mi². Drainage area changes were the result of ditch relocations or extensions.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (operated as a continuous-record station prior to Oct. 1, 1981)

REVISED RECORDS.--WRD TX-74-1: Drainage area. WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records poor. Channel was rectified during latter part of 1981 water year. Recording rain gage at station. Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1983."

AVERAGE DISCHARGE.--17 years (water years 1965-81), 12.3 ft³/s (8,910 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s Sept. 19, 1983 (elevation, 75.00 ft).

EXTREMES FOR CURRENT YEAR--Peak discharges above base of 1,000 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 20	0500	1,100	67.83	Aug. 15	1935	1,160	68.45
June 25	1705	1,460	69.11	Aug. 18	1215	1,900	70.93
July 15	2015	2,200	71.39	Sept. 10	2000	1,190	67.55
July 16	0100	1,730	70.00	Sept. 19	0900	*4,250	75.00
Aug. 10	1630	1,430	69.42	Sept. 20	a0500	1,250	unknown

a About.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to September 1983 (discontinued). Sediment analyses: October 1970 to September 1971.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV											
02...	1459	75	584	--	--	30	100	8.7	16000	12000	150
02...	1501	78	608	--	--	30	80	--	16000	25000	--
02...	1700	338	85	--	--	50	340	--	35000	70000	--
02...	1800	275	161	--	--	120	330	--	68000	79000	--
02...	1900	268	168	--	--	120	480	--	62000	95000	--
02...	2000	204	152	--	--	200	560	--	75000	120000	--
03...	0730	53	292	7.6	19.0	120	230	7.2	190000	34000	--
04...	0720	13	503	--	15.5	40	60	3.4	150	2700	--
19...	0908	27	491	--	--	50	140	--	--	--	--
19...	1208	73	270	--	--	60	290	--	--	--	--
19...	1308	208	182	--	--	200	180	--	--	--	--
19...	1408	255	192	--	--	70	220	--	--	--	--
20...	1050	45	--	--	20.0	65	150	2.8	--	--	--
26...	1022	27	585	--	--	40	100	--	--	--	--
26...	1122	54	357	--	--	30	80	--	--	--	--
26...	1222	60	283	--	--	40	310	--	--	--	--
26...	1422	109	225	--	--	40	160	--	--	--	--
26...	1522	84	201	--	--	50	130	--	--	--	--
JAN											
18...	1930	25	--	--	--	5	50	--	--	--	--
18...	2130	36	--	--	--	5	140	--	--	--	--
18...	2230	42	--	--	--	10	180	--	--	--	--
19...	0030	52	--	--	--	45	85	--	--	--	--
20...	0930	45	308	--	8.5	80	65	2.9	190	3000	96
FEB											
09...	1240	34	571	7.6	19.0	25	100	9.0	64	1300	160
09...	1337	220	263	--	--	40	240	--	--	--	--
09...	1437	625	161	--	--	100	520	--	--	--	--
09...	1637	462	140	--	--	90	440	--	--	--	--
10...	0745	85	182	7.5	14.0	210	270	5.2	7000	7200	63
15...	0640	34	191	--	--	130	390	--	--	--	--
15...	0740	119	196	--	--	200	380	--	--	--	--
15...	0840	214	201	--	--	130	360	--	--	--	--
15...	1040	335	215	--	--	170	270	--	--	--	--
16...	0702	110	228	--	12.0	250	230	4.2	2500	6700	77
16...	1408	73	250	--	--	170	270	3.9	230	2300	81
17...	0808	29	289	--	13.5	230	200	4.5	K6	700	95
20...	0900	34	--	--	--	--	--	--	--	--	--
20...	1000	189	--	--	--	--	--	--	--	--	--
20...	1200	210	202	--	--	80	320	--	--	--	--

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV											
02...	10	46	8.4	60	2.2	6.7	140	27	64	.30	22
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
JAN											
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
20...	8	29	5.7	23	1.1	5.0	88	26	20	.30	12
FEB											
09...	1	49	9.4	56	2.0	5.6	160	29	5	.30	20
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
10...	0	19	3.8	12	.7	2.8	63	11	10	.20	9.8
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	0	23	4.7	15	.8	3.8	79	17	12	.20	11
16...	0	24	5.1	17	.9	3.4	84	17	15	.20	12
17...	0	28	6.2	22	1.0	3.3	95	17	17	.20	14
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV											
02...	319	229	30	4.6	.260	4.9	.280	2.9	3.20	3.80	21
02...	--	172	14	5.0	.320	5.3	.250	2.8	3.00	3.60	17
02...	--	828	82	.36	.040	.40	<.060	--	1.30	.240	27
02...	--	570	50	.76	.240	1.0	.210	2.1	2.30	1.50	19
02...	--	824	68	.63	.070	.70	.090	2.1	2.20	1.20	23
02...	--	470	52	.19	.410	.60	.300	2.3	2.60	.870	40
03...	--	274	22	.77	.230	1.0	.480	1.9	2.40	1.20	13
04...	--	46	4	3.6	.140	3.7	.390	1.4	1.80	2.50	6.4
19...	--	214	54	4.9	.170	5.1	.140	1.3	1.40	1.70	11
19...	--	363	72	2.1	.090	2.2	.060	2.5	2.60	.900	21
19...	--	390	33	.82	.080	.90	.090	1.9	2.00	.780	18
19...	--	342	64	1.0	.100	1.1	.120	2.2	2.30	.980	20
20...	--	144	40	2.0	.070	2.1	.150	1.4	1.50	1.20	12
26...	--	85	25	5.4	.150	5.5	.220	1.7	1.90	3.40	10
26...	--	87	29	3.1	.110	3.2	.160	1.9	2.10	2.10	11
26...	--	469	40	2.1	.170	2.3	.130	2.0	2.10	1.90	20
26...	--	190	36	1.5	.120	1.6	.120	2.2	2.30	1.40	14
26...	--	64	54	1.2	.120	1.3	.140	1.7	1.80	.970	11
JAN											
18...	--	98	51	5.0	.520	5.5	.790	2.1	2.90	3.00	16
18...	--	231	77	3.4	.300	3.7	.480	3.3	3.80	2.00	20
18...	--	267	83	3.3	.250	3.5	.360	3.3	3.70	1.90	16
19...	--	161	61	2.2	.190	2.4	.240	2.5	2.70	1.40	14
20...	174	72	46	2.0	.070	2.1	.260	1.6	1.90	1.20	13
FEB											
09...	318	186	58	4.7	.340	5.0	.600	1.7	2.30	3.60	15
09...	--	712	196	1.9	.150	2.0	.200	3.3	3.50	1.60	30
09...	--	1060	184	.83	.070	.90	.120	2.3	2.40	.890	34
09...	--	660	168	.82	.080	.90	.190	2.3	2.50	.780	16
10...	106	342	86	.74	.060	.80	.240	2.1	2.30	.600	21
15...	--	89	37	.87	.230	1.1	.320	3.0	3.30	.690	22
15...	--	416	176	.92	.280	1.2	.370	2.3	2.70	.720	19
15...	--	296	84	.73	.270	1.0	.360	2.0	2.40	.670	20
15...	--	190	86	1.0	.270	1.3	.390	2.0	2.40	.840	21
16...	134	260	162	.92	.080	1.0	.270	1.8	2.10	.620	18
16...	144	198	3	1.0	.200	1.2	.320	1.5	1.80	.770	19
17...	165	192	20	1.4	.180	1.6	.350	2.2	2.50	1.10	19
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	280	6	1.1	.110	1.2	.460	2.4	2.90	1.30	15

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB												
20...	1300	181	--	--	--	--	--	--	--	--	--	--
20...	1400	149	--	--	--	--	--	--	--	--	--	--
20...	2109	34	558	--	--	40	170	--	--	--	--	--
20...	2209	189	210	--	--	55	240	--	--	--	--	--
20...	2309	204	232	--	--	60	320	--	--	--	--	--
21...	0009	210	202	--	--	80	320	--	--	--	--	--
21...	0109	181	198	--	--	80	200	--	--	--	--	--
21...	0209	149	193	--	--	80	190	--	--	--	--	--
MAR												
02...	1225	6.0	764	8.0	21.0	5	19	7.8	87	1.6	K2	26

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
FEB												
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	190	0	55	12	78	2.6	7.5	200	32	86	.30	27

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB											
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	242	9	5.1	.400	5.5	.770	2.4	3.20	4.10	15
20...	--	378	14	1.4	.120	1.5	.500	2.3	2.80	1.50	14
20...	--	396	17	1.7	.150	1.8	.470	2.7	3.20	1.70	18
21...	--	280	6	1.1	.110	1.2	.460	2.4	2.90	1.30	15
21...	--	145	9	1.1	.120	1.2	.620	2.5	3.10	1.30	15
21...	--	178	3	1.1	.110	1.2	.540	1.7	2.20	1.30	14
MAR											
02...	418	53	19	6.6	.380	7.0	.880	2.2	3.10	6.80	7.0

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV							
02...	1459	5	87	1	10	5	23
MAR							
02...	1225	4	110	<1	<10	5	<3

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
NOV						
02...	4	22	.1	2	1	24
MAR						
02...	<1	37	<.1	2	<1	35

DATE	TIME	AMETRYNE TOTAL	ATRATONE TOTAL (UG/L)	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	METHOMYL TOTAL (UG/L)	PROMETONE TOTAL (UG/L)
NOV								
02...	1459	.10	.10	.10	.10	.10	2.0	.1
MAR								
02...	1225	<.10	<.10	.20	<.10	<.10	<2.0	<.1

DATE	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
NOV							
02...	.1	.10	2.0	2.0	.10	.10	.1
MAR							
02...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08074800 Keegans Bayou at Roark Road near Houston, Tex.

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Nov. 2-3, 1982			
Nov. 2					
0000	0.0	0.0	0.0	6.0	0.0049
1200	.0	.0	.0	5.3	.0101
1445	.0	.0	.0	29.0	.0160
1500	.25	.0	.03	78.0	.0186
1515	.32	.0	.03	60.0	.0206
1530	.32	.0	.03	48.0	.0222
1545	.32	.22	.23	38.0	.0235
1600	.32	.35	.35	31.0	.0246
1615	.32	.38	.37	26.0	.0254
1630	.32	.38	.37	41.0	.0268
1645	.66	.38	.41	169.0	.0325
1700	.90	.38	.43	338.0	.0439
1715	1.00	.41	.47	320.0	.0547
1730	1.04	.88	.90	271.0	.0638
1745	1.06	1.38	1.35	261.0	.0726
1800	1.08	1.53	1.48	275.0	.0819
1815	1.08	1.55	1.50	282.0	.0914
1830	1.08	1.56	1.51	289.0	.1011
1845	1.08	1.57	1.52	279.0	.1105
1900	1.08	1.58	1.53	268.0	.1240
1930	1.08	1.59	1.54	236.0	.1558
2100	1.08	1.59	1.54	148.0	.1758
2130	1.08	1.59	1.54	129.0	.1845
2200	1.16	1.59	1.55	123.0	.1907
2215	1.18	1.59	1.55	133.0	.1952
2230	1.28	1.61	1.58	154.0	.2004
2245	1.32	1.63	1.60	166.0	.2060
2300	1.32	1.66	1.63	158.0	.2139
2330	1.32	1.77	1.72	127.0	.2225
2400	1.32	1.78	1.73	116.0	.2303
Nov. 3					
0000	1.32	1.78	1.73	116.0	.2303
0030	1.42	1.78	1.74	133.0	.2393
0100	1.53	1.81	1.78	133.0	.2527
0200	1.53	1.90	1.86	112.0	.2753
0400	1.53	1.90	1.86	83.0	.2977
0600	1.53	1.92	1.88	62.0	.3311
1200	1.53	1.94	1.90	36.0	.3602
1800	1.53	1.94	1.90	25.0	.3805
2400	1.53	1.94	1.90	19.0	.3881

STORM RAINFALL AND RUNOFF

08074800 Keegans Bayou at Roark Road near Houston, Tex.

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 32R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Nov. 19-21, 1982			
Nov. 19					
0000	0.0	0.0	0.0	8.6	0.0035
0600	.0	.0	.0	6.8	.0070
0745	.0	.0	.0	6.2	.0079
0800	.0	.02	.01	6.2	.0081
0815	.0	.08	.04	6.2	.0083
0830	.0	.17	.08	6.2	.0085
0845	.0	.26	.13	6.2	.0087
0900	.0	.35	.18	6.8	.0089
0915	.10	.35	.23	56.0	.0108
0930	.25	.37	.31	81.0	.0135
0945	.30	.40	.35	80.0	.0162
1000	.30	.43	.36	66.0	.0185
1015	.31	.43	.37	57.0	.0204
1030	.32	.46	.39	52.0	.0221
1045	.33	.49	.41	52.0	.0239
1100	.35	.52	.44	52.0	.0256
1115	.35	.55	.45	52.0	.0274
1130	.39	.58	.48	60.0	.0294
1145	.39	.61	.50	66.0	.0316
1200	.40	.66	.53	70.0	.0340
1215	.42	.71	.56	78.0	.0366
1230	.45	.77	.61	85.0	.0395
1245	.60	.83	.71	143.0	.0443
1300	.66	.89	.77	203.0	.0511
1315	.71	.92	.81	213.0	.0583
1330	.72	.95	.83	207.0	.0653
1345	.75	1.00	.88	213.0	.0725
1400	.79	1.06	.93	236.0	.0804
1415	.83	1.09	.96	265.0	.0893
1430	.88	1.12	1.00	294.0	.0992
1445	.92	1.15	1.03	315.0	.1099
1500	.99	1.20	1.09	335.0	.1211
1515	1.00	1.23	1.11	337.0	.1325
1530	1.03	1.26	1.14	340.0	.1439
1545	1.05	1.30	1.18	336.0	.1553
1600	1.07	1.36	1.21	332.0	.1664
1615	1.11	1.40	1.25	344.0	.1780
1630	1.15	1.46	1.30	363.0	.1903
1645	1.23	1.52	1.38	380.0	.2031

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 32R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Nov. 19-21, 1982--Continued			
Nov. 19					
1700	1.28	1.58	1.43	390.0	0.2162
1715	1.36	1.58	1.47	418.0	.2303
1730	1.45	1.61	1.53	446.0	.2453
1745	1.49	1.64	1.56	457.0	.2607
1800	1.52	1.67	1.60	467.0	.2764
1815	1.55	1.67	1.61	465.0	.2921
1830	1.56	1.67	1.61	462.0	.3077
1845	1.59	1.68	1.64	460.0	.3232
1900	1.61	1.71	1.66	458.0	.3386
1915	1.62	1.71	1.66	446.0	.3536
1930	1.65	1.71	1.68	434.0	.3682
1945	1.66	1.71	1.68	422.0	.3824
2000	1.67	1.74	1.70	410.0	.3963
2015	1.68	1.74	1.71	393.0	.4161
2045	1.68	1.74	1.71	358.0	.4342
2100	1.68	1.77	1.73	340.0	.4686
2215	1.68	1.77	1.73	268.0	.5092
2315	1.68	1.77	1.73	213.0	.5343
2400	1.68	1.77	1.73	183.0	.5559
Nov. 20					
0000	1.68	1.77	1.73	183.0	.5559
0100	1.68	1.77	1.73	142.0	.5846
0300	1.68	1.77	1.73	111.0	.6108
0430	1.68	1.77	1.73	87.0	.6283
0600	1.68	1.77	1.73	72.0	.6477
0830	1.68	1.77	1.73	56.0	.6704
1200	1.68	1.77	1.73	42.0	.6973
1800	1.68	1.77	1.73	28.0	.7199
2400	1.68	1.77	1.73	21.0	.7369
Nov. 21					
0000	1.68	1.77	1.73	21.0	.7369
0600	1.68	1.77	1.73	16.0	.7498
1200	1.68	1.77	1.73	14.0	.7611
1800	1.68	1.77	1.73	13.0	.7716
2400	1.68	1.77	1.73	12.0	.7765

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Feb. 9-11, 1983			
Feb. 9					
0000	0.0	0.0	0.0	9.2	0.0037
0600	.0	.0	.0	7.5	.0094
1115	.0	.0	.0	7.8	.0123
1130	.0	.15	.13	7.8	.0126
1145	.0	.18	.16	8.4	.0128
1200	.06	.20	.19	12.0	.0132
1215	.06	.24	.22	16.0	.0138
1230	.14	.28	.27	19.0	.0144
1245	.20	.33	.32	43.0	.0159
1300	.20	.33	.32	55.0	.0177
1315	.24	.33	.32	54.0	.0195
1330	.64	.73	.72	94.0	.0227
1345	.92	.83	.84	424.0	.0370
1400	1.06	.90	.92	549.0	.0555
1415	1.14	.93	.95	574.0	.0748
1430	1.14	.95	.97	623.0	.0958
1445	1.14	.95	.97	631.0	.1171
1500	1.14	.96	.98	621.0	.1798
1615	1.14	.96	.98	503.0	.2561
1715	1.14	.96	.98	405.0	.3038
1800	1.14	.96	.98	351.0	.3511
1915	1.14	.96	.98	273.0	.4063
2100	1.14	.96	.98	221.0	.4584
2245	1.14	.96	.98	179.0	.4946
2400	1.14	.96	.98	158.0	.5239
Feb. 10					
0000	1.14	.96	.98	158.0	.5239
0130	1.14	.96	.98	124.0	.5698
0530	1.14	.96	.98	99.0	.5998
0600	1.14	.96	.98	96.0	.6160
0800	1.14	.96	.98	84.0	.6301
0830	1.14	.97	.99	82.0	.6522
1200	1.14	.97	.99	69.0	.6964
1800	1.14	.97	.99	52.0	.7384
2400	1.14	.97	.99	41.0	.7716
Feb. 11					
0000	1.14	.97	.99	41.0	.7716
0600	1.14	.97	.99	29.0	.7950
1200	1.14	.97	.99	27.0	.8169
1800	1.14	.97	.99	23.0	.8355
2400	1.14	.97	.99	24.0	.8452

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Feb. 15-17, 1983			
Feb. 15					
0000	0.0	0.0	0.0	12.0	0.0044
0530	.0	.0	.0	12.0	.0091
0545	.0	.01	.01	12.0	.0095
0600	.0	.01	.01	12.0	.0099
0615	.0	.07	.06	12.0	.0103
0630	.0	.27	.24	12.0	.0107
0645	.05	.38	.35	49.0	.0124
0700	.17	.40	.38	82.0	.0151
0715	.19	.47	.44	94.0	.0183
0730	.21	.53	.50	107.0	.0219
0745	.27	.59	.56	124.0	.0261
0800	.37	.65	.62	146.0	.0310
0815	.44	.69	.66	157.0	.0363
0830	.51	.76	.73	184.0	.0425
0845	.52	.83	.80	229.0	.0502
0900	.62	.90	.87	274.0	.0594
0915	.71	.92	.90	306.0	.0697
0930	.71	.93	.91	318.0	.0804
0945	.71	.95	.93	319.0	.0912
1000	.72	.97	.94	325.0	.1021
1015	.74	.99	.96	332.0	.1133
1030	.76	1.02	.99	331.0	.1245
1045	.79	1.04	1.01	338.0	.1359
1100	.84	1.06	1.04	338.0	.1472
1115	.85	1.07	1.05	335.0	.1585
1130	.88	1.09	1.07	332.0	.1697
1145	.90	1.11	1.09	335.0	.1810
1200	.91	1.12	1.10	338.0	.1924
1215	.97	1.12	1.10	334.0	.2093
1245	.97	1.12	1.10	323.0	.2256
1300	.97	1.13	1.11	315.0	.2680
1445	.97	1.13	1.11	248.0	.3182
1600	.97	1.13	1.11	207.0	.3391
1615	.97	1.14	1.12	202.0	.3663
1800	.97	1.14	1.12	164.0	.3912
1830	.97	1.14	1.12	154.0	.3989
1845	.97	1.15	1.13	149.0	.4040
1900	.97	1.16	1.14	145.0	.4088
1915	.98	1.18	1.16	145.0	.4137

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Feb. 15-17, 1983--Continued			
Feb. 15					
1930	1.03	1.19	1.17	146.0	0.4186
1945	1.04	1.22	1.20	147.0	.4236
2000	1.05	1.23	1.21	148.0	.4286
2015	1.05	1.24	1.22	151.0	.4337
2030	1.05	1.26	1.24	154.0	.4389
2045	1.05	1.26	1.24	157.0	.4441
2100	1.05	1.27	1.25	158.0	.4495
2115	1.09	1.27	1.25	160.0	.4549
2130	1.10	1.28	1.26	162.0	.4603
2145	1.11	1.30	1.28	163.0	.4658
2200	1.12	1.31	1.29	164.0	.4713
2215	1.12	1.32	1.30	167.0	.4770
2230	1.13	1.33	1.31	170.0	.4827
2245	1.13	1.34	1.32	173.0	.4885
2300	1.14	1.34	1.32	175.0	.4944
2315	1.14	1.35	1.33	175.0	.5003
2330	1.14	1.36	1.34	175.0	.5062
2345	1.15	1.36	1.34	175.0	.5121
2400	1.15	1.37	1.35	175.0	.5209
Feb. 16					
0000	1.15	1.37	1.35	175.0	.5209
0030	1.18	1.38	1.36	179.0	.5330
0100	1.19	1.39	1.37	182.0	.5759
0400	1.19	1.39	1.37	143.0	.6193
0530	1.19	1.39	1.37	124.0	.6360
0600	1.19	1.40	1.38	118.0	.6439
0630	1.19	1.40	1.38	114.0	.6516
0700	1.20	1.40	1.38	110.0	.6590
0730	1.22	1.40	1.38	108.0	.6954
1200	1.22	1.40	1.38	84.0	.7548
1800	1.22	1.40	1.38	60.0	.7952
2200	1.22	1.40	1.38	49.0	.8150
2400	1.22	1.40	1.38	44.0	.8299
Feb. 17					
0000	1.22	1.40	1.38	44.0	.8299
0300	1.22	1.40	1.38	35.0	.8440
0600	1.22	1.40	1.38	31.0	.8628
1200	1.22	1.40	1.38	28.0	.8855
1800	1.22	1.40	1.38	24.0	.9049
2400	1.22	1.40	1.38	23.0	.9142

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983			
Aug. 18					
0000	0.0	0.0	0.0	28.0	0.0028
0130	.0	.02	.02	27.0	.0065
0200	.0	.09	.08	29.0	.0084
0230	.13	.19	.18	50.0	.0109
0245	.14	.26	.25	66.0	.0132
0300	.15	.31	.29	94.0	.0163
0315	.17	.34	.32	117.0	.0203
0330	.25	.37	.36	119.0	.0243
0345	.30	.38	.37	107.0	.0279
0400	.31	.41	.40	101.0	.0313
0415	.32	.54	.52	116.0	.0352
0430	.33	.67	.64	188.0	.0415
0445	.40	.81	.77	255.0	.0501
0500	.50	.91	.87	320.0	.0609
0515	.55	1.02	.97	400.0	.0744
0530	.58	1.18	1.12	525.0	.0921
0545	.75	1.24	1.19	597.0	.1122
0600	.87	1.29	1.25	651.0	.1341
0615	.92	1.30	1.26	669.0	.1566
0630	.93	1.30	1.26	671.0	.1905
0700	.96	1.42	1.37	686.0	.2252
0715	.99	1.49	1.44	698.0	.2487
0730	1.05	1.58	1.53	711.0	.2727
0745	1.13	1.64	1.59	726.0	.2971
0800	1.14	1.70	1.64	741.0	.3221
0815	1.17	1.72	1.66	736.0	.3469
0830	1.20	1.77	1.71	732.0	.3715
0845	1.22	1.82	1.76	731.0	.3962
0900	1.25	1.86	1.80	730.0	.4208
0915	1.27	1.96	1.89	748.0	.4460
0930	1.28	2.08	2.00	765.0	.4717
0945	1.35	2.17	2.09	790.0	.4983
1000	1.40	2.21	2.13	814.0	.5258
1015	1.44	2.23	2.15	853.0	.5545
1030	1.47	2.39	2.30	892.0	.5845
1045	1.52	2.65	2.54	1,080.0	.6209
1100	1.70	2.97	2.84	1,310.0	.6651
1115	1.95	3.22	3.09	1,510.0	.7159
1130	2.17	3.41	3.29	1,680.0	.7725

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983--Continued			
Aug. 18					
1145	2.35	3.55	3.43	1,810.0	0.8335
1200	2.55	3.65	3.54	1,890.0	.8972
1215	2.60	3.70	3.59	1,900.0	.9612
1230	2.65	3.74	3.63	1,890.0	1.0248
1245	2.75	3.79	3.69	1,840.0	1.0868
1300	2.78	3.81	3.71	1,790.0	1.1471
1315	2.80	3.82	3.72	1,720.0	1.2051
1330	2.81	3.83	3.73	1,630.0	1.2600
1345	2.85	3.83	3.73	1,550.0	1.3122
1400	2.85	3.84	3.74	1,460.0	1.4105
1445	2.85	3.84	3.74	1,240.0	1.4941
1500	2.85	4.12	3.99	1,180.0	1.5338
1515	2.85	4.14	4.01	1,300.0	1.5776
1530	2.95	4.14	4.02	1,270.0	1.6204
1545	3.15	4.14	4.04	1,250.0	1.6625
1600	3.15	4.14	4.04	1,190.0	1.7026
1615	3.17	4.14	4.04	1,130.0	1.7407
1630	3.20	4.14	4.05	1,080.0	1.8498
1745	3.20	4.14	4.05	850.0	1.9357
1800	3.20	4.14	4.05	812.0	2.0315
1930	3.20	4.23	4.13	653.0	2.1194
2000	3.20	4.86	4.69	841.0	2.1619
2015	3.37	4.86	4.71	966.0	2.1945
2030	3.45	4.86	4.72	1,020.0	2.2288
2045	3.45	4.86	4.72	1,020.0	2.3319
2200	3.45	4.86	4.72	814.0	2.4690
2315	3.45	4.86	4.72	652.0	2.5569
2400	3.45	4.86	4.72	574.0	2.6052
Aug. 19					
0000	3.45	4.86	4.72	574.0	2.6052
0030	3.45	4.86	4.72	605.0	2.6867
0200	3.45	4.86	4.72	450.0	2.8535
0600	3.45	4.86	4.72	318.0	3.0677
1200	3.45	4.86	4.72	203.0	3.2045
1600	3.45	4.86	4.72	165.0	3.2712
1800	3.45	4.87	4.73	147.0	3.3504
2400	3.45	4.87	4.73	103.0	3.4753
Aug. 20					
0000	3.45	4.87	4.73	103.0	3.4753
1200	3.45	4.87	4.73	66.0	3.5821
2400	3.45	4.87	4.73	43.0	3.6168

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-22, 1983			
Sept. 19					
0000	0.0	0.0	0.0	34.0	0.0063
0245	.0	.0	.0	23.0	.0109
0300	.05	.20	.18	23.0	.0117
0315	.18	.44	.41	28.0	.0127
0330	.23	.46	.44	59.0	.0147
0345	.30	.49	.47	71.0	.0170
0400	.31	.69	.65	82.0	.0198
0415	.35	.84	.79	120.0	.0239
0430	.45	1.22	1.14	209.0	.0309
0445	1.10	2.42	2.29	611.0	.0515
0500	1.75	2.72	2.62	1,150.0	.0902
0515	1.95	3.15	3.03	1,600.0	.1441
0530	2.75	4.10	3.96	2,190.0	.2179
0545	3.10	5.10	4.90	2,680.0	.3082
0600	3.35	6.16	5.88	2,100.0	.4126
0615	4.00	7.04	6.74	3,490.0	.5302
0630	4.05	7.10	6.79	3,640.0	.6528
0645	4.35	7.44	7.13	3,850.0	.7825
0700	4.75	7.63	7.34	3,970.0	.9162
0715	4.85	7.74	7.45	4,050.0	1.0526
0730	5.00	8.00	7.70	E 4,100.0	1.1908
0745	5.35	8.24	7.95	E 4,180.0	1.3316
0800	5.60	8.62	8.32	E 4,200.0	1.4730
0815	5.65	8.67	8.37	E 4,220.0	1.6152
0830	5.70	8.72	8.42	E 4,230.0	1.7577
0845	5.75	8.79	8.49	E 4,240.0	1.9005
0900	5.85	8.84	8.54	* 4,250.0	2.0437
0915	5.90	8.85	8.55	* 4,250.0	2.1869
0930	5.97	8.85	8.56	E 4,240.0	2.3297
0945	5.97	8.86	8.57	E 4,220.0	2.6140
1030	5.97	8.86	8.57	E 4,050.0	2.8869
1045	5.97	8.88	8.59	E 3,980.0	3.0209
1100	6.00	8.94	8.65	E 3,900.0	3.1523
1115	6.05	8.95	8.66	E 3,810.0	3.2807
1130	6.10	8.97	8.68	* 3,720.0	3.4060
1145	6.15	8.98	8.70	* 3,630.0	3.5283
1200	6.15	8.99	8.71	* 3,530.0	3.6472
1215	6.15	9.00	8.71	* 3,540.0	3.8261
1245	6.15	9.00	8.71	E 3,230.0	3.9893

Note: Discharge values for period from 0730 hours on Sept. 19 to 2400 hours on Sept. 22 are partially estimated. Values flagged with: "E" are determined by considering upstream hydrograph and typical hydrograph at site; "*" are determined from either actual discharge measurement or recorded peak mark at site.

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)		Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-22, 1983--Continued				
Sept. 19						
1300	6.15	9.01	8.72	E	3,100.0	4.3026
1415	6.15	9.01	8.72	E	2,490.0	4.7219
1530	6.15	9.01	8.72	E	1,930.0	5.0145
1630	6.15	9.01	8.72	E	1,550.0	5.2234
1730	6.15	9.01	8.72	E	1,250.0	5.3497
1800	6.15	9.01	8.72	E	1,100.0	5.4238
1830	6.15	9.01	8.72	E	1,030.0	5.5973
2030	6.15	9.01	8.72	E	838.0	5.9078
2400	6.15	9.01	8.72	E	600.0	6.1301
Sept. 20						
0000	6.15	9.01	8.72	E	600.0	6.1301
0200	6.15	9.01	8.72	E	511.0	6.2162
0230	6.17	9.26	8.95	E	500.0	6.2499
0300	6.50	9.97	9.62	E	700.0	6.2971
0330	6.50	10.09	9.73	E	1,100.0	6.3712
0400	6.50	10.10	9.74	E	1,150.0	6.4487
0430	6.87	10.32	9.97	E	1,200.0	6.5295
0500	6.87	10.32	9.97	E	1,250.0	6.6137
0530	6.87	10.33	9.98	E	1,210.0	6.6952
0600	6.87	10.33	9.98	E	1,170.0	6.8923
0800	6.87	10.33	9.98	*	930.0	7.1429
1000	6.87	10.33	9.98	E	730.0	7.2659
1030	6.87	10.34	9.99	E	700.0	7.3602
1200	6.87	10.34	9.99	E	610.0	7.5246
1430	6.87	10.34	9.99	E	493.0	7.6907
1700	6.87	10.34	9.99	E	414.0	7.7744
1730	7.27	10.61	10.28	E	400.0	7.8013
1800	7.47	10.72	10.39	E	450.0	7.8468
1900	7.47	10.72	10.39	E	520.0	7.8993
1930	7.47	10.73	10.40	E	505.0	7.9334
2000	7.47	10.74	10.41	E	490.0	8.0819
2400	7.47	10.74	10.41	E	360.0	8.3245
Sept. 21						
0000	7.47	10.74	10.41	E	360.0	8.3245
0600	7.47	10.75	10.42	E	240.0	8.5185
1200	7.47	10.75	10.42	*	180.0	8.6640
1800	7.47	10.75	10.42	E	140.0	8.7772
2400	7.47	10.75	10.42	E	110.0	8.9106

08074800 Keegans Bayou at Roark Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Accumulated weighted rainfall (inches)		Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-22, 1983--Continued				
Sept. 22						
0000	7.47	10.75	10.42	E	110.0	8.9106
1200	7.47	10.75	10.42	*	70.0	9.0238
2400	7.47	10.75	10.42	E	40.0	9.0561

Note--Discharge values for the period from 0730 hours on Sept. 19 to 2400 hours on Sept. 22 are partially estimated. Values flagged with "E" are determined by considering upstream hydrograph and typical hydrograph at site, values flagged with "*" are determined from either actual discharge measurement or recorded peak mark at site.

08074810 BRAYS BAYOU AT GESSNER DRIVE, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'21", long 95°31'41", Harris County, Hydrologic unit 12040104 on right bank on downstream side of bridge at Gessner Drive in southwest Houston.

DRAINAGE AREA.--53.2 mi^2. Prior to Jan. 1, 1978, 51.7 mi^2.

PERIOD OF RECORD.--Feb. 1, 1977 to current year.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gages is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 16,800 ft^3/s, Sept. 19, 1983 (elevation 65.33 ft); minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,000 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Mar. 23	1515	3,460	52.24
May 20	0515	4,010	53.09
June 17	1430	3,030	51.53
July 15	2115	5,990	55.71
Aug. 10	1700	5,660	55.31
Aug. 18	1245	9,320	59.28
Sept. 10	2200	3,160	51.75
Sept. 19	0915	*16,800	65.33

Minimum discharge not determined.

STORM RAINFALL AND RUNOFF

08074810 Brays Bayou at Gessner Drive, Houston, Tex.

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of Aug. 10-11, 1983				
Aug. 10								
0000	0.0	0.0	0.0	0.0	0.0	0.0	475.0	0.0761
1100	.0	.0	.0	.0	.0	.0	186.0	.1066
1115	.0	.0	.03	.0	.0	.00	184.0	.1079
1130	.0	.0	.06	.0	.0	.01	182.0	.1092
1145	.0	.0	.09	.0	.0	.01	178.0	.1105
1200	.0	.0	.14	.0	.0	.01	176.0	.1125
1230	.0	.0	.14	.0	.0	.01	172.0	.1143
1245	.0	.01	.14	.0	.0	.02	170.0	.1156
1300	.0	.01	.14	.0	.0	.02	167.0	.1168
1315	.0	.01	.14	.01	.0	.02	163.0	.1180
1330	.0	.01	.14	.04	.0	.03	163.0	.1192
1345	.0	.01	.17	.07	.0	.04	159.0	.1203
1400	.0	.01	.20	.10	.0	.05	157.0	.1215
1415	.0	.01	.58	.40	.07	.18	157.0	.1226
1430	.0	.01	.97	.73	.20	.33	157.0	.1237
1445	.0	.01	1.36	1.06	.75	.49	170.0	.1250
1500	.0	.15	1.75	1.39	1.75	.72	239.0	.1267
1515	.28	.35	1.75	1.39	1.85	.86	457.0	.1301
1530	.40	1.11	1.75	1.39	1.87	1.08	859.0	.1363
1545	1.18	1.25	1.78	1.41	1.92	1.36	1,700.0	.1487
1600	2.38	1.28	1.81	1.44	1.92	1.74	2,780.0	.1689
1615	3.08	1.29	1.81	1.44	1.92	1.96	3,800.0	.1966
1630	3.34	1.30	1.81	1.44	1.92	2.04	4,440.0	.2289
1645	3.35	1.30	1.81	1.44	1.92	2.04	4,880.0	.2645
1700	3.36	1.30	1.81	1.44	1.92	2.04	5,660.0	.3057
1715	3.36	1.30	1.81	1.44	1.92	2.04	5,640.0	.3468
1730	3.36	1.31	1.81	1.44	1.92	2.04	5,530.0	.3870
1745	3.36	1.31	1.81	1.44	1.92	2.04	5,290.0	.4255
1800	3.36	1.31	1.83	1.46	1.92	2.05	5,070.0	.4994
1845	3.36	1.31	1.83	1.46	1.92	2.05	4,090.0	.5589
1900	3.36	1.31	1.83	1.47	1.92	2.06	3,790.0	.6141
1945	3.36	1.31	1.83	1.47	1.92	2.06	2,940.0	.6784
2030	3.36	1.31	1.83	1.47	1.92	2.06	2,320.0	.7291
2115	3.36	1.31	1.83	1.47	1.92	2.06	1,880.0	.7633
2145	3.36	1.31	1.83	1.47	1.92	2.06	1,650.0	.7813
2200	3.36	1.31	1.84	1.47	1.92	2.06	1,550.0	.8152
2315	3.36	1.31	1.84	1.47	1.92	2.06	1,220.0	.8507
2400	3.36	1.31	1.84	1.47	1.92	2.06	1,080.0	.8861
AUG.11								
0000	3.36	1.31	1.84	1.47	1.92	2.06	1,080.0	.8861

08074810 Brays Bayou at Gessner Drive, Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 10-11, 1983--Continued					
Aug. 11								
0130	3.36	1.31	1.84	1.47	1.92	2.06	852.0	0.9295
0330	3.36	1.31	1.84	1.47	1.92	2.06	681.0	.9741
0600	3.36	1.31	1.84	1.47	1.92	2.06	535.0	1.0209
0930	3.36	1.31	1.84	1.47	1.92	2.06	407.0	1.0446
1000	3.36	1.32	1.84	1.47	1.92	2.06	392.0	1.0532
1100	3.36	1.32	1.84	1.47	1.92	2.06	370.0	1.0613
1130	3.36	1.32	2.14	1.47	1.92	2.09	360.0	1.0665
1200	3.36	1.32	2.47	1.50	2.72	2.17	358.0	1.0717
1230	3.61	1.32	3.19	1.63	2.72	2.36	462.0	1.0784
1300	3.62	1.35	3.91	1.81	2.72	2.49	442.0	1.0849
1330	3.99	1.51	3.95	1.86	2.72	2.66	890.0	1.0978
1400	4.16	1.54	4.01	1.92	2.72	2.75	1,820.0	1.1243
1430	4.19	1.61	4.01	1.92	2.72	2.77	2,210.0	1.1565
1500	4.22	1.63	4.05	1.96	2.72	2.80	2,260.0	1.1894
1530	4.22	1.65	4.05	1.96	2.72	2.81	2,140.0	1.2206
1600	4.29	1.66	4.07	1.97	2.72	2.84	1,980.0	1.2494
1630	4.29	1.66	4.07	1.97	2.72	2.84	1,800.0	1.2757
1700	4.29	1.66	4.07	1.98	2.72	2.84	1,630.0	1.2994
1730	4.29	1.66	4.07	1.98	2.72	2.84	1,480.0	1.3209
1800	4.29	1.66	4.09	1.99	2.72	2.84	1,360.0	1.3705
2000	4.29	1.66	4.09	1.99	2.72	2.84	1,080.0	1.4098
2030	4.29	1.66	4.09	1.99	2.72	2.84	1,040.0	1.4249
2100	4.29	1.66	4.10	1.99	2.72	2.84	989.0	1.4681
2330	4.29	1.66	4.10	1.99	2.72	2.84	807.0	1.5034
2400	4.29	1.66	4.10	1.99	2.72	2.84	771.0	1.5090

08074810 Brays Bayou at Gessner Drive, Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of Aug. 18-21, 1983					
Aug. 18									
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.0	0.0002
0015	.0	.0	.0	.0	.02	.02	.01	53.0	.0006
0030	.0	.0	.0	.0	.05	.04	.01	53.0	.0010
0045	.0	.0	.0	.0	.08	.06	.02	53.0	.0014
0100	.0	.0	.0	.02	.11	.08	.03	53.0	.0017
0115	.0	.0	.0	.04	.12	.10	.04	53.0	.0021
0130	.0	.02	.01	.07	.15	.18	.06	53.0	.0025
0145	.0	.06	.03	.10	.18	.21	.08	55.0	.0029
0200	.0	.09	.04	.13	.21	.25	.10	59.0	.0033
0215	.02	.14	.08	.16	.24	.34	.14	66.0	.0038
0230	.13	.19	.10	.19	.27	.41	.19	72.0	.0043
0245	.14	.26	.16	.22	.33	.51	.24	94.0	.0050
0300	.15	.31	.20	.26	.39	.56	.28	119.0	.0059
0315	.17	.34	.24	.30	.45	.59	.32	157.0	.0070
0330	.25	.37	.27	.36	.54	.64	.38	199.0	.0085
0345	.30	.38	.28	.42	.63	.67	.42	249.0	.0103
0400	.31	.41	.29	.48	.72	.75	.47	301.0	.0125
0415	.32	.54	.36	.60	.75	.95	.54	365.0	.0151
0430	.33	.67	.45	.72	.78	1.15	.61	470.0	.0186
0445	.40	.81	.56	.84	.82	1.25	.71	590.0	.0229
0500	.50	.91	.69	.97	.88	1.40	.81	762.0	.0284
0515	.55	1.02	.76	1.03	.91	1.50	.87	970.0	.0355
0530	.58	1.18	.92	1.09	.94	1.55	.96	1,260.0	.0447
0545	.75	1.24	1.03	1.15	.97	1.60	1.04	1,570.0	.0561
0600	.87	1.29	1.11	1.22	1.00	1.61	1.11	1,840.0	.0695
0615	.92	1.30	1.16	1.30	1.03	1.61	1.14	2,080.0	.0846
0630	.93	1.30	1.17	1.39	1.06	1.63	1.17	2,210.0	.1007
0645	.96	1.35	1.25	1.48	1.09	1.75	1.22	2,330.0	.1177
0700	.96	1.42	1.31	1.57	1.14	1.81	1.27	2,430.0	.1354
0715	.99	1.49	1.36	1.61	1.22	1.89	1.33	2,530.0	.1538
0730	1.05	1.58	1.46	1.67	1.31	1.95	1.41	2,670.0	.1733
0745	1.13	1.64	1.54	1.73	1.40	1.97	1.48	2,780.0	.1935
0800	1.14	1.70	1.63	1.79	1.49	1.98	1.54	2,920.0	.2148
0815	1.17	1.72	1.66	1.88	1.52	2.00	1.58	3,020.0	.2368
0830	1.20	1.77	1.72	1.97	1.55	2.05	1.62	3,090.0	.2593
0845	1.22	1.82	1.74	2.09	1.60	2.10	1.67	3,120.0	.2820
0900	1.25	1.86	1.79	2.21	1.66	2.12	1.72	3,120.0	.3047
0915	1.27	1.96	1.94	2.27	1.75	2.15	1.81	3,090.0	.3272
0930	1.28	2.08	2.10	2.36	1.86	2.17	1.90	3,140.0	.3501

08074810 Brays Bayou at Gessner Drive, Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of Aug. 18-21, 1983--Continued					
Aug. 18									
0945	1.35	2.17	2.22	2.45	1.98	2.33	2.00	3,340.0	0.3744
1000	1.40	2.21	2.33	2.54	2.10	2.55	2.09	3,570.0	.4004
1015	1.44	2.23	2.38	2.63	2.18	2.83	2.16	3,930.0	.4290
1030	1.47	2.39	2.41	2.72	2.27	3.09	2.25	4,280.0	.4602
1045	1.52	2.65	2.49	2.82	2.36	3.41	2.37	4,820.0	.4953
1100	1.70	2.97	2.65	2.94	2.45	3.70	2.56	5,510.0	.5354
1115	1.95	3.22	2.77	3.00	2.47	3.90	2.70	6,360.0	.5817
1130	2.17	3.41	2.89	3.06	2.50	4.05	2.83	7,250.0	.6345
1145	2.35	3.55	3.03	3.12	2.53	4.20	2.94	7,970.0	.6925
1200	2.55	3.65	3.12	3.21	2.56	4.25	3.04	8,590.0	.7551
1215	2.60	3.70	3.20	3.24	2.56	4.34	3.08	8,980.0	.8205
1230	2.65	3.74	3.24	3.27	2.56	4.37	3.11	9,220.0	.8876
1245	2.75	3.79	3.28	3.30	2.57	4.41	3.16	9,320.0	.9555
1300	2.78	3.81	3.31	3.34	2.60	4.45	3.19	9,280.0	1.0230
1315	2.80	3.82	3.34	3.37	2.60	4.45	3.20	9,140.0	1.0896
1330	2.81	3.83	3.35	3.40	2.60	4.45	3.21	9,020.0	1.1553
1345	2.85	3.83	3.36	3.43	2.63	4.45	3.23	8,790.0	1.2193
1400	2.85	3.84	3.37	3.46	2.66	4.45	3.25	8,510.0	1.2813
1415	2.85	3.84	3.38	3.46	2.66	4.45	3.25	8,170.0	1.3408
1430	2.85	3.84	3.38	3.46	2.66	4.45	3.25	7,840.0	1.3978
1445	2.85	3.84	3.38	3.46	2.66	4.47	3.25	7,490.0	1.4524
1500	2.85	4.12	3.50	3.48	2.67	4.55	3.34	7,130.0	1.5043
1515	2.85	4.14	3.51	3.48	2.67	4.60	3.35	6,920.0	1.5547
1530	2.95	4.14	3.51	3.48	2.67	4.60	3.37	6,790.0	1.6041
1545	3.15	4.14	3.51	3.48	2.70	4.60	3.41	6,640.0	1.6525
1600	3.15	4.14	3.51	3.49	2.73	4.62	3.42	6,480.0	1.6997
1615	3.17	4.14	3.51	3.49	2.76	4.64	3.43	6,230.0	1.7450
1630	3.20	4.14	3.52	3.49	2.79	4.67	3.45	5,950.0	1.7884
1645	3.20	4.14	3.52	3.51	2.82	4.68	3.46	5,680.0	1.8297
1700	3.20	4.14	3.52	3.54	2.86	4.69	3.48	5,400.0	1.8691
1715	3.20	4.14	3.52	3.54	2.86	4.69	3.48	5,110.0	1.9063
1730	3.20	4.14	3.53	3.56	2.86	4.73	3.48	4,830.0	1.9414
1745	3.20	4.14	3.58	3.59	2.86	4.73	3.49	4,580.0	1.9748
1800	3.20	4.14	3.60	3.62	2.89	4.73	3.51	4,350.0	2.0065
1815	3.20	4.14	3.60	3.77	2.89	4.73	3.52	4,140.0	2.0366
1830	3.20	4.14	3.60	3.92	2.92	4.73	3.55	3,920.0	2.0651
1845	3.20	4.14	3.60	4.08	2.95	4.73	3.57	3,750.0	2.0925
1900	3.20	4.14	3.60	4.26	2.98	4.73	3.60	3,590.0	2.1186
1915	3.20	4.14	3.60	4.54	2.98	4.81	3.63	3,480.0	2.1439

08074810 Brays Bayou at Gessner Drive, Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of Aug. 18-21, 1983--Continued					
Aug. 18									
1930	3.20	4.23	3.60	4.84	2.98	4.83	3.68	3,410.0	2.1688
1945	3.20	4.73	3.62	5.14	2.99	4.83	3.81	3,390.0	2.1935
2000	3.20	4.86	3.79	5.44	3.02	4.83	3.91	3,390.0	2.2181
2015	3.37	4.86	3.80	5.48	3.02	4.83	3.95	3,600.0	2.2444
2030	3.45	4.86	3.80	5.54	3.02	4.83	3.97	3,910.0	2.2728
2045	3.45	4.86	3.80	5.60	3.02	4.83	3.98	4,120.0	2.3028
2100	3.45	4.86	3.80	5.66	3.02	4.83	3.98	4,320.0	2.3343
2115	3.45	4.86	3.85	5.66	3.02	4.83	3.99	4,360.0	2.3660
2130	3.45	4.86	3.86	5.66	3.02	4.83	4.00	4,350.0	2.3977
2145	3.45	4.86	3.86	5.66	3.02	4.83	4.00	4,370.0	2.5568
2400	3.45	4.86	3.86	5.66	3.02	4.83	4.00	3,570.0	2.7778
Aug. 19									
0000	3.45	4.86	3.86	5.66	3.02	4.83	4.00	3,570.0	2.7778
0200	3.45	4.86	3.86	5.66	3.02	4.83	4.00	2,740.0	2.9174
0330	3.45	4.86	3.86	5.66	3.02	4.83	4.00	2,210.0	3.0140
0500	3.45	4.86	3.86	5.66	3.02	4.83	4.00	1,840.0	3.0676
0530	3.45	4.86	3.86	5.75	3.02	4.83	4.01	1,720.0	3.0927
0600	3.45	4.86	3.86	5.87	3.02	4.83	4.02	1,630.0	3.1520
0800	3.45	4.86	3.86	5.87	3.02	4.83	4.02	1,320.0	3.2385
1030	3.45	4.86	3.86	5.87	3.02	4.83	4.02	1,060.0	3.3003
1200	3.45	4.86	3.86	5.87	3.02	4.83	4.02	953.0	3.3488
1400	3.45	4.86	3.86	5.87	3.02	4.83	4.02	822.0	3.3788
1430	3.45	4.86	3.95	5.87	3.02	4.83	4.04	795.0	3.4019
1600	3.45	4.86	3.95	5.87	3.02	4.83	4.04	724.0	3.4230
1630	3.45	4.86	3.96	5.87	3.02	4.83	4.04	703.0	3.4332
1700	3.45	4.87	3.96	5.87	3.02	4.83	4.04	798.0	3.4449
1730	3.45	4.87	3.96	5.87	3.02	4.83	4.04	1,110.0	3.4610
1800	3.45	4.87	3.96	5.87	3.02	4.83	4.04	1,120.0	3.5671
2400	3.45	4.87	3.96	5.87	3.02	4.83	4.04	465.0	3.6483
Aug. 20									
0000	3.45	4.87	3.96	5.87	3.02	4.83	4.04	465.0	3.6483
0600	3.45	4.87	3.96	5.87	3.02	4.83	4.04	315.0	3.7034
1200	3.45	4.87	3.96	5.87	3.02	4.83	4.04	233.0	3.7441
1800	3.45	4.87	3.96	5.87	3.02	4.83	4.04	182.0	3.7759
2400	3.45	4.87	3.96	5.87	3.02	4.83	4.04	139.0	3.8002
Aug. 21									
0000	3.45	4.87	3.96	5.87	3.02	4.83	4.04	139.0	3.8002
0600	3.45	4.87	3.96	5.87	3.02	4.83	4.04	105.0	3.8185
1200	3.45	4.87	3.96	5.87	3.02	4.83	4.04	83.0	3.8330
1800	3.45	4.87	3.96	5.87	3.02	4.83	4.04	78.0	3.8467
2400	3.45	4.87	3.96	5.87	3.02	4.83	4.04	70.0	3.8528

08074810 Brays Bayou at Gessner Drive, Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of Sept. 19-24, 1983				
Sept. 19								
0000	0.0	0.0	0.0	0.0	0.0	0.0	182.0	0.0033
0115	.0	.0	.0	.0	.0	.0	157.0	.0067
0130	.0	.0	.0	.03	.0	.01	156.0	.0079
0145	.0	.0	.0	.06	.0	.02	148.0	.0090
0200	.0	.0	.0	.09	.0	.04	144.0	.0100
0215	.0	.0	.18	.24	.0	.11	141.0	.0110
0230	.0	.0	.36	.39	.01	.19	137.0	.0120
0245	.0	.0	.54	.54	.02	.27	132.0	.0130
0300	.05	.20	.73	.72	.24	.43	127.0	.0139
0315	.18	.44	.97	.96	.30	.63	127.0	.0148
0330	.23	.46	1.24	1.21	.33	.77	132.0	.0158
0345	.30	.49	1.51	1.48	.37	.93	144.0	.0169
0400	.31	.69	1.78	1.75	.47	1.12	161.0	.0180
0415	.35	.84	1.78	2.11	.59	1.31	210.0	.0196
0430	.45	1.22	1.78	2.47	.87	1.57	275.0	.0216
0445	1.10	2.42	1.78	2.85	1.32	2.14	485.0	.0251
0500	1.75	2.72	1.78	3.24	1.60	2.54	902.0	.0317
0515	1.95	3.15	2.11	3.60	1.97	2.87	1,460.0	.0423
0530	2.75	4.10	2.44	3.96	2.13	3.44	2,440.0	.0601
0545	3.10	5.10	2.77	4.35	2.30	3.93	4,060.0	.0896
0600	3.35	6.16	3.10	4.74	2.55	4.40	5,740.0	.1314
0615	4.00	7.04	3.13	4.74	3.15	4.77	7,520.0	.1862
0630	4.05	7.10	3.16	4.74	3.45	4.82	9,400.0	.2546
0645	4.35	7.44	3.19	4.74	4.07	4.99	11,000.0	.3347
0700	4.75	7.63	3.25	4.74	4.23	5.15	12,400.0	.4250
0715	4.85	7.74	3.28	4.74	4.45	5.21	13,400.0	.5226
0730	5.00	8.00	3.31	4.74	4.80	5.32	14,600.0	.6289
0745	5.35	8.24	3.34	4.74	5.10	5.47	15,800.0	.7440
0800	5.60	8.62	3.40	4.74	5.13	5.62	16,200.0	.8619
0815	5.65	8.67	3.40	4.74	5.20	5.64	16,300.0	.9806
0830	5.70	8.72	3.40	4.74	5.35	5.67	16,500.0	1.1008
0845	5.75	8.79	3.42	4.74	5.37	5.70	16,500.0	1.2209
0900	5.85	8.84	3.45	4.74	5.43	5.74	16,700.0	1.3425
0915	5.90	8.85	3.45	4.74	5.50	5.76	16,800.0	1.4649
0930	5.97	8.85	3.45	4.74	5.53	5.78	16,700.0	1.5865
0945	5.97	8.86	3.47	4.74	5.57	5.79	16,800.0	1.7088
1000	5.97	8.86	3.50	4.74	5.57	5.79	16,600.0	1.8297
1015	5.97	8.86	3.50	4.74	5.57	5.79	16,800.0	1.9520
1030	5.97	8.86	3.53	4.74	5.57	5.79	16,600.0	2.0729

08074810 Brays Bayou at Gessner Drive, Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Sept. 19-24, 1983--Continued					
Sept. 19								
1045	5.97	8.88	3.56	4.74	5.63	5.80	16,500.0	2.1931
1100	6.00	8.94	3.59	4.74	5.64	5.82	16,400.0	2.3125
1115	6.05	8.95	3.59	4.74	5.65	5.84	16,300.0	2.4312
1130	6.10	8.97	3.59	4.74	5.66	5.86	16,100.0	2.5484
1145	6.15	8.98	3.59	4.74	5.66	5.87	15,900.0	2.6642
1200	6.15	8.99	3.60	4.74	5.66	5.87	15,600.0	2.7778
1215	6.15	9.00	3.60	5.16	5.66	6.04	15,200.0	2.8885
1230	6.15	9.00	3.60	5.59	5.66	6.22	14,900.0	2.9970
1245	6.15	9.00	3.60	6.04	5.66	6.40	14,400.0	3.1018
1300	6.15	9.01	3.60	6.49	5.66	6.58	14,000.0	3.4077
1415	6.15	9.01	3.60	6.49	5.66	6.58	11,300.0	3.6957
1445	6.15	9.01	3.60	6.49	5.66	6.58	10,100.0	3.8060
1500	6.15	9.01	3.60	6.50	5.66	6.58	9,580.0	3.9455
1545	6.15	9.01	3.60	6.50	5.66	6.58	7,940.0	4.0611
1600	6.15	9.01	3.60	6.51	5.66	6.59	7,410.0	4.1691
1645	6.15	9.01	3.60	6.51	5.66	6.59	6,050.0	4.2572
1700	6.15	9.01	3.60	6.52	5.66	6.59	5,630.0	4.3392
1745	6.15	9.01	3.60	6.52	5.66	6.59	4,480.0	4.4044
1800	6.15	9.01	3.60	6.52	5.66	6.59	4,100.0	4.4641
1845	6.15	9.01	3.60	6.52	5.66	6.59	3,320.0	4.5487
1945	6.15	9.01	3.60	6.52	5.66	6.59	2,650.0	4.5970
2000	6.15	9.01	3.60	6.53	5.66	6.59	2,500.0	4.6607
2130	6.15	9.01	3.60	6.53	5.66	6.59	1,980.0	4.7760
2400	6.15	9.01	3.60	6.53	5.66	6.59	1,510.0	4.8420
Sept. 20								
0000	6.15	9.01	3.60	6.53	5.66	6.59	1,510.0	4.8420
0030	6.15	9.01	3.64	6.58	5.66	6.62	1,430.0	4.8628
0100	6.15	9.01	3.70	6.64	5.66	6.65	1,360.0	4.8826
0130	6.15	9.01	3.82	6.94	5.66	6.78	1,300.0	4.9016
0200	6.15	9.01	4.00	7.27	5.66	6.93	1,210.0	4.9192
0230	6.17	9.26	4.00	7.51	5.71	7.08	1,180.0	4.9364
0300	6.50	9.97	4.05	7.78	5.71	7.42	1,190.0	4.9537
0330	6.50	10.09	4.08	7.80	5.71	7.46	1,290.0	4.9725
0400	6.50	10.10	4.14	7.86	5.72	7.49	1,530.0	4.9948
0430	6.87	10.32	4.14	7.86	5.83	7.63	2,030.0	5.0244
0500	6.87	10.32	4.14	7.86	5.83	7.63	2,700.0	5.0637
0530	6.87	10.33	4.14	7.86	5.83	7.63	3,080.0	5.1085
0600	6.87	10.33	4.14	7.86	5.83	7.63	3,210.0	5.2488
0830	6.87	10.33	4.14	7.86	5.83	7.63	2,490.0	5.3938
1000	6.87	10.33	4.14	7.86	5.83	7.63	2,060.0	5.4538

08074810 Brays Bayou at Gessner Drive, Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Sept. 19-24, 1983--Continued					
Sept. 20								
1030	6.87	10.34	4.14	7.86	5.83	7.63	1,930.0	5.5100
1200	6.87	10.34	4.14	7.86	5.83	7.63	1,620.0	5.6162
1500	6.87	10.34	4.14	7.86	5.83	7.63	1,200.0	5.6774
1530	6.87	10.34	4.29	8.34	5.83	7.84	1,130.0	5.6938
1600	6.87	10.34	4.47	8.83	5.83	8.06	1,080.0	5.7096
1630	6.87	10.34	4.59	8.98	5.83	8.13	1,040.0	5.7247
1700	6.87	10.34	4.72	9.16	5.83	8.21	983.0	5.7390
1730	7.27	10.61	4.72	9.16	5.83	8.37	953.0	5.7529
1800	7.47	10.72	4.72	9.18	5.83	8.45	1,110.0	5.7691
1830	7.47	10.72	4.72	9.18	5.83	8.45	1,480.0	5.7906
1900	7.47	10.72	4.72	9.20	5.83	8.45	1,870.0	5.8179
1930	7.47	10.73	4.72	9.20	5.83	8.46	2,110.0	5.8486
2000	7.47	10.74	4.72	9.20	5.83	8.46	2,120.0	5.8795
2030	7.47	10.74	4.72	9.20	5.83	8.46	2,060.0	5.9095
2100	7.47	10.74	4.72	9.21	5.83	8.46	1,990.0	6.0109
2400	7.47	10.74	4.72	9.21	5.83	8.46	1,380.0	6.1516
Sept. 21								
0000	7.47	10.74	4.72	9.21	5.83	8.46	1,380.0	6.1516
0400	7.47	10.74	4.72	9.21	5.83	8.46	886.0	6.2161
0500	7.47	10.75	4.72	9.21	5.83	8.46	810.0	6.2397
0600	7.47	10.75	4.72	9.21	5.83	8.46	753.0	6.3165
1200	7.47	10.75	4.72	9.21	5.83	8.46	495.0	6.4030
1800	7.47	10.75	4.72	9.21	5.83	8.46	350.0	6.4641
2400	7.47	10.75	4.72	9.21	5.83	8.46	260.0	6.5058
Sept. 22								
0000	7.47	10.75	4.72	9.21	5.83	8.46	260.0	6.5058
0500	7.47	10.75	4.72	9.21	5.83	8.46	184.0	6.5219
0600	7.47	10.75	4.72	9.21	5.83	8.46	184.0	6.5406
1200	7.47	10.75	4.72	9.21	5.83	8.46	157.0	6.5681
1800	7.47	10.75	4.72	9.21	5.83	8.46	132.0	6.5911
2400	7.47	10.75	4.72	9.21	5.83	8.46	106.0	6.6097
Sept. 23								
0000	7.47	10.75	4.72	9.21	5.83	8.46	106.0	6.6097
0600	7.47	10.75	4.72	9.21	5.83	8.46	89.0	6.6252
1200	7.47	10.75	4.72	9.21	5.83	8.46	81.0	6.6394
1800	7.47	10.75	4.72	9.21	5.83	8.46	73.0	6.6521
2400	7.47	10.75	4.72	9.21	5.83	8.46	67.0	6.6638
Sept. 24								
0000	7.47	10.75	4.72	9.21	5.83	8.46	67.0	6.6638
0600	7.47	10.75	4.72	9.21	5.83	8.46	60.0	6.6743
1200	7.47	10.75	4.72	9.21	5.83	8.46	55.0	6.6839
1800	7.47	10.75	4.72	9.21	5.83	8.46	60.0	6.6944
2400	7.47	10.75	4.72	9.21	5.83	8.46	56.0	6.6993

HUMMINGBIRD STREET DITCH DRAINAGE BASIN

The location of data-collection sites in the Hummingbird Street Ditch drainage basin are shown in figure 13.

Weighted-mean rainfall for the 1983 water year was not determined.

The storms of Feb. 9, Aug. 10-13, and Aug. 18-20 were selected for analysis at station 08074910, Hummingbird Street Ditch at Houston, Tex.

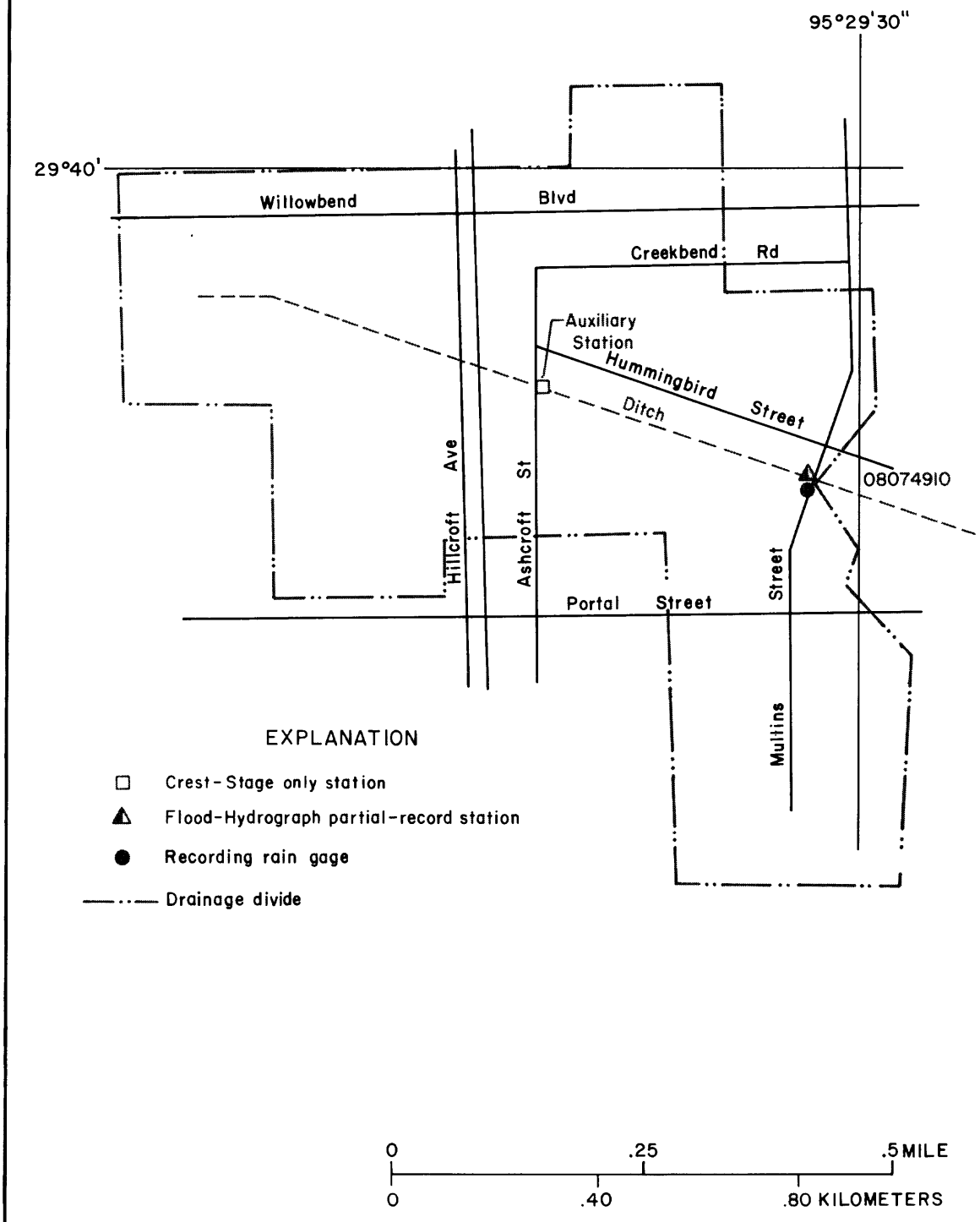

Figure 13 .-Locations of data-collection sites in and near the Hummingbird Street Ditch drainage basin

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 12.--Storm rainfall-runoff data, 1983 Water Year, Hummingbird Street Ditch

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Hummingbird Street Ditch at Houston, TX (Drainage Area -- 0.32 mi^2)								
Feb. 9, 1983	2.4	1.25	0.46	0.62	0.81	0.68	0.54	79
Aug. 10-11, 1983	0.8	3.36	1.20	1.98	2.94	1.88	0.35	11
Aug. 11-12, 1983	1.7	0.93	0.37	0.54	0.56			102
Aug. 12-13, 1983	1.7	1.00	0.62	0.64	0.66			61
Aug. 18, 1983	2.8	1.41	0.21	0.41	0.71	4.84	0.61	55
Aug. 18-19, 1983	7.3	4.47	0.48	0.82	1.47			131
Aug. 19-20, 1983	14.5	2.02	0.65	1.23	1.68			113

08074910 HUMMINGBIRD STREET DITCH AT HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'44", long 95°29'11", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at intersection of Hummingbird Street Ditch and Mullins Street in southwest Houston.

DRAINAGE AREA.--0.32 mi^2.

PERIOD OF RECORD.--Nov. 3, 1978 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1924, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor. Heavy vegetal growth makes a stage-discharge relationship difficult to define.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 227 ft^3/s, May 3, 1981, (gage-height, 59.46 ft); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 75 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Feb. 9	1415	79	56.75
May 10	1015	85	57.49
Aug. 11	1335	102	58.27
Aug. 18	1120	132	58.85
Aug. 19	1655	113	58.43
Sept. 19	unknown	*172	59.41

No flow for many days.

STORM RAINFALL AND RUNOFF

08074910 Hummingbird Street ditch at Houston, Tex.

Date and time	Rainfall at gage 4910 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Feb. 9, 1983		
Feb. 9				
0000	0.0	0.0	0.1	0.0015
0600	.0	.0	.1	.0042
1115	.0	.0	.1	.0055
1130	.13	.13	.1	.0056
1145	.15	.15	.1	.0058
1200	.16	.16	1.1	.0071
1215	.17	.17	1.3	.0087
1230	.19	.19	1.3	.0102
1245	.31	.31	1.3	.0118
1300	.32	.32	4.1	.0151
1305	.34	.34	4.4	.0169
1310	.36	.36	4.8	.0188
1315	.38	.38	4.9	.0208
1320	.43	.43	5.0	.0228
1325	.48	.48	5.0	.0248
1330	.54	.54	5.1	.0269
1335	.69	.69	5.9	.0293
1340	.84	.84	6.6	.0319
1345	1.00	1.00	15.0	.0380
1350	1.04	1.04	36.0	.0525
1355	1.08	1.08	55.0	.0747
1400	1.13	1.13	69.0	.1026
1405	1.14	1.14	76.0	.1332
1410	1.16	1.16	78.0	.1647
1415	1.18	1.18	79.0	.1966
1420	1.18	1.18	78.0	.2281
1425	1.19	1.19	75.0	.2583
1430	1.20	1.20	72.0	.3019
1440	1.20	1.20	63.0	.3400
1445	1.21	1.21	59.0	.3758
1455	1.21	1.21	51.0	.4066
1500	1.22	1.22	47.0	.4446
1515	1.24	1.24	37.0	.4894
1530	1.24	1.24	29.0	.5245
1545	1.24	1.24	21.0	.5668
1620	1.24	1.24	9.9	.6208
1800	1.25	1.25	2.7	.6709
2400	1.25	1.25	.5	.6781

08074910 Hummingbird Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 10-13, 1983		
Aug. 10				
0000	0.0	0.0	0.1	0.0036
1500	.0	.0	.1	.0073
1515	.28	.28	.1	.0074
1530	.40	.40	.2	.0077
1545	1.18	1.18	.5	.0083
1600	2.38	2.38	2.3	.0111
1615	3.08	3.08	6.5	.0189
1630	3.34	3.34	9.8	.0308
1645	3.35	3.35	11.0	.0441
1700	3.36	3.36	10.0	.0683
1745	3.36	3.36	7.1	.0855
1800	3.36	3.36	6.3	.1046
1900	3.36	3.36	3.6	.1220
2000	3.36	3.36	2.2	.1327
2100	3.36	3.36	1.3	.1453
2400	3.36	3.36	0.3	.1518
Aug. 11				
0000	3.36	3.36	.3	.1518
0600	3.36	3.36	.0	.1518
1200	3.36	3.36	1.4	.1724
1205	3.42	3.42	10.0	.1765
1210	3.49	3.49	18.0	.1837
1215	3.56	3.56	32.0	.1966
1220	3.57	3.57	43.0	.2140
1225	3.59	3.59	45.0	.2322
1230	3.61	3.61	44.0	.2588
1240	3.61	3.61	40.0	.2830
1245	3.62	3.62	38.0	.3060
1255	3.62	3.62	33.0	.3326
1305	3.62	3.62	39.0	.3641
1315	3.62	3.62	63.0	.4022
1320	3.74	3.74	83.0	.4357
1325	3.86	3.86	95.0	.4741
1330	3.99	3.99	102.0	.5152
1335	4.04	4.04	102.0	.5564
1340	4.10	4.10	99.0	.5963
1345	4.16	4.16	94.0	.6912
1405	4.16	4.16	74.0	.7658
1410	4.17	4.17	69.0	.7937
1415	4.18	4.18	65.0	.8461

08074910 Hummingbird Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 4800 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Aug. 10-13, 1983--Continued			
Aug. 11				
1430	4.19	4.19	51.0	0.9387
1500	4.22	4.22	33.0	1.0187
1530	4.22	4.22	23.0	1.0604
1545	4.28	4.28	18.0	1.0822
1600	4.29	4.29	15.0	1.1004
1615	4.29	4.29	12.0	1.1585
1800	4.29	4.29	3.5	1.2242
2400	4.29	4.29	.2	1.2300
Aug. 12				
0000	4.29	4.29	.2	1.2300
0600	4.29	4.29	.1	1.2329
1200	4.36	4.36	.2	1.2364
1315	4.36	4.36	3.7	1.2483
1320	4.40	4.40	5.3	1.2505
1325	4.44	4.44	6.6	1.2531
1330	4.49	4.49	7.5	1.2561
1335	4.50	4.50	8.1	1.2594
1340	4.52	4.52	8.6	1.2629
1345	4.54	4.54	14.0	1.2685
1350	4.54	4.54	29.0	1.2802
1355	4.54	4.54	39.0	1.2960
1400	4.55	4.55	41.0	1.3208
1410	4.55	4.55	39.0	1.3444
1415	4.56	4.56	41.0	1.3609
1420	4.56	4.56	51.0	1.3815
1425	4.57	4.57	58.0	1.4049
1430	4.58	4.58	61.0	1.4542
1445	5.20	5.20	56.0	1.5220
1500	5.21	5.21	47.0	1.5789
1515	5.21	5.21	38.0	1.6249
1530	5.22	5.22	31.0	1.6624
1545	5.22	5.22	25.0	1.6926
1600	5.24	5.24	19.0	1.7156
1615	5.29	5.29	16.0	1.7350
1630	5.29	5.29	13.0	1.7901
1800	5.29	5.29	4.3	1.8682
2400	5.29	5.29	.2	1.8769
Aug. 13				
0000	5.29	5.29	.2	1.8769
1200	5.29	5.29	.0	1.8769
2400	5.29	5.29	.0	1.8769

08074910 Hummingbird Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Aug. 18-20, 1983			
Aug. 18				
0000	0.0	0.0	0.0	0.0
0115	.01	.01	.0	.0
0130	.03	.03	.0	.0
0145	.06	.06	.1	.0001
0200	.08	.08	.2	.0005
0230	.14	.14	.8	.0024
0300	.23	.23	2.2	.0064
0315	.31	.31	2.9	.0099
0330	.39	.39	3.8	.0145
0345	.48	.48	4.3	.0197
0400	.54	.54	6.5	.0250
0405	.55	.55	8.2	.0283
0410	.57	.57	11.0	.0327
0415	.59	.59	15.0	.0388
0420	.60	.60	19.0	.0464
0425	.61	.61	25.0	.0565
0430	.62	.62	30.0	.0686
0435	.63	.63	33.0	.0820
0440	.64	.64	37.0	.0969
0445	.66	.66	43.0	.1142
0450	.70	.70	47.0	.1332
0455	.74	.74	49.0	.1530
0500	.78	.78	50.0	.1732
0505	.85	.85	52.0	.1941
0510	.92	.92	54.0	.2159
0515	.99	.99	55.0	.2381
0520	1.05	1.05	55.0	.2603
0525	1.12	1.12	54.0	.2821
0530	1.19	1.19	52.0	.3136
0540	1.31	1.31	48.0	.3523
0550	1.41	1.41	44.0	.3878
0600	1.49	1.49	39.0	.4193
0610	1.59	1.59	34.0	.4468
0620	1.66	1.66	31.0	.4718
0630	1.70	1.70	29.0	.4952
0640	1.72	1.72	30.0	.5194
0650	1.74	1.74	34.0	.5468
0700	1.76	1.76	37.0	.5842
0715	1.79	1.79	38.0	.6302

08074910 Hummingbird Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Aug. 18-20, 1983--Continued			
Aug. 18				
0730	1.88	1.88	38.0	0.6762
0745	2.00	2.00	36.0	.7197
0800	2.08	2.08	32.0	.7585
0815	2.15	2.15	28.0	.7924
0830	2.20	2.20	24.0	.8214
0845	2.24	2.24	20.0	.8457
0900	2.26	2.26	17.0	.8662
0915	2.30	2.30	15.0	.8935
0945	2.32	2.32	25.0	.9288
0950	2.32	2.32	30.0	.9409
0955	2.33	2.33	35.0	.9550
0955	2.33	2.33	35.0	.9550
1000	2.34	2.34	46.0	.9736
1005	2.36	2.36	60.0	.9978
1010	2.39	2.39	74.0	1.0276
1015	2.42	2.42	85.0	1.0619
1020	2.45	2.45	94.0	1.0999
1025	2.49	2.49	100.0	1.1402
1030	2.53	2.53	106.0	1.1830
1035	2.57	2.57	111.0	1.2278
1040	2.61	2.61	114.0	1.2738
1045	2.65	2.65	117.0	1.3210
1050	2.76	2.76	120.0	1.3694
1055	2.87	2.87	121.0	1.4183
1100	2.98	2.98	125.0	1.4687
1105	3.14	3.14	127.0	1.5200
1110	3.30	3.30	129.0	1.5720
1115	3.46	3.46	130.0	1.6245
1120	3.57	3.57	131.0	1.6773
1125	3.68	3.68	131.0	1.7302
1130	3.80	3.80	131.0	1.7831
1135	3.89	3.89	129.0	1.8351
1140	3.98	3.98	128.0	1.8868
1145	4.07	4.07	126.0	1.9376
1150	4.19	4.19	124.0	1.9877
1155	4.32	4.32	121.0	2.0365
1200	4.45	4.45	118.0	2.0841
1205	4.55	4.55	116.0	2.1309
1210	4.65	4.65	113.0	2.1765
1215	4.75	4.75	110.0	2.2209

08074910 Hummingbird Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Aug. 18-20, 1983--Continued			
Aug. 18				
1220	4.81	4.81	108.0	2.2645
1225	4.88	4.88	104.0	2.3064
1230	4.95	4.95	100.0	2.3468
1235	4.99	4.99	96.0	2.3855
1240	5.03	5.03	92.0	2.4227
1245	5.08	5.08	88.0	2.4582
1250	5.11	5.11	85.0	2.4925
1255	5.14	5.14	81.0	2.5252
1300	5.18	5.18	78.0	2.5881
1315	5.26	5.26	66.0	2.6680
1330	5.30	5.30	54.0	2.7334
1345	5.33	5.33	44.0	2.7867
1400	5.38	5.38	35.0	2.8290
1415	5.39	5.39	27.0	2.8617
1430	5.39	5.39	21.0	2.8871
1445	5.40	5.40	16.0	2.9162
1515	5.41	5.41	16.0	2.9549
1545	5.42	5.42	17.0	2.9858
1600	5.42	5.42	15.0	3.0040
1615	5.58	5.58	14.0	3.0209
1630	5.59	5.59	26.0	3.0681
1700	5.59	5.59	24.0	3.1117
1715	5.66	5.66	19.0	3.1347
1730	5.88	5.88	16.0	3.1638
1800	5.88	5.88	20.0	3.2122
1830	5.88	5.88	16.0	3.2703
1930	6.03	6.03	8.0	3.3042
2015	6.03	6.03	11.0	3.3308
2030	6.09	6.09	10.0	3.3429
2045	6.19	6.19	8.5	3.4150
2400	6.19	6.19	1.8	3.4553
Aug. 19				
0000	6.19	6.19	1.8	3.4553
0600	6.20	6.20	.5	3.4650
0800	6.21	6.21	.4	3.4693
1030	6.21	6.21	.3	3.4712
1035	6.42	6.42	.3	3.4713
1040	6.64	6.64	.3	3.4714
1045	6.86	6.86	.3	3.4715
1050	7.05	7.05	.3	3.4717

08074910 Hummingbird Street ditch at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Aug. 19-20, 1983--Continued			
Aug. 19				
1055	7.24	7.24	0.3	3.4718
1100	7.44	7.44	.3	3.4719
1105	7.57	7.57	.3	3.4720
1110	7.71	7.71	.3	3.4721
1115	7.85	7.85	.3	3.4723
1120	7.86	7.86	.3	3.4724
1125	7.87	7.87	.3	3.4725
1130	7.89	7.89	.3	3.4729
1200	7.89	7.89	.3	3.4764
1615	7.89	7.89	16.0	3.6443
1620	7.89	7.89	40.0	3.6604
1620	7.89	7.89	40.0	3.6604
1625	7.89	7.89	63.0	3.6858
1630	7.89	7.89	79.0	3.7336
1640	7.89	7.89	99.0	3.8335
1655	7.89	7.89	113.0	4.0387
1725	7.89	7.89	90.0	4.2203
1745	7.89	7.89	71.0	4.3206
1800	7.89	7.89	58.0	4.4259
1830	7.89	7.89	35.0	4.5106
1900	7.89	7.89	20.0	4.7770
2400	7.89	7.89	1.0	4.8036
Aug. 20				
0000	7.89	7.89	1.0	4.8036
0600	7.90	7.90	.4	4.8152
1200	7.90	7.90	.3	4.8239
1800	7.90	7.90	.3	4.8327
2400	7.90	7.90	.2	4.8356

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°41'49", long 95°24'43", Harris County, Hydrologic Unit 12040104, near right bank at downstream side of Main Street Bridge in southwest Houston, 1.6 mi upstream from Harris Gully, and 11.6 mi upstream from Buffalo Bayou.

DRAINAGE AREA.--94.9 mi^2. Prior to October 1976, 88.4 mi^2. Changes due to drainage ditch relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence. Prior to June 20, 1936, nonrecording gage, and June 20, 1936, to Nov. 25, 1959, water-stage recorder at site 0.8 mi downstream at same datum.

REMARKS.--Water-discharge records good. No diversion above station. Low flow is mostly sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--47 years, 125 ft^3/s (90,560 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft^3/s June 15, 1976, and Sept. 19, 1983 (gage height, 52.13 ft); minimum daily, 0.1 ft^3/s Oct. 11, 12, 1937, Mar. 14, Apr. 1, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1911, 56.0 ft in June 1919 before channel rectification, former site, from information by engineer for city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 23	1500	6,670	36.34	Aug. 11	1430	10,300	39.79
May 10	1030	6,310	35.96	Aug. 18	1245	20,200	47.25
May 20	0530	7,940	37.63	Sept. 19	b1000	*29,000	a52.13
July 15	2215	8,260	37.94				

a From peak mark.
b About.

Minimum daily discharge, 94 ft^3/s Jan. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	123	215	257	246	105	105	102	100	99	119	155
2	117	578	154	171	118	103	100	101	102	97	152	307
3	119	671	268	125	102	101	100	153	103	94	116	187
4	124	163	143	115	99	144	102	126	107	95	118	131
5	118	110	117	110	1120	235	102	101	111	104	112	111
6	120	106	108	107	315	113	100	97	110	100	489	665
7	183	108	105	107	158	104	100	99	109	97	352	233
8	159	105	100	107	125	101	100	101	104	96	857	693
9	126	96	96	108	1350	105	98	133	102	112	1410	467
10	125	98	253	109	497	99	96	1440	108	126	2020	1000
11	164	103	200	106	200	98	100	272	113	105	2640	1250
12	367	104	142	103	150	107	100	113	116	147	2020	485
13	173	100	110	100	120	105	100	101	120	1310	652	234
14	115	95	131	95	110	115	100	100	124	833	226	145
15	110	98	227	97	1300	118	98	400	141	2390	342	122
16	107	126	135	98	800	192	98	229	909	3920	423	121
17	103	855	116	101	300	203	102	132	1600	639	161	153
18	108	189	107	140	180	112	106	134	444	237	9440	368
19	106	1190	103	905	120	103	104	138	142	163	2670	12900
20	104	735	107	469	300	207	104	2480	116	138	541	2740
21	100	176	105	195	600	122	103	1630	186	195	227	991
22	99	126	99	140	250	127	147	509	130	234	166	304
23	99	119	124	119	170	2360	181	130	113	140	147	192
24	99	115	142	113	130	610	128	110	358	119	135	152
25	98	104	991	109	120	212	111	100	879	114	476	137
26	96	428	442	105	109	403	105	100	529	111	163	398
27	96	1530	442	101	112	184	102	110	163	111	249	225
28	105	406	179	100	110	129	100	105	116	108	295	144
29	412	173	124	101	---	113	99	102	104	109	194	130
30	167	215	110	101	---	150	101	99	101	110	230	123
31	139	---	165	194	---	110	---	99	---	509	126	---
TOTAL	4271	9145	5860	4908	9311	7090	3192	9646	7560	12762	27268	25263
MEAN	138	305	189	158	333	229	106	311	252	412	880	842
MAX	412	1530	991	905	1350	2360	181	2480	1600	3920	9440	12900
MIN	96	95	96	95	99	98	96	97	100	94	112	111
AC-FT	8470	18140	11620	9740	18470	14060	6330	19130	15000	25310	54090	50110

CAL YR 1982 TOTAL 69187 MEAN 190 MAX 4440 MIN 83 AC-FT 137200
WTR YR 1983 TOTAL 126276 MEAN 346 MAX 12900 MIN 94 AC-FT 250500

NOTE.--No gage-height record Sept. 19.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB												
09...	1450	4170	147	7.5	15.5	55	100	9.8	98	9.9	39000	22000
09...	1659	4360	170	7.9	15.5	110	240	9.5	95	9.0	29000	21000
10...	1041	545	310	8.0	16.0	55	230	8.3	84	2.1	150	230
MAR												
02...	0950	91	843	8.0	20.0	5	7.4	11.2	123	1.0	K2	K6
SEP												
19...	1140	27900	67	8.4	22.0	90	120	7.6	87	3.3	9000	29000
20...	1025	3280	161	7.2	26.0	100	200	8.2	101	4.5	40000	23000
21...	0935	964	248	8.3	21.0	80	110	8.2	91	3.0	K16	700

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
FEB												
09...	46	0	15	2.1	11	.7	1.9	49	14	9.1	.10	5.7
09...	49	0	15	2.7	13	.8	2.3	52	11	11	.20	6.1
10...	88	0	26	5.5	28	1.4	3.4	95	22	19	.30	12
MAR												
02...	170	0	50	11	110	3.8	6.3	240	43	95	.60	24
SEP												
19...	25	0	8.0	1.3	3.7	.3	2.1	26	6.3	3.1	<.10	3.3
20...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB											
09...	88	354	92	.40	.100	.50	.460	2.1	2.60	.620	15
09...	93	660	176	.51	.090	.60	.460	2.5	3.00	.840	17
10...	173	274	74	.76	.240	1.0	.730	2.1	2.80	.720	17
MAR											
02...	484	17	10	2.1	.500	2.6	5.10	1.3	6.40	2.60	8.2
SEP											
19...	43	236	62	.05	.050	.10	.240	1.2	1.40	.360	14
20...	--	252	50	.00	.210	.20	.360	1.1	1.50	.450	10
21...	--	108	12	.12	.180	.30	.860	1.5	2.40	1.00	14

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
FEB							
09...	1450	2	33	<1	<10	6	69
09...	1659	4	34	<1	<10	3	49
10...	1041	7	64	<1	<10	6	78
MAR							
02...	0950	4	150	<1	10	4	12
SEP							
19...	1140	3	18	<1	<10	1	54

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB						
09...	2	4	<.1	<1	<1	27
09...	<1	2	<.1	<1	<1	18
10...	<1	7	<.1	1	<1	17
MAR						
02...	<1	27	<.1	1	<1	52
SEP						
19...	1	4	<.1	<1	<1	4

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
FEB								
09...	1450	<.10	<.10	.60	<.10	<.10	<2.0	.1
09...	1659	<.10	<.10	.60	<.10	<.10	<2.0	.1
10...	1041	<.10	<.10	.90	<.10	<.10	<2.0	.2
MAR								
02...	0950	<.10	<.10	.40	<.10	<.10	<2.0	<.1
SEP								
19...	1140	<.10	<.10	.10	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
FEB							
09...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
09...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
10...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1
MAR							
02...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
SEP							
19...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08075000 Brays Bayou at Houston, Tex.

Date and time	Rainfall at gage 4910 (inches)	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 308R (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Feb. 9-10, 1983						
Feb. 9											
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	129.0	0.0116
1100	.0	.0	.0	.0	.0	.0	.0	.0	.0	129.0	.0234
1115	.0	.0	.0	.0	.03	.05	.09	.0	.02	131.0	.0240
1130	.13	.0	.15	.0	.06	.11	.19	.0	.10	133.0	.0248
1200	.16	.06	.20	.25	.17	.23	.43	.06	.22	231.0	.0262
1215	.17	.06	.24	.34	.20	.34	.49	.16	.27	285.0	.0274
1230	.19	.14	.28	.46	.25	.46	.55	.17	.32	310.0	.0286
1245	.31	.20	.33	.49	.31	.58	.61	.17	.39	317.0	.0299
1300	.32	.20	.33	.61	.37	.70	.67	.18	.44	371.0	.0314
1315	.38	.24	.33	.63	.49	.79	.79	.73	.53	440.0	.0332
1330	.54	.64	.73	.63	.61	.89	.91	1.00	.70	520.0	.0354
1345	1.00	.92	.83	.85	.73	1.01	1.03	1.13	.94	727.0	.0383
1400	1.13	1.06	.90	1.09	.87	1.13	1.15	1.16	1.07	1,500.0	.0444
1415	1.18	1.14	.93	1.17	.89	1.13	1.15	1.16	1.11	2,320.0	.0539
1430	1.20	1.14	.95	1.19	.92	1.13	1.15	1.17	1.12	3,210.0	.0670
1445	1.21	1.14	.95	1.21	.95	1.13	1.15	1.19	1.13	3,870.0	.0828
1500	1.22	1.14	.96	1.24	.98	1.16	1.17	1.19	1.15	4,370.0	.1007
1515	1.24	1.14	.96	1.24	.98	1.16	1.17	1.19	1.16	4,720.0	.1199
1530	1.24	1.14	.96	1.24	.98	1.16	1.17	1.19	1.16	4,860.0	.1398
1545	1.24	1.14	.96	1.25	.98	1.16	1.17	1.19	1.16	4,940.0	.1599
1600	1.24	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	4,900.0	.2299
1730	1.24	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	3,880.0	.2854
1745	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	3,710.0	.3005
1800	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	3,570.0	.3442
1915	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	2,900.0	.4034
2030	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	2,360.0	.4516
2145	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	1,930.0	.4989
2330	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	1,530.0	.5270
2400	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	1,450.0	.5566
Feb. 10											
0000	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	1,450.0	.5566
0200	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	1,140.0	.5845
0300	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	874.0	.5988
0400	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	600.0	.6135
0600	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	505.0	.6300
0800	1.25	1.14	.96	1.26	1.01	1.17	1.19	1.19	1.17	545.0	.6433
0900	1.25	1.14	.97	1.27	1.01	1.17	1.19	1.19	1.17	545.0	.6611
1200	1.25	1.14	.97	1.27	1.01	1.17	1.19	1.19	1.17	508.0	.6984
1800	1.25	1.14	.97	1.27	1.01	1.17	1.19	1.19	1.17	378.0	.7355
2400	1.25	1.14	.97	1.27	1.01	1.17	1.19	1.19	1.17	307.0	.7505

STORM RAINFALL AND RUNOFF

08075000 Brays Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 308R (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Aug. 18-21, 1983						
Aug. 18											
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	161.0	0.0007
0030	.0	.0	.0	.0	.04	.0	.05	.04	.02	161.0	.0020
0100	.0	.0	.0	.0	.10	.02	.11	.08	.04	176.0	.0034
0130	.03	.0	.02	.01	.17	.07	.15	.18	.07	200.0	.0050
0200	.08	.0	.09	.04	.29	.13	.21	.25	.12	247.0	.0066
0215	.10	.02	.14	.08	.38	.16	.24	.34	.16	291.0	.0077
0230	.14	.13	.19	.10	.47	.19	.27	.41	.21	349.0	.0092
0245	.18	.14	.26	.16	.56	.22	.33	.51	.27	422.0	.0109
0300	.23	.15	.31	.20	.65	.26	.39	.56	.32	505.0	.0130
0315	.31	.17	.34	.24	.74	.30	.45	.59	.37	537.0	.0151
0330	.39	.25	.37	.27	.83	.36	.54	.64	.44	579.0	.0175
0345	.48	.30	.38	.28	.92	.42	.63	.67	.50	637.0	.0201
0400	.54	.31	.41	.29	1.01	.48	.72	.75	.56	863.0	.0236
0415	.59	.32	.54	.36	1.22	.60	.75	.95	.64	1,370.0	.0292
0430	.62	.33	.67	.45	1.43	.72	.78	1.15	.71	1,930.0	.0371
0445	.66	.40	.81	.56	1.67	.84	.82	1.25	.81	2,670.0	.0480
0500	.78	.50	.91	.69	1.91	.97	.88	1.40	.92	3,500.0	.0623
0515	.99	.55	1.02	.76	2.00	1.03	.91	1.50	1.03	4,300.0	.0798
0530	1.19	.58	1.18	.92	2.09	1.09	.94	1.55	1.14	4,910.0	.0999
0545	1.38	.75	1.24	1.03	2.19	1.15	.97	1.60	1.25	5,370.0	.1218
0600	1.49	.87	1.29	1.11	2.31	1.22	1.00	1.61	1.33	5,760.0	.1453
0615	1.65	.92	1.30	1.16	2.43	1.30	1.03	1.61	1.40	6,000.0	.1698
0630	1.70	.93	1.30	1.17	2.55	1.39	1.06	1.63	1.44	6,310.0	.1956
0645	1.74	.96	1.35	1.25	2.67	1.48	1.09	1.75	1.50	6,770.0	.2232
0700	1.76	.96	1.42	1.31	2.79	1.57	1.14	1.81	1.55	7,180.0	.2525
0715	1.79	.99	1.49	1.36	2.83	1.61	1.22	1.89	1.60	7,460.0	.2830
0730	1.88	1.05	1.58	1.46	2.89	1.67	1.31	1.95	1.68	7,660.0	.3142
0745	2.00	1.13	1.64	1.54	2.95	1.73	1.40	1.97	1.77	7,730.0	.3458
0800	2.08	1.14	1.70	1.63	3.01	1.79	1.49	1.98	1.84	7,840.0	.3778
0815	2.15	1.17	1.72	1.66	3.04	1.88	1.52	2.00	1.88	7,870.0	.4099
0830	2.20	1.20	1.77	1.72	3.07	1.97	1.55	2.05	1.92	7,830.0	.4419
0845	2.24	1.22	1.82	1.74	3.11	2.09	1.60	2.10	1.97	7,840.0	.4739
0900	2.26	1.25	1.86	1.79	3.17	2.21	1.66	2.12	2.01	7,720.0	.5054
0915	2.30	1.27	1.96	1.94	3.20	2.27	1.75	2.15	2.08	7,640.0	.5366
0930	2.31	1.28	2.08	2.10	3.23	2.36	1.86	2.17	2.15	7,830.0	.5686
0945	2.32	1.35	2.17	2.22	3.26	2.45	1.98	2.33	2.23	8,360.0	.6027
1000	2.34	1.40	2.21	2.33	3.31	2.54	2.10	2.55	2.30	9,460.0	.6413
1015	2.42	1.44	2.23	2.38	3.37	2.63	2.18	2.83	2.37	11,000.0	.6862
1030	2.53	1.47	2.39	2.41	3.44	2.72	2.27	3.09	2.47	12,600.0	.7376

08075000 Brays Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 308R (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Aug. 18-21, 1983--Continued						
Aug. 18											
1045	2.65	1.52	2.65	2.49	3.53	2.82	2.36	3.41	2.59	13,900.0	0.7944
1100	2.98	1.70	2.97	2.65	3.62	2.94	2.45	3.70	2.79	15,100.0	.8560
1115	3.46	1.95	3.22	2.77	3.65	3.00	2.47	3.90	3.00	16,600.0	.9238
1130	3.80	2.17	3.41	2.89	3.68	3.06	2.50	4.05	3.16	17,700.0	.9960
1145	4.07	2.35	3.55	3.03	3.73	3.12	2.53	4.20	3.31	18,500.0	1.0716
1200	4.45	2.55	3.65	3.12	3.79	3.21	2.56	4.25	3.46	19,400.0	1.1508
1215	4.75	2.60	3.70	3.20	3.79	3.24	2.56	4.34	3.57	19,900.0	1.2320
1230	4.95	2.65	3.74	3.24	3.81	3.27	2.56	4.37	3.64	20,200.0	1.3144
1245	5.08	2.75	3.79	3.28	3.84	3.30	2.57	4.41	3.70	20,200.0	1.3969
1300	5.18	2.78	3.81	3.31	3.87	3.34	2.60	4.45	3.75	20,200.0	1.4794
1315	5.26	2.80	3.82	3.34	3.87	3.37	2.60	4.45	3.78	20,000.0	1.5610
1330	5.30	2.81	3.83	3.35	3.87	3.40	2.60	4.45	3.79	19,700.0	1.6414
1345	5.33	2.85	3.83	3.36	3.87	3.43	2.63	4.45	3.81	19,300.0	1.7202
1400	5.38	2.85	3.84	3.37	3.90	3.46	2.66	4.45	3.84	18,900.0	1.7974
1415	5.39	2.85	3.84	3.38	3.93	3.46	2.66	4.45	3.84	18,300.0	1.8721
1430	5.39	2.85	3.84	3.38	3.96	3.46	2.66	4.45	3.85	17,700.0	1.9443
1445	5.40	2.85	3.84	3.38	4.00	3.46	2.66	4.47	3.85	17,200.0	2.0145
1500	5.40	2.85	4.12	3.50	4.06	3.48	2.67	4.55	3.91	16,800.0	2.0831
1515	5.41	2.85	4.14	3.51	4.24	3.48	2.67	4.60	3.94	16,800.0	2.1517
1530	5.41	2.95	4.14	3.51	4.42	3.48	2.67	4.60	3.97	16,700.0	2.2199
1545	5.42	3.15	4.14	3.51	4.60	3.48	2.70	4.60	4.01	16,600.0	2.2876
1600	5.42	3.15	4.14	3.51	4.80	3.49	2.73	4.62	4.04	16,300.0	2.3542
1615	5.58	3.17	4.14	3.51	4.95	3.49	2.76	4.64	4.11	16,000.0	2.4195
1630	5.59	3.20	4.14	3.52	5.10	3.49	2.79	4.67	4.14	16,300.0	2.4860
1645	5.59	3.20	4.14	3.52	5.25	3.51	2.82	4.68	4.16	16,400.0	2.5530
1700	5.59	3.20	4.14	3.52	5.40	3.54	2.86	4.69	4.18	16,200.0	2.6191
1715	5.66	3.20	4.14	3.52	5.40	3.54	2.86	4.69	4.20	15,600.0	2.6828
1730	5.88	3.20	4.14	3.53	5.40	3.56	2.86	4.73	4.26	14,900.0	2.7436
1745	5.88	3.20	4.14	3.58	5.40	3.59	2.86	4.73	4.27	14,200.0	2.8016
1800	5.88	3.20	4.14	3.60	5.43	3.62	2.89	4.73	4.28	13,600.0	2.8571
1815	5.88	3.20	4.14	3.60	5.43	3.77	2.89	4.73	4.29	13,000.0	2.9101
1830	5.88	3.20	4.14	3.60	5.43	3.92	2.92	4.73	4.30	12,400.0	2.9608
1845	6.03	3.20	4.14	3.60	5.43	4.08	2.95	4.73	4.35	11,700.0	3.0085
1900	6.03	3.20	4.14	3.60	5.43	4.26	2.98	4.73	4.37	11,100.0	3.0538
1915	6.03	3.20	4.14	3.60	5.46	4.54	2.98	4.81	4.39	10,400.0	3.0963
1930	6.03	3.20	4.23	3.60	5.49	4.84	2.98	4.83	4.42	9,850.0	3.1365
1945	6.03	3.20	4.73	3.62	5.54	5.14	2.99	4.83	4.49	9,480.0	3.1752
2000	6.03	3.20	4.86	3.79	5.60	5.44	3.02	4.83	4.56	9,240.0	3.2129
2015	6.03	3.37	4.86	3.80	5.60	5.48	3.02	4.83	4.58	8,940.0	3.2494

08075000 Brays Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 4760 (inches)	Rainfall at gage 308R (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Aug. 18-21, 1983--Continued						
Aug. 18											
2030	6.09	3.45	4.86	3.80	5.60	5.54	3.02	4.83	4.61	8,540.0	3.2843
2045	6.19	3.45	4.86	3.80	5.60	5.60	3.02	4.83	4.63	8,240.0	3.3179
2100	6.19	3.45	4.86	3.80	5.60	5.66	3.02	4.83	4.64	8,020.0	3.3506
2115	6.19	3.45	4.86	3.85	5.60	5.66	3.02	4.83	4.64	7,900.0	3.3829
2130	6.19	3.45	4.86	3.86	5.60	5.66	3.02	4.83	4.65	7,820.0	3.5585
2400	6.19	3.45	4.86	3.86	5.60	5.66	3.02	4.83	4.65	6,680.0	3.7221
Aug. 19											
0000	6.19	3.45	4.86	3.86	5.60	5.66	3.02	4.83	4.65	6,680.0	3.7221
0030	6.20	3.45	4.86	3.86	5.60	5.66	3.02	4.83	4.65	6,330.0	3.8513
0230	6.20	3.45	4.86	3.86	5.60	5.66	3.02	4.83	4.65	4,870.0	3.9904
0400	6.20	3.45	4.86	3.86	5.60	5.66	3.02	4.83	4.65	3,920.0	4.0705
0500	6.20	3.45	4.86	3.86	5.60	5.66	3.02	4.83	4.65	3,400.0	4.1121
0530	6.20	3.45	4.86	3.86	5.60	5.75	3.02	4.83	4.65	3,180.0	4.1381
0600	6.20	3.45	4.86	3.86	5.60	5.87	3.02	4.83	4.66	2,990.0	4.1869
0730	6.20	3.45	4.86	3.86	5.60	5.87	3.02	4.83	4.66	2,530.0	4.2282
0800	6.21	3.45	4.86	3.86	5.60	5.87	3.02	4.83	4.66	2,400.0	4.2870
1030	6.21	3.45	4.86	3.86	5.60	5.87	3.02	4.83	4.66	1,890.0	4.3333
1100	7.44	3.45	4.86	3.86	5.60	5.87	3.02	4.83	4.97	1,820.0	4.3481
1130	7.89	3.45	4.86	3.86	5.60	5.87	3.02	4.83	5.08	1,750.0	4.3624
1200	7.89	3.45	4.86	3.86	5.60	5.87	3.02	4.83	5.08	1,690.0	4.3969
1400	7.89	3.45	4.86	3.86	5.60	5.87	3.02	4.83	5.08	1,470.0	4.4269
1430	7.89	3.45	4.86	3.95	5.60	5.87	3.02	4.83	5.09	1,430.0	4.4503
1600	7.89	3.45	4.86	3.95	5.60	5.87	3.02	4.83	5.09	1,300.0	4.4715
1630	7.89	3.45	4.86	3.96	5.60	5.87	3.02	4.83	5.10	1,270.0	4.4818
1700	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	1,900.0	4.4974
1730	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	2,860.0	4.5207
1800	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	3,420.0	4.5486
1830	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	3,580.0	4.5925
1930	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	2,970.0	4.6410
2030	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	2,180.0	4.6766
2130	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	1,630.0	4.7098
2300	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	1,230.0	4.7349
2400	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	1,070.0	4.7961
Aug. 20											
0000	7.89	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	1,070.0	4.7961
0600	7.90	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	655.0	4.8603
1200	7.90	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	481.0	4.9309
2400	7.90	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	313.0	4.9923
Aug. 21											
0000	7.90	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	313.0	4.9923
1200	7.90	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	220.0	5.0354
2400	7.90	3.45	4.87	3.96	5.60	5.87	3.02	4.83	5.10	198.0	5.0548

STORM RAINFALL AND RUNOFF

08075000 Brays Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 308R (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Sept. 18-24, 1983					
Sept. 18										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	179.0	0.0132
0900	.0	.0	.0	.0	.0	.0	.0	.0	148.0	.0252
1000	.0	.0	.0	.0	.21	.0	.07	.01	144.0	.0276
1100	.0	.11	.02	.11	.25	.0	.13	.05	190.0	.0307
1200	.29	.11	.03	.14	.43	.0	.13	.14	529.0	.0372
1230	.30	.11	.03	.14	.43	.0	.13	.14	895.0	.0445
1300	.30	.11	.03	.17	.43	.0	.14	.14	969.0	.0524
1330	.31	.11	.04	.17	.43	.0	.15	.15	939.0	.0639
1430	.31	.11	.04	.17	.43	.0	.15	.15	798.0	.0737
1500	.31	.11	.04	.17	.45	.0	.15	.15	727.0	.0796
1530	.32	.11	.05	.17	.45	.0	.15	.15	650.0	.0849
1600	.32	.11	.06	.17	.50	.03	.16	.16	583.0	.0897
1630	.32	.13	.08	.17	.50	.04	.17	.17	529.0	.0940
1700	.32	.15	.09	.18	.51	.10	.17	.19	477.0	.0979
1730	.32	.21	.17	.18	.51	.10	.25	.22	433.0	.1014
1800	.33	.42	.26	.20	.51	.16	.28	.28	401.0	.1047
1830	.34	.42	.26	.20	.51	.16	.28	.29	371.0	.1077
1900	.36	.42	.26	.20	.52	.17	.28	.29	355.0	.1121
2000	.38	.42	.26	.20	.52	.17	.28	.30	323.0	.1173
2100	.39	.42	.26	.20	.52	.17	.28	.30	429.0	.1243
2200	.39	.42	.26	.20	.54	.17	.28	.30	512.0	.1327
2300	.39	.42	.26	.20	.55	.17	.28	.30	470.0	.1404
2400	.39	.42	.27	.20	.56	.17	.28	.31	419.0	.1455
Sept. 19										
0000	.39	.42	.27	.20	.56	.17	.28	.31	419.0	.1455
0030	.39	.42	.27	.20	.56	.17	.28	.31	394.0	.1479
0045	.40	.42	.27	.20	.56	.17	.28	.31	388.0	.1511
0130	.40	.42	.27	.20	.56	.20	.28	.32	358.0	.1547
0200	.40	.42	.27	.20	.56	.26	.28	.33	339.0	.1575
0230	.40	.42	.27	.20	.92	.56	.29	.42	320.0	.1601
0300	.40	.47	.47	.20	1.29	.89	.52	.57	304.0	.1638
0400	.40	.73	.96	.27	2.34	1.92	.75	1.01	273.0	.1666
0415	.40	.77	1.11	.28	2.34	2.28	.87	1.14	276.0	.1678
0430	.42	.87	1.49	.31	2.34	2.64	1.15	1.32	297.0	.1690
0445	.46	1.52	2.69	.34	2.34	3.02	1.60	1.73	330.0	.1703
0500	.54	2.17	2.99	.37	2.34	3.41	1.88	2.01	368.0	.1718
0515	.56	2.37	3.42	.49	2.67	3.77	2.25	2.25	426.0	.1736
0530	.60	3.17	4.37	.61	3.00	4.13	2.41	2.64	533.0	.1757
0545	.67	3.52	5.37	.73	3.33	4.52	2.58	3.00	1,730.0	.1828
0600	.73	3.77	6.43	.86	3.66	4.91	2.83	3.35	5,190.0	.2040

08075000 Brays Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 308R (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Sept. 18-24, 1983					
Sept. 19										
0615	0.92	4.42	7.31	1.11	3.69	4.91	3.43	3.68	7,590.0	0.2350
0630	1.41	4.47	7.37	1.38	3.72	4.91	3.73	3.87	9,760.0	.2748
0645	1.51	4.77	7.71	1.65	3.75	4.91	4.35	4.05	13,600.0	.3303
0700	1.98	5.17	7.90	1.92	3.81	4.91	4.51	4.29	17,000.0	.3997
0715	2.47	5.27	8.01	2.13	3.84	4.91	4.73	4.48	19,900.0	.4810
0730	2.97	5.42	8.27	2.34	3.87	4.91	5.08	4.70	E 22,700.0	.5736
0745	3.48	5.77	8.51	2.55	3.90	4.91	5.38	4.96	E 24,200.0	.6724
0800	4.27	6.02	8.89	2.76	3.96	4.91	5.41	5.28	E 25,800.0	.7777
0815	4.84	6.07	8.94	3.00	3.96	4.91	5.48	5.46	E 26,600.0	.8863
0830	5.38	6.12	8.99	3.24	3.96	4.91	5.63	5.64	E 27,500.0	.9986
0845	5.58	6.17	9.06	3.48	3.98	4.91	5.65	5.74	E 27,900.0	1.1125
0900	6.12	6.27	9.11	3.73	4.01	4.91	5.71	5.92	E 28,300.0	1.2280
0915	6.36	6.32	9.12	3.79	4.01	4.91	5.78	6.00	E 28,600.0	1.3447
0930	6.45	6.39	9.12	3.85	4.01	4.91	5.81	6.04	E 28,800.0	1.4623
0945	6.58	6.39	9.13	3.93	4.03	4.91	5.85	6.09	E 28,900.0	1.5803
1000	6.85	6.39	9.13	4.02	4.06	4.91	5.85	6.17	* 29,000.0	1.6987
1015	6.92	6.39	9.13	4.02	4.06	4.91	5.85	6.18	* 29,000.0	1.8170
1030	6.98	6.39	9.13	4.02	4.09	4.91	5.85	6.20	E 28,900.0	1.9350
1045	7.05	6.39	9.15	4.04	4.12	4.91	5.91	6.23	E 28,700.0	2.0522
1100	7.10	6.42	9.21	4.07	4.15	4.91	5.92	6.26	E 28,500.0	2.1685
1115	7.15	6.47	9.22	4.07	4.15	4.91	5.93	6.28	E 28,300.0	2.2840
1130	7.15	6.52	9.24	4.07	4.15	4.91	5.94	6.29	E 28,100.0	2.3987
1145	7.15	6.57	9.25	4.09	4.15	4.91	5.94	6.30	E 27,800.0	2.5122
1200	7.15	6.57	9.26	4.12	4.16	4.91	5.94	6.31	E 27,500.0	2.6245
1215	7.17	6.57	9.27	4.12	4.16	5.33	5.94	6.42	E 27,200.0	2.7355
1230	7.20	6.57	9.27	4.12	4.16	5.76	5.94	6.53	E 26,900.0	2.8453
1245	7.21	6.57	9.27	4.12	4.16	6.21	5.94	6.65	E 26,600.0	2.9539
1300	7.23	6.57	9.28	4.12	4.16	6.66	5.94	6.77	E 26,200.0	3.1678
1345	7.23	6.57	9.28	4.12	4.16	6.66	5.94	6.77	E 25,000.0	3.3719
1400	7.23	6.57	9.28	4.13	4.16	6.66	5.94	6.77	E 24,500.0	3.4719
1415	7.24	6.57	9.28	4.13	4.16	6.66	5.94	6.77	23,900.0	3.6183
1445	7.24	6.57	9.28	4.13	4.16	6.66	5.94	6.77	22,700.0	3.7573
1500	7.24	6.57	9.28	4.13	4.16	6.67	5.94	6.77	22,100.0	3.9377
1545	7.24	6.57	9.28	4.13	4.16	6.67	5.94	6.77	19,800.0	4.0994
1600	7.24	6.57	9.28	4.13	4.16	6.68	5.94	6.78	18,900.0	4.2537
1645	7.24	6.57	9.28	4.13	4.16	6.68	5.94	6.78	16,400.0	4.3876
1700	7.24	6.57	9.28	4.13	4.16	6.69	5.94	6.78	15,500.0	4.5457
1800	7.24	6.57	9.28	4.13	4.16	6.69	5.94	6.78	12,100.0	4.7186
1845	7.24	6.57	9.28	4.13	4.16	6.69	5.94	6.78	9,680.0	4.8372

Note--Discharge values for period from 0730 hours on Sept. 19 to 1400 hours on Sept. 19 are partially estimated. Values flagged with "E" are determined by considering upstream hydrograph and typical hydrograph at site. Values flagged with "*" are determined from recorded peak mark at site.

08075000 Brays Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 4910 (inches)	Rainfall at gage 4800 (inches)	Rainfall at gage 4780 (inches)	Rainfall at gage 308R (inches)	Rainfall at gage 33R (inches)	Rainfall at gage 32R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
Storm of Sept. 18-24, 1983--Continued										
Sept. 19										
1930	7.24	6.57	9.28	4.13	4.16	6.69	5.94	6.78	7,470.0	4.8982
1945	7.24	6.57	9.28	4.14	4.16	6.69	5.94	6.78	6,830.0	4.9260
2000	7.24	6.57	9.28	4.17	4.16	6.70	5.94	6.78	6,290.0	4.9774
2045	7.24	6.57	9.28	4.17	4.16	6.70	5.94	6.78	5,000.0	5.0488
2145	7.24	6.57	9.28	4.17	4.16	6.70	5.94	6.78	3,920.0	5.1208
2300	7.24	6.57	9.28	4.17	4.16	6.70	5.94	6.78	3,170.0	5.1791
2400	7.24	6.57	9.28	4.17	4.16	6.70	5.94	6.78	2,790.0	5.2246
Sept. 20										
0000	7.24	6.57	9.28	4.17	4.16	6.70	5.94	6.78	2,790.0	5.2246
0100	7.24	6.57	9.28	4.17	4.26	6.81	5.94	6.82	2,510.0	5.2656
0200	7.24	6.57	9.28	4.18	4.56	7.44	5.94	6.99	2,250.0	5.3023
0300	7.24	6.92	10.24	4.18	4.61	7.95	5.99	7.32	2,040.0	5.3357
0400	7.24	6.92	10.37	4.19	4.70	8.03	6.00	7.36	1,980.0	5.3680
0500	7.27	7.29	10.59	4.19	4.70	8.03	6.11	7.47	2,310.0	5.4057
0600	7.30	7.29	10.60	4.19	4.70	8.03	6.11	7.48	3,520.0	5.4632
0700	7.31	7.29	10.60	4.19	4.70	8.03	6.11	7.48	4,340.0	5.6049
1000	7.31	7.29	10.60	4.19	4.70	8.03	6.11	7.48	3,460.0	5.7462
1200	7.32	7.29	10.61	4.19	4.70	8.03	6.11	7.48	2,700.0	5.8343
1400	7.32	7.29	10.61	4.19	4.70	8.03	6.11	7.48	2,160.0	5.9049
1600	7.32	7.29	10.61	4.19	5.03	9.00	6.11	7.74	1,760.0	5.9623
1800	7.72	7.89	10.99	4.42	5.28	9.35	6.11	8.11	1,660.0	6.0166
2000	7.72	7.89	11.01	4.45	5.28	9.37	6.11	8.12	3,280.0	6.1772
2400	7.72	7.89	11.01	4.45	5.28	9.38	6.11	8.12	2,490.0	6.2992
Sept. 21										
0000	7.72	7.89	11.01	4.45	5.28	9.38	6.11	8.12	2,490.0	6.2992
0200	7.72	7.89	11.01	4.45	5.28	9.38	6.11	8.12	1,900.0	6.3612
0400	7.72	7.89	11.01	4.45	5.28	9.38	6.11	8.12	1,520.0	6.4109
0600	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	1,260.0	6.4623
0900	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	1,000.0	6.5113
1200	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	825.0	6.5719
1800	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	592.0	6.6299
2400	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	440.0	6.6946
Sept. 22										
0000	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	440.0	6.6946
1200	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	291.0	6.7516
2400	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	236.0	6.7978
Sept. 23										
0000	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	236.0	6.7978
1200	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	193.0	6.8357
2400	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	170.0	6.8690
Sept. 24										
0000	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	170.0	6.8690
1200	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	140.0	6.8964
2400	7.72	7.89	11.02	4.45	5.28	9.38	6.11	8.13	155.0	6.9116

SIMS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Sims Bayou drainage basin are shown in figure 14.

Berry Bayou is shown as a separate drainage basin within the Sims Bayou section.

Weighted-mean rainfall for the upper portion of the drainage basin above the Hiram Clarke Street station, based on two rain gages, for the 1983 water year was 61.83 inches, or 13.64 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
1.83	6.21	3.32	1.68	4.64	3.69	0.21	5.55	3.81	6.63	14.37	9.89	61.83

Weighted-mean rainfall in the drainage basin above the Telephone Road station (station 08075500), based on five rain gages, for the 1983 water year was 63.86 inches or 15.67 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water-year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
1.57	6.68	3.77	1.77	5.00	3.45	0.09	5.54	4.87	6.13	15.36	9.63	63.86

The storms of Aug. 18-20, and Sept. 19-21 were selected for analysis at station 08075400, Sims Bayou at Hiram Clarke Street. The storms of Aug. 18-20 and Sept. 19-22 were selected for analysis at station 08075470, Sims Bayou at Martin Luther King Blvd. The storms of Aug. 18-21 and Sept. 19-22 were selected for analysis at station 08075500, Sims Bayou at Houston.

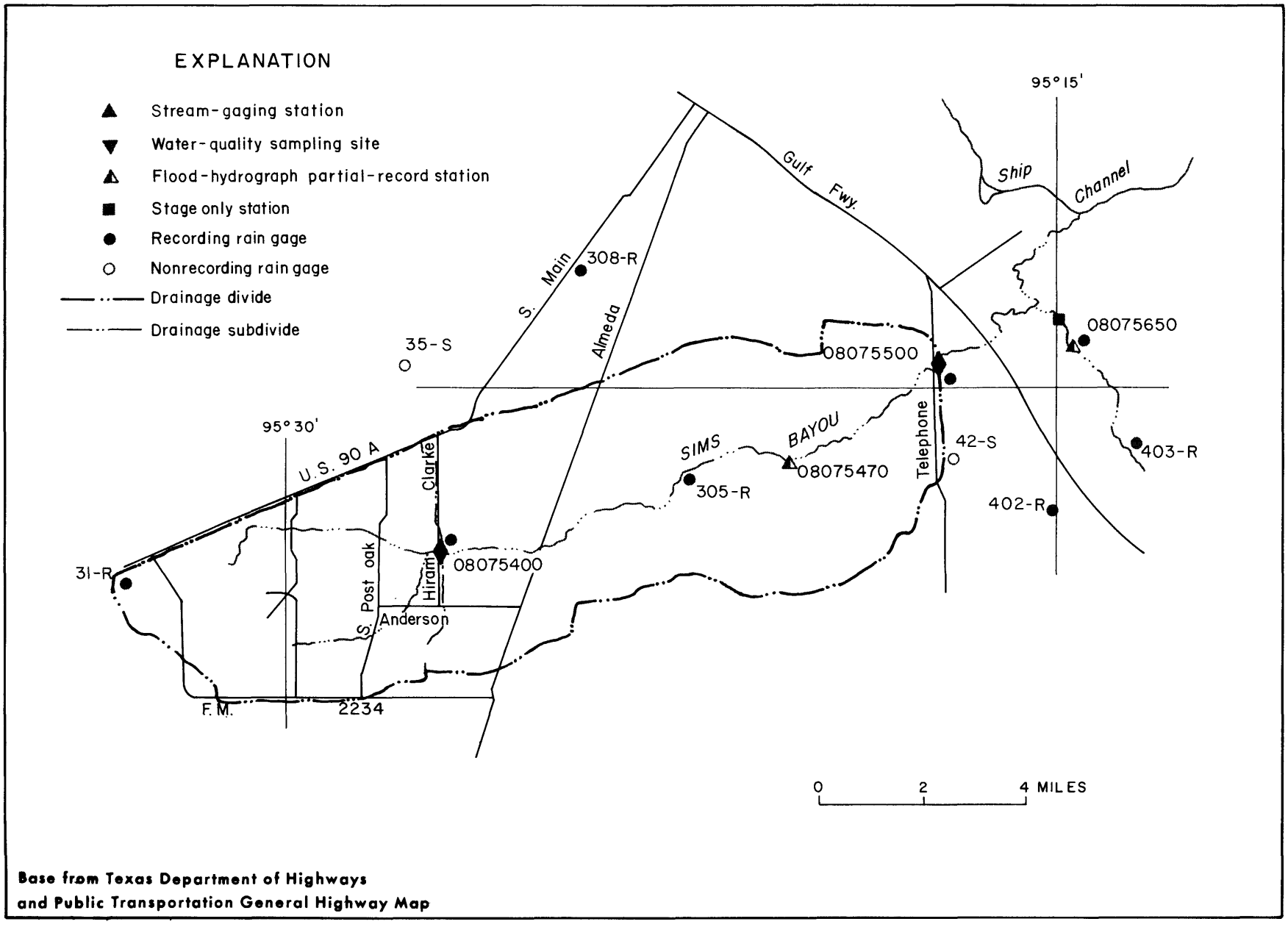

Figure 14 - Locations of data-collection sites in and near the Sims Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table13.--Storm rainfall-runoff data, 1983 Water Year, Sims Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Sims Bayou at Hiram Clarke St., Houston, TX (Drainage Area --20.2 mi^2)								
Aug. 18-20, 1983	14.0	6.25	0.60	1.08	1.32	5.28	0.84	3730
Sept. 19-21, 1983	4.8	6.58	0.96	1.80	3.12	4.68	0.71	4660*,++
Sims Bayou at Martin Luther King Blvd., Houston, TX (Drainage Area -- 48.4 mi^2)								Maximum Gage Height (ft.)
Aug. 18-20, 1983	14.3	7.02	0.60	1.08	1.32	--	--	37.82*,++
Sept. 19-22, 1983	4.8	6.02	0.96	1.80	3.12	--	--	37.22

* - Peak Discharge/Gage Height for 1983 Water Year ++ - Peak Discharge/Gage Height for Period of Record

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 13.--Storm rainfall-runoff data, 1983 Water Year, Sims Bayou--Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Sims Bayou at Houston, TX (Drainage Area -- 63.0 mi^2)								
Aug. 18-21, 1983	15.5	7.58	0.36	0.72	1.32	6.50	0.86	11400*,++
Sept. 19-22, 1983	4.5	5.51	0.72	1.44	2.88	3.94	0.71	9110

* - Peak Discharge for 1983 Water Year

++ - Peak Discharge for Period of Record

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX

LOCATION.--Lat 29°37'07", long 95°26'45", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Hiram Clarke Street in southwest Houston, 12.7 mi upstream from gage Sims Bayou at Houston, and 19.7 mi upstream from mouth.

DRAINAGE AREA.--20.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (discharge measurements and supplemental peak discharges only Dec. 6, 1978, to Aug. 31, 1979).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records good. Channel bed was lowered 5 to 6 ft during rectification of 1978. No known diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Records furnished by Houston Lighting and Power Co. show that during the current year about 719 acre-ft of ground water was used for cooling purposes then released to the bayou about 200 ft upstream from gage. Rain gage and gage-height telemeters located at station.

AVERAGE DISCHARGE.--18 years (water years 1965-78, 1980-83), 28.9 ft^3/s (20,940 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft^3/s Sept 19, 1983 (elevation, 54.50 ft); maximum elevation, 57.12 ft June 15, 1976, occurred prior to 1978 channel rectification; minimum daily discharge, 1.5 ft^3/s July 26, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Elevation (ft)	Date	Time	Discharge (ft^3/s)	Elevation (ft)
Mar. 23	1530	902	44.72	Aug. 11	1730	884	44.36
June 16	2045	1,190	46.60	Aug. 18	1815	3,730	53.20
July 16	0530	1,190	45.67	Sept. 19	1030	*4,660	54.50
Aug. 10	1945	945	44.64				

. Minimum daily discharge, 12 ft^3/s for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	12	28	22	18	14	16	13	14	12	14	17
2	14	44	19	19	13	14	14	13	14	13	14	18
3	14	99	34	15	12	14	16	15	14	14	17	32
4	13	21	22	14	12	14	17	13	15	13	23	21
5	13	16	18	13	231	20	18	12	14	13	16	17
6	15	17	17	13	69	16	15	13	14	14	15	30
7	21	14	14	13	25	15	15	13	16	13	16	25
8	22	13	14	14	18	14	18	13	15	12	68	81
9	15	14	13	13	211	15	13	14	15	12	183	74
10	15	13	29	12	133	15	14	65	15	13	296	24
11	19	14	27	13	37	14	14	32	15	13	433	23
12	25	13	19	12	24	15	14	15	15	14	338	19
13	16	13	15	14	17	14	13	14	14	128	124	25
14	13	13	16	13	15	14	13	14	14	141	39	16
15	12	13	19	13	181	14	12	66	14	354	20	14
16	13	13	15	13	170	29	13	47	272	704	20	16
17	13	52	14	13	41	26	13	17	284	132	17	16
18	12	19	15	15	24	15	12	15	53	38	2050	20
19	12	100	15	144	18	15	13	14	21	20	722	2130
20	12	106	14	96	43	24	12	252	15	18	105	331
21	12	29	15	31	304	16	13	218	19	17	35	84
22	14	15	14	21	55	14	14	128	22	17	25	28
23	13	15	14	17	28	312	13	31	19	16	21	19
24	15	15	15	15	20	136	13	20	29	16	19	16
25	14	15	110	14	17	39	13	17	62	15	25	16
26	14	28	93	13	17	52	12	16	40	15	20	40
27	13	195	85	13	16	28	14	16	25	14	21	32
28	13	47	30	12	15	17	13	15	14	14	17	17
29	24	21	17	13	---	15	13	15	13	15	16	14
30	18	24	14	13	---	26	13	14	13	15	16	15
31	15	---	16	19	---	24	---	14	---	17	16	---
TOTAL	466	1023	800	675	1784	1010	416	1174	1119	1862	4761	3230
MEAN	15.0	34.1	25.8	21.8	63.7	32.6	13.9	37.9	37.3	60.1	154	108
MAX	25	195	110	144	304	312	18	252	284	704	2050	2130
MIN	12	12	13	12	12	14	12	12	13	12	14	14
AC-FT	924	2030	1590	1340	3540	2000	825	2330	2220	3690	9440	6410

CAL YR 1982 TOTAL 8851 MEAN 24.2 MAX 562 MIN 11 AC-FT 17560
WTR YR 1983 TOTAL 18320 MEAN 50.2 MAX 2130 MIN 12 AC-FT 36340

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB												
15...	1546	321	290	7.8	14.0	90	180	8.8	86	8.4	580	5300
MAR												
02...	1048	14	931	7.9	19.0	5	17	8.5	91	3.2	K1	130

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
FEB												
15...	73	0	22	4.3	31	1.6	3.8	89	21	24	.20	9.9
MAR												
02...	190	0	54	13	130	4.3	4.6	260	72	94	.50	23

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB											
15...	170	230	104	.78	.120	.90	.860	3.0	3.90	1.40	20
MAR											
02...	547	23	3	3.1	.540	3.6	2.80	3.7	6.50	3.50	6.1

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
02...	1048	4	170	<1	<10	3	10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
02...	<1	36	<.1	<1	<1	13

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR								
02...	1048	<.10	<.10	.10	<.10	<.10	<2.0	<.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR							
02...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08075400 Sims Bayou at Hiram Clarke Street, Houston, Tex.

Date and time	Rainfall at gage 5400 (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983			
Aug. 18					
0000	0.0	0.0	0.0	18.0	0.0002
0015	.0	.02	.01	18.0	.0005
0030	.12	.04	.09	18.0	.0009
0045	.12	.06	.10	19.0	.0012
0100	.12	.08	.10	20.0	.0016
0115	.24	.10	.18	22.0	.0020
0130	.24	.18	.22	24.0	.0025
0145	.36	.21	.30	30.0	.0031
0200	.36	.25	.32	35.0	.0037
0215	.48	.34	.42	41.0	.0045
0230	.60	.41	.52	49.0	.0055
0245	.72	.51	.64	59.0	.0066
0300	.72	.56	.66	74.0	.0080
0315	.84	.59	.74	91.0	.0098
0330	.84	.64	.76	107.0	.0118
0345	.96	.67	.84	121.0	.0141
0400	1.20	.75	1.02	148.0	.0170
0415	1.44	.95	1.24	201.0	.0208
0430	1.44	1.15	1.32	278.0	.0262
0445	1.56	1.25	1.44	348.0	.0328
0500	1.56	1.40	1.50	420.0	.0409
0515	1.56	1.50	1.54	492.0	.0503
0530	1.56	1.55	1.56	557.0	.0610
0545	1.68	1.60	1.65	624.0	.0730
0600	1.68	1.61	1.65	688.0	.0862
0615	1.68	1.61	1.65	736.0	.1003
0630	1.68	1.63	1.66	795.0	.1155
0645	1.80	1.75	1.78	856.0	.1319
0700	1.80	1.81	1.80	914.0	.1495
0715	1.80	1.89	1.84	966.0	.1680
0730	1.80	1.95	1.86	1,010.0	.1874
0745	1.80	1.97	1.87	1,060.0	.2077
0800	1.80	1.98	1.87	1,090.0	.2286
0815	1.92	2.00	1.95	1,120.0	.2501
0830	1.92	2.05	1.97	1,140.0	.2719
0845	2.16	2.10	2.14	1,170.0	.2944
0900	2.16	2.12	2.14	1,210.0	.3176
0915	2.16	2.15	2.16	1,230.0	.3412
0930	2.16	2.17	2.16	1,250.0	.3651

08075400 Sims Bayou at Hiram Clarke Street, Houston, Tex.--Continued

Date and time	Rainfall at gage 5400 (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983--Continued			
Aug. 18					
0945	2.28	2.33	2.30	1,260.0	0.3893
1000	2.64	2.55	2.60	1,290.0	.4141
1015	3.00	2.83	2.93	1,390.0	.4407
1030	3.24	3.09	3.18	1,540.0	.4702
1045	3.60	3.41	3.52	1,740.0	.5036
1100	3.84	3.70	3.78	2,000.0	.5420
1115	3.96	3.90	3.94	2,260.0	.5853
1130	4.08	4.05	4.07	2,480.0	.6329
1145	4.32	4.20	4.27	2,670.0	.6841
1200	4.56	4.25	4.44	2,820.0	.7382
1215	4.68	4.34	4.54	2,980.0	.7953
1230	4.68	4.37	4.56	3,110.0	.8550
1245	4.80	4.41	4.64	3,240.0	.9171
1300	4.80	4.45	4.66	3,270.0	.9798
1315	4.92	4.45	4.73	3,300.0	1.1064
1400	4.92	4.45	4.73	3,380.0	1.2360
1415	5.04	4.45	4.80	3,390.0	1.3010
1430	5.04	4.45	4.80	3,410.0	1.3664
1445	5.04	4.47	4.81	3,380.0	1.4313
1500	5.28	4.55	4.99	3,360.0	1.4957
1515	5.52	4.60	5.15	3,350.0	1.5599
1530	5.52	4.60	5.15	3,360.0	1.6244
1545	5.52	4.60	5.15	3,350.0	1.6886
1600	5.52	4.62	5.16	3,320.0	1.7523
1615	5.64	4.64	5.24	3,280.0	1.8152
1630	6.24	4.67	5.61	3,310.0	1.8787
1645	6.72	4.68	5.90	3,420.0	1.9443
1700	6.72	4.69	5.91	3,540.0	2.0122
1715	6.72	4.69	5.91	3,630.0	2.0818
1730	6.72	4.73	5.92	3,680.0	2.1523
1745	6.84	4.73	6.00	3,710.0	2.2235
1800	6.84	4.73	6.00	3,720.0	2.2948
1815	6.84	4.73	6.00	3,730.0	2.4379
1900	6.84	4.73	6.00	3,650.0	2.5779
1915	6.84	4.81	6.03	3,610.0	2.6471
1930	6.84	4.83	6.04	3,540.0	2.7150
1945	7.08	4.83	6.18	3,500.0	2.7821
2000	7.20	4.83	6.25	3,500.0	3.2184
2300	7.20	4.83	6.25	2,840.0	3.6542

08075400 Sims Bayou at Hiram Clarke Street, Houston, Tex.--Continued

Date and time	Rainfall at gage 5400 (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983--Continued			
Aug. 18					
2400	7.20	4.83	6.25	2,460.0	3.8901
Aug. 19					
0000	7.20	4.83	6.25	2,460.0	3.8901
0130	7.20	4.83	6.25	1,920.0	4.1110
0300	7.20	4.83	6.25	1,520.0	4.2859
0430	7.20	4.83	6.25	1,210.0	4.4251
0600	7.20	4.83	6.25	963.0	4.5359
0730	7.20	4.83	6.25	782.0	4.6409
0930	7.20	4.83	6.25	611.0	4.7464
1200	7.20	4.83	6.25	486.0	4.8396
1430	7.20	4.83	6.25	391.0	4.9146
1700	7.20	4.83	6.25	316.0	4.9570
1800	7.20	4.83	6.25	290.0	5.0349
2400	7.20	4.83	6.25	211.0	5.0915
Aug. 20					
0000	7.20	4.83	6.25	211.0	5.0915
0100	7.20	4.83	6.25	211.0	5.1239
0400	7.20	4.83	6.25	160.0	5.1546
0600	7.20	4.83	6.25	134.0	5.1803
0900	7.20	4.83	6.25	108.0	5.2051
1200	7.20	4.83	6.25	90.0	5.2293
1600	7.20	4.83	6.25	73.0	5.2461
1800	7.20	4.83	6.25	66.0	5.2587
2100	7.20	4.83	6.25	53.0	5.2709
2400	7.20	4.83	6.25	47.0	5.2763

08075400 Sims Bayou at Hiram Clarke Street, Houston, Tex.--Continued

Date and time	Rainfall at gage 5400 (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-21, 1983			
Sept. 19					
0000	0.0	0.0	0.0	31.0	0.0027
0215	.0	.0	.0	27.0	.0053
0230	.0	.01	.00	27.0	.0058
0245	.0	.02	.01	27.0	.0063
0300	.12	.24	.17	26.0	.0068
0315	.12	.30	.19	26.0	.0073
0330	.12	.33	.20	26.0	.0078
0345	.12	.37	.22	26.0	.0083
0400	.24	.47	.33	27.0	.0088
0415	.24	.59	.38	30.0	.0094
0430	.36	.87	.56	33.0	.0100
0445	.36	1.32	.74	37.0	.0107
0500	.48	1.60	.93	45.0	.0116
0515	.60	1.97	1.15	59.0	.0127
0530	.72	2.13	1.28	92.0	.0145
0545	.84	2.30	1.42	130.0	.0170
0600	.96	2.55	1.60	181.0	.0205
0615	1.68	3.15	2.27	275.0	.0257
0630	2.40	3.45	2.82	577.0	.0368
0645	3.00	4.07	3.43	1,150.0	.0588
0700	3.84	4.23	4.00	1,730.0	.0920
0715	4.80	4.45	4.66	2,290.0	.1359
0730	4.92	4.80	4.87	2,850.0	.1906
0745	5.16	5.10	5.14	3,360.0	.2550
0800	5.40	5.13	5.29	3,610.0	.3243
0815	5.52	5.20	5.39	4,000.0	.4010
0830	6.12	5.35	5.81	4,220.0	.4819
0845	6.12	5.37	5.82	4,330.0	.5650
0900	6.24	5.43	5.92	4,420.0	.6497
0915	6.36	5.50	6.02	4,500.0	.7360
0930	6.36	5.53	6.03	4,560.0	.8235
0945	6.36	5.57	6.04	4,620.0	.9121
1000	6.48	5.57	6.12	4,650.0	1.0458
1030	6.48	5.57	6.12	4,660.0	1.1799
1045	6.48	5.63	6.14	4,660.0	1.2693
1100	6.60	5.64	6.22	4,650.0	1.3584
1115	6.72	5.65	6.29	4,660.0	1.4478
1130	6.72	5.66	6.30	4,650.0	1.5370
1145	6.72	5.66	6.30	4,610.0	1.6254

08075400 Sims Bayou at Hiram Clarke Street, Houston, Tex.--Continued

Date and time	Rainfall at gage 5400 (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-21, 1983--Continued			
Sept. 19					
1200	6.72	5.66	6.30	4,620.0	2.1570
1445	6.72	5.66	6.30	3,750.0	2.7683
1615	6.72	5.66	6.30	2,980.0	3.0826
1730	6.72	5.66	6.30	2,390.0	3.2431
1800	6.72	5.66	6.30	2,190.0	3.3901
1915	6.72	5.66	6.30	1,730.0	3.5560
2030	6.72	5.66	6.30	1,370.0	3.6873
2145	6.72	5.66	6.30	1,120.0	3.8055
2315	6.72	5.66	6.30	905.0	3.8836
2400	6.72	5.66	6.30	830.0	3.9711
Sept. 20					
0000	6.72	5.66	6.30	830.0	3.9711
0200	6.72	5.66	6.30	645.0	4.0330
0230	6.72	5.71	6.32	609.0	4.0680
0330	6.72	5.71	6.32	554.0	4.0999
0400	6.72	5.72	6.32	524.0	4.1200
0430	6.72	5.83	6.36	499.0	4.1583
0600	6.72	5.83	6.36	436.0	4.2837
1200	6.72	5.83	6.36	252.0	4.3948
1730	6.72	5.83	6.36	153.0	4.4300
1800	7.08	5.83	6.58	161.0	4.4424
1930	7.08	5.83	6.58	214.0	4.4916
2400	7.08	5.83	6.58	189.0	4.5678
Sept. 21					
0000	7.08	5.83	6.58	189.0	4.5678
0600	7.08	5.83	6.58	107.0	4.6170
1200	7.08	5.83	6.58	72.0	4.6501
1800	7.08	5.83	6.58	54.0	4.6750
2400	7.08	5.83	6.58	41.0	4.6844

08075470 SIMS BAYOU AT MARTIN LUTHER KING BLVD., HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'42", long 95°20'13", Harris County, Hydrologic Unit 12040104, at downstream side of upstream bridge on Martin Luther King Boulevard (formerly South Park Boulevard), 1.6 miles upstream from Atchison, Topeka, and Santa Fe Railway Co. bridge in south Houston.

DRAINAGE.--48.4 mi^2.

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Gage-height records good. Peak discharges were not computed at this time because an adequate stage-discharge relationship has not been determined.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (est.) 1,500 ft^3/s Jan. 19, 1978 (elevation unknown); maximum elevation, 37.82 ft Aug. 18, 1983. Minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peak stage of 38.28 ft (discharge unknown) on June 15, 1976. This same storm produced the largest peak for the period of record (1952-81) at the gaging station Sims Bayou at Houston (08075500).

EXTREMES FOR CURRENT YEAR.--Peak stages above elevation of 25.0 ft and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Aug. 18	2000	unknown	*37.82
Sept. 19	1430	unknown	37.22

Minimum discharge not determined.

STORM RAINFALL AND RUNOFF

08075470 Sims Bayou at M. L. King Blvd., Houston, Tex.

Date and time	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
			Storm of Aug. 18-20, 1983			
Aug. 18						
0000	0.0	0.0	0.0	0.0	0.0	12.20
0015	.12	.0	.12	.02	.04	12.20
0030	.12	.12	.12	.04	.11	12.20
0045	.24	.12	.12	.06	.12	12.20
0100	.24	.12	.24	.08	.16	12.20
0115	.36	.24	.36	.10	.26	12.20
0130	.48	.24	.36	.18	.28	12.20
0145	.60	.36	.48	.21	.39	12.20
0200	.60	.36	.48	.25	.39	12.20
0215	.72	.48	.60	.34	.51	12.20
0230	.84	.60	.72	.41	.62	12.20
0245	.96	.72	.84	.51	.74	13.38
0300	1.08	.72	.84	.56	.75	14.56
0315	1.08	.84	.84	.59	.81	15.09
0330	1.20	.84	.96	.64	.86	15.55
0345	1.32	.96	1.08	.67	.97	15.95
0400	1.56	1.20	1.32	.75	1.19	16.53
0415	1.68	1.44	1.44	.95	1.38	17.43
0430	1.80	1.44	1.44	1.15	1.41	18.37
0445	1.92	1.56	1.56	1.25	1.53	19.13
0500	2.04	1.56	1.56	1.40	1.56	19.85
0515	2.04	1.56	1.56	1.50	1.57	20.45
0530	2.16	1.56	1.56	1.55	1.59	20.91
0545	2.16	1.68	1.68	1.60	1.69	21.35
0600	2.28	1.68	1.68	1.61	1.70	21.75
0615	2.40	1.68	1.80	1.61	1.74	22.21
0630	2.52	1.68	1.92	1.63	1.79	22.69
0645	2.64	1.80	1.92	1.75	1.87	23.22
0700	2.64	1.80	1.92	1.81	1.88	23.75
0715	2.76	1.80	1.92	1.89	1.90	24.23
0730	2.76	1.80	1.92	1.95	1.91	24.68
0745	2.76	1.80	1.92	1.97	1.91	25.09
0800	2.88	1.80	1.92	1.98	1.92	25.45
0815	3.00	1.92	2.04	2.00	2.02	25.80
0830	3.12	1.92	2.16	2.05	2.07	26.21
0845	3.36	2.16	2.40	2.10	2.28	26.71
0900	3.60	2.16	2.64	2.12	2.37	27.29
0915	3.72	2.16	2.64	2.15	2.38	27.89
0930	3.96	2.16	2.76	2.17	2.43	28.39

Stage records are realtive to gage datum. Discharge records are not currently available for this storm.

08075470 Sims Bayou at M. L. King Blvd., Houston, Tex.--Continued

Date and time	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
			Storm of Aug. 18-20, 1983--Continued			
Aug. 18						
0945	4.20	2.28	3.00	2.33	2.60	28.91
1000	4.44	2.64	3.36	2.55	2.93	29.43
1015	4.68	3.00	3.72	2.83	3.27	29.96
1030	4.92	3.24	4.08	3.09	3.55	30.55
1045	5.16	3.60	4.32	3.41	3.87	31.09
1100	5.40	3.84	4.68	3.70	4.15	31.63
1115	5.64	3.96	4.80	3.90	4.29	32.17
1130	5.88	4.08	5.04	4.05	4.45	32.69
1145	6.00	4.32	5.28	4.20	4.67	33.15
1200	6.24	4.56	5.52	4.25	4.89	33.65
1215	6.36	4.68	5.64	4.34	5.00	34.13
1230	6.48	4.68	5.76	4.37	5.05	34.59
1245	6.60	4.80	5.88	4.41	5.16	35.05
1300	6.72	4.80	6.00	4.45	5.20	35.41
1315	6.72	4.92	6.00	4.45	5.26	35.76
1330	6.72	4.92	6.12	4.45	5.30	36.04
1345	6.84	4.92	6.12	4.45	5.31	36.29
1400	6.84	4.92	6.12	4.45	5.31	36.49
1415	6.96	5.04	6.36	4.45	5.44	36.64
1430	7.08	5.04	6.48	4.45	5.49	36.79
1445	7.08	5.04	6.48	4.47	5.49	36.95
1500	7.20	5.28	6.72	4.55	5.70	37.07
1515	7.20	5.52	6.84	4.60	5.86	37.16
1530	7.32	5.52	6.96	4.60	5.90	37.23
1545	7.56	5.52	6.96	4.60	5.92	37.30
1600	7.56	5.52	6.96	4.62	5.92	37.34
1615	7.56	5.64	6.96	4.64	5.98	37.35
1630	7.56	6.24	6.96	4.67	6.29	37.45
1645	7.56	6.72	6.96	4.68	6.53	37.49
1700	7.68	6.72	6.96	4.69	6.54	37.53
1715	7.92	6.72	6.96	4.69	6.55	37.57
1730	7.92	6.72	6.96	4.73	6.55	37.61
1745	7.92	6.84	6.96	4.73	6.61	37.65
1800	8.28	6.84	6.96	4.73	6.63	37.68
1815	8.28	6.84	7.08	4.73	6.67	37.71
1830	8.28	6.84	7.08	4.73	6.67	37.74
1845	8.88	6.84	7.08	4.73	6.70	37.75
1900	8.88	6.84	7.08	4.73	6.70	37.77
1915	9.00	6.84	7.08	4.81	6.72	37.79

Stage records are relative to gage datum. Discharge records are not currently available for this storm.

08075470 Sims Bayou at M. L. King Blvd., Houston, Tex.--Continued

Date and time	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
			Storm of Aug. 18-20, 1983--Continued			
Aug. 18						
1930	9.00	6.84	7.08	4.83	6.72	37.81
1945	9.00	7.08	7.08	4.83	6.84	37.81
2000	9.60	7.20	7.08	4.83	6.93	37.82
2015	9.72	7.20	7.08	4.83	6.93	37.79
2030	10.08	7.20	7.08	4.83	6.95	37.78
2045	10.08	7.20	7.08	4.83	6.95	37.77
2100	10.68	7.20	7.08	4.83	6.98	37.77
2345	10.68	7.20	7.08	4.83	6.98	37.12
2400	10.68	7.20	7.08	4.83	6.98	37.02
Aug. 19						
0000	10.68	7.20	7.08	4.83	6.98	37.02
0030	10.68	7.20	7.08	4.83	6.98	36.76
0100	10.68	7.20	7.08	4.83	6.98	36.94
0130	10.68	7.20	7.08	4.83	6.98	36.06
0230	10.68	7.20	7.08	4.83	6.98	35.14
0330	10.68	7.20	7.08	4.83	6.98	34.10
0430	10.68	7.20	7.08	4.83	6.98	33.00
0530	10.68	7.20	7.08	4.83	6.98	31.90
0600	10.68	7.20	7.08	4.83	6.98	31.36
0800	10.68	7.20	7.08	4.83	6.98	29.25
1000	10.68	7.20	7.08	4.83	6.98	27.40
1200	10.68	7.20	7.20	4.83	7.02	25.72
1500	10.68	7.20	7.20	4.83	7.02	23.55
1800	10.68	7.20	7.20	4.83	7.02	21.30
2100	10.68	7.20	7.20	4.83	7.02	19.70
2400	10.68	7.20	7.20	4.83	7.02	18.40
Aug. 20						
0000	10.68	7.20	7.20	4.83	7.02	18.40
0400	10.68	7.20	7.20	4.83	7.02	17.11
0800	10.68	7.20	7.20	4.83	7.02	16.00
1200	10.68	7.20	7.20	4.83	7.02	15.06
1600	10.68	7.20	7.20	4.83	7.02	14.28
2000	10.68	7.20	7.20	4.83	7.02	13.74
2400	10.68	7.20	7.20	4.83	7.02	13.28

Stage records are relative to gage datum. Discharge records are not currently available for this storm.

08075470 Sims Bayou at M. L. King Blvd., Houston, Tex.--Continued

Date and time	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
			Storm of Sept. 19-22, 1983			
Sept. 19						
0000	0.0	0.0	0.0	0.0	0.0	12.20
0145	.0	.0	.0	.0	.0	12.20
0200	.0	.0	.12	.0	.04	12.20
0215	.0	.0	.12	.0	.04	12.20
0230	.0	.0	.12	.01	.04	12.20
0245	.0	.0	.12	.02	.04	12.20
0300	.0	.12	.12	.24	.13	12.20
0315	.0	.12	.12	.30	.14	12.20
0330	.0	.12	.12	.33	.15	12.20
0345	.0	.12	.12	.37	.15	12.20
0400	.0	.24	.12	.47	.23	12.20
0415	.12	.24	.12	.59	.25	12.20
0430	.12	.36	.12	.87	.35	12.20
0445	.12	.36	.24	1.32	.46	12.20
0500	.12	.48	.24	1.60	.56	12.20
0515	.24	.60	.24	1.97	.68	12.20
0530	.24	.72	.36	2.13	.80	12.20
0545	.24	.84	.48	2.30	.92	12.20
0600	.48	.96	.48	2.55	1.03	12.20
0615	.48	1.68	.60	3.15	1.52	12.80
0630	.60	2.40	1.08	3.45	2.07	13.40
0645	.72	3.00	1.44	4.07	2.58	14.00
0700	.84	3.84	1.68	4.23	3.10	14.60
0715	.96	4.80	2.16	4.45	3.76	15.37
0730	1.32	4.92	2.28	4.80	3.93	16.44
0745	1.44	5.16	2.64	5.10	4.21	17.84
0800	1.80	5.40	3.00	5.13	4.46	19.17
0815	1.92	5.52	3.36	5.20	4.64	21.04
0830	2.16	6.12	3.60	5.35	5.05	23.15
0845	2.52	6.12	3.96	5.37	5.18	25.52
0900	3.00	6.24	3.96	5.43	5.27	27.82
0915	3.24	6.36	4.08	5.50	5.39	30.15
0930	3.36	6.36	4.20	5.53	5.44	31.70
0945	3.36	6.36	4.20	5.57	5.44	32.89
1000	3.48	6.48	4.20	5.57	5.51	33.92
1015	3.48	6.48	4.20	5.57	5.51	34.68
1030	3.48	6.48	4.20	5.57	5.51	35.23
1045	3.48	6.48	4.20	5.63	5.52	35.68
1100	3.48	6.60	4.32	5.64	5.62	35.98

Stage records are relative to gage datum. Discharge records are not currently available for this storm.

08075470 Sims Bayou at M. L. King Blvd., Houston, Tex.--Continued

Date and time	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
			Storm of Sept. 19-22, 1983--Continued			
Sept. 19						
1115	3.48	6.72	4.32	5.65	5.68	36.24
1130	3.48	6.72	4.32	5.66	5.68	36.42
1145	3.48	6.72	4.32	5.66	5.68	36.59
1200	3.60	6.72	4.32	5.66	5.68	36.74
1430	3.60	6.72	4.32	5.66	5.68	37.22
1445	3.60	6.72	4.32	5.66	5.68	37.22
1500	3.60	6.72	4.32	5.66	5.68	37.22
1715	3.60	6.72	4.32	5.66	5.68	36.50
1800	3.60	6.72	4.32	5.66	5.68	35.94
1845	3.60	6.72	4.32	5.66	5.68	35.24
1930	3.60	6.72	4.32	5.66	5.68	34.42
2000	3.60	6.72	4.32	5.66	5.68	33.83
2030	3.60	6.72	4.32	5.66	5.68	33.22
2100	3.60	6.72	4.32	5.66	5.68	32.61
2130	3.60	6.72	4.32	5.66	5.68	31.99
2200	3.60	6.72	4.32	5.66	5.68	31.36
2230	3.60	6.72	4.32	5.66	5.68	30.76
2300	3.60	6.72	4.32	5.66	5.68	30.18
2330	3.60	6.72	4.32	5.66	5.68	29.60
2400	3.60	6.72	4.32	5.66	5.68	29.02
Sept. 20						
0000	3.60	6.72	4.32	5.66	5.68	29.02
0030	3.60	6.72	4.32	5.66	5.68	28.46
0100	3.60	6.72	4.32	5.66	5.68	27.94
0130	3.60	6.72	4.32	5.66	5.68	27.39
0200	3.60	6.72	4.32	5.66	5.68	26.90
0230	3.60	6.72	4.32	5.71	5.69	26.40
0300	3.60	6.72	4.32	5.71	5.69	25.94
0330	3.60	6.72	4.44	5.71	5.73	25.45
0400	3.60	6.72	4.44	5.72	5.73	25.02
0430	3.60	6.72	4.44	5.83	5.75	24.55
0500	3.60	6.72	4.44	5.83	5.75	24.11
0530	3.60	6.72	4.44	5.83	5.75	23.70
0600	3.60	6.72	4.44	5.83	5.75	23.26
0630	3.60	6.72	4.44	5.83	5.75	22.90
0700	3.72	6.72	4.44	5.83	5.75	22.52
0730	3.72	6.72	4.44	5.83	5.75	22.13
0830	3.72	6.72	4.44	5.83	5.75	21.46
0900	3.72	6.72	4.44	5.83	5.75	21.00
0930	3.72	6.72	4.44	5.83	5.75	21.01

Stage records are relative to gage datum. Discharge records are not currently available for this storm.

08075470 Sims Bayou at M. L. King Blvd., Houston, Tex.--Continued

Date and time	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
			Storm of Sept. 19-22, 1983--Continued			
Sept. 20						
1000	3.72	6.72	4.44	5.83	5.75	20.70
1100	3.72	6.72	4.44	5.83	5.75	20.00
1130	3.72	6.72	4.44	5.83	5.75	20.05
1200	3.72	6.72	4.44	5.83	5.75	19.79
1300	3.72	6.72	4.44	5.83	5.75	19.34
1400	3.72	6.72	4.44	5.83	5.75	18.89
1500	3.72	6.72	4.44	5.83	5.75	18.47
1600	3.72	6.72	4.44	5.83	5.75	18.09
1700	3.72	6.72	4.44	5.83	5.75	17.74
1730	3.72	6.72	4.44	5.83	5.75	17.56
1800	3.84	7.08	4.56	5.83	5.97	17.39
1830	3.96	7.08	4.68	5.83	6.02	17.22
1900	3.96	7.08	4.68	5.83	6.02	17.17
2030	3.96	7.08	4.68	5.83	6.02	17.28
2200	3.96	7.08	4.68	5.83	6.02	17.14
2400	3.96	7.08	4.68	5.83	6.02	16.95
Sept. 21						
0000	3.96	7.08	4.68	5.83	6.02	16.95
0300	3.96	7.08	4.68	5.83	6.02	16.57
0500	3.96	7.08	4.68	5.83	6.02	16.24
0600	3.96	7.08	4.68	5.83	6.02	16.06
0800	3.96	7.08	4.68	5.83	6.02	15.70
1000	3.96	7.08	4.68	5.83	6.02	15.31
1200	3.96	7.08	4.68	5.83	6.02	14.95
1400	3.96	7.08	4.68	5.83	6.02	14.65
1700	3.96	7.08	4.68	5.83	6.02	14.29
1800	3.96	7.08	4.68	5.83	6.02	14.15
2100	3.96	7.08	4.68	5.83	6.02	13.85
2400	3.96	7.08	4.68	5.83	6.02	13.55
Sept. 22						
0000	3.96	7.08	4.68	5.83	6.02	13.55
0300	3.96	7.08	4.68	5.83	6.02	13.31
0600	3.96	7.08	4.68	5.83	6.02	13.10
1200	3.96	7.08	4.68	5.83	6.02	12.80
1800	3.96	7.08	4.68	5.83	6.02	12.75
2400	3.96	7.08	4.68	5.83	6.02	12.60

Stage records are relative to gage datum. Discharge records are not currently available for this storm.

SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on State Highway 35 in southeast Houston and 7.0 mi upstream from mouth.

DRAINAGE AREA.--63.0 mi^2. Prior to Oct. 1, 1976, 64.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1922: 1960. WDR TX-76-2: 1975(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.09 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Low flow is largely sustained by sewage effluent from Houston suburbs and industrial wastes. Rainfall and gage-height telemeter at station.

AVERAGE DISCHARGE.--31 years, 83.8 ft^3/s (60,710 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft^3/s Aug. 18, 1983, Hurricane Alica (gage height, 33.23 ft); minimum daily, 0.9 ft^3/s Aug. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 16	0930	2,460	20.83	Aug. 18	2100	*11,400	33.23
Aug. 11	1630	2,810	22.04	Sept. 19	1600	9,110	31.77

Minimum daily discharge, 33 ft^3/s Apr. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	45	90	106	101	57	49	36	40	43	44	68
2	40	150	60	85	53	56	45	34	41	43	41	88
3	45	320	100	60	49	51	47	36	40	41	46	84
4	42	75	70	50	44	57	48	34	43	38	70	76
5	41	60	55	48	906	67	46	49	43	47	48	42
6	41	65	54	46	381	54	45	51	43	44	45	286
7	56	55	53	44	128	48	45	49	41	40	60	184
8	60	48	48	45	96	53	47	51	41	41	139	221
9	50	50	49	44	565	58	44	50	40	39	500	793
10	45	50	107	43	570	56	46	187	39	38	385	233
11	55	47	96	41	140	55	42	105	36	38	1520	95
12	75	47	65	38	90	51	37	51	35	52	1120	95
13	50	41	52	37	80	50	35	45	35	395	518	81
14	48	43	60	38	75	49	36	41	37	410	139	49
15	46	43	74	36	600	46	38	109	36	484	78	60
16	45	52	52	35	550	58	41	139	494	1570	65	45
17	45	124	44	36	150	72	40	54	1390	373	70	48
18	44	65	51	35	90	49	41	46	310	119	6630	92
19	44	203	49	237	75	46	33	44	105	70	3930	4840
20	43	350	50	251	90	87	42	697	70	58	357	1530
21	43	90	47	86	1200	56	41	654	53	61	105	278
22	45	60	49	78	200	49	48	443	68	55	68	102
23	45	55	54	63	100	879	46	104	64	50	55	65
24	50	52	52	56	68	594	45	68	55	48	51	51
25	50	50	307	52	57	138	43	54	135	44	92	49
26	45	140	463	49	53	148	42	50	119	44	89	48
27	42	780	421	44	52	93	40	47	86	43	75	92
28	40	180	179	48	52	62	41	49	51	42	101	54
29	75	75	82	46	---	52	40	44	46	43	56	47
30	55	75	64	46	---	63	45	42	44	43	51	48
31	48	---	79	140	---	66	---	43	---	65	41	---
TOTAL	1489	3490	3076	2063	6615	3320	1278	3506	3680	4521	16589	9844
MEAN	48.0	116	99.2	66.5	236	107	42.6	113	123	146	535	328
MAX	75	780	463	251	1200	879	49	697	1390	1570	6630	4840
MIN	36	41	44	35	44	46	33	34	35	38	41	42
AC-FT	2950	6920	6100	4090	13120	6590	2530	6950	7300	8970	32900	19530

CAL YR 1982 TOTAL 29173 MEAN 79.9 MAX 1910 MIN 30 AC-FT 57860
WTR YR 1983 TOTAL 59471 MEAN 163 MAX 6630 MIN 33 AC-FT 118000

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
01...	0915	51	1000	7.6	17.0	5	28	5.8	60	7.8	58000	4500
MAY												
10...	1200	460	400	8.1	24.5	25	300	8.3	99	16	50000	81000
11...	1135	86	645	7.5	23.5	15	200	3.8	45	8.4	200000	160000
SEP												
19...	1330	8240	90	8.4	22.0	100	270	6.5	74	4.7	160000	260000
20...	1157	1040	206	7.2	26.0	55	90	4.9	60	3.9	140000	48000
21...	1035	279	363	6.8	21.5	40	90	6.8	76	5.5	15000	29000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAR												
01...	170	0	48	12	150	5.2	6.1	200	120	110	.60	18
MAY												
10...	66	0	21	3.2	54	3.0	3.6	67	37	51	.20	4.9
11...	98	0	29	6.1	90	4.1	5.8	110	83	65	.40	9.9
SEP												
19...	29	0	9.0	1.7	6.0	.5	2.8	33	9.7	4.9	.10	4.5
20...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR											
01...	585	35	13	5.1	.560	5.7	1.50	2.0	3.50	1.60	7.7
MAY											
10...	215	284	31	.94	.160	1.1	.760	2.3	3.10	.950	22
11...	355	252	82	1.1	.250	1.3	.780	1.7	2.50	1.20	11
SEP											
19...	59	510	70	.16	.040	.20	.150	4.9	5.00	.800	15
20...	--	138	11	.10	.100	.20	.260	1.2	1.50	.680	12
21...	--	105	30	.38	.120	.50	.380	1.3	1.70	.490	15

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
01...	0915	3	130	<1	<10	6	6
MAY							
10...	1200	18	38	<1	20	5	45
11...	1135	12	74	<1	<10	2	56
SEP							
19...	1330	6	23	<1	<10	3	110

08075500 SIMS BAYOU AT HOURSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
01...	<1	90	<.1	1	<1	74
MAY						
10...	2	21	<.1	<1	<1	10
11...	7	16	<.1	1	<1	10
SEP						
19...	2	4	<.1	<1	<1	5

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR								
01...	0915	<.10	<.10	.30	<.10	<.10	--	<.1
MAY								
10...	1200	<.10	<.10	1.4	<.10	<.10	<2.0	.4
11...	1135	<.10	<.10	<.10	<.10	<.10	<2.0	<.1
SEP								
19...	1330	<.10	<.10	.30	<.10	<.10	<2.0	.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR							
01...	<.1	<.10	--	--	<.10	<.10	<.1
MAY							
10...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
11...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
SEP							
19...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08075500 Sims Bayou at Houston, Tex.

Date and time	Rainfall at gage 5500 (inches)	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
				Storm of Aug. 18-21, 1983				
Aug. 18								
0000	0.0	0.0	0.0	0.0	0.0	0.0	72.0	0.0004
0030	.0	.12	.12	.12	.04	.10	72.0	.0013
0100	.12	.24	.12	.24	.08	.17	102.0	.0026
0130	.36	.48	.24	.36	.18	.31	165.0	.0046
0200	.60	.60	.36	.48	.25	.43	228.0	.0074
0230	.84	.84	.60	.72	.41	.66	322.0	.0114
0300	1.08	1.08	.72	.84	.56	.82	416.0	.0165
0330	1.20	1.20	.84	.96	.64	.93	640.0	.0244
0400	1.56	1.56	1.20	1.32	.75	1.25	864.0	.0350
0430	1.92	1.80	1.44	1.44	1.15	1.49	1,170.0	.0494
0500	2.28	2.04	1.56	1.56	1.40	1.67	1,470.0	.0675
0530	2.40	2.16	1.56	1.56	1.55	1.72	1,690.0	.0882
0600	2.52	2.28	1.68	1.68	1.61	1.83	1,900.0	.1116
0630	2.88	2.52	1.68	1.92	1.63	1.96	2,290.0	.1398
0700	3.36	2.64	1.80	1.92	1.81	2.08	2,680.0	.1727
0730	3.48	2.76	1.80	1.92	1.95	2.13	3,110.0	.2110
0800	3.84	2.88	1.80	1.92	1.98	2.17	3,530.0	.2544
0830	4.32	3.12	1.92	2.16	2.05	2.36	4,090.0	.3047
0900	4.68	3.60	2.16	2.64	2.12	2.69	4,640.0	.3618
0930	5.16	3.96	2.16	2.76	2.17	2.82	5,220.0	.4260
1000	5.52	4.44	2.64	3.36	2.55	3.31	5,800.0	.4973
1030	5.76	4.92	3.24	4.08	3.09	3.89	6,340.0	.5753
1100	6.00	5.40	3.84	4.68	3.70	4.45	6,880.0	.6599
1130	6.36	5.88	4.08	5.04	4.05	4.79	7,400.0	.7509
1200	6.60	6.24	4.56	5.52	4.25	5.19	7,920.0	.8483
1230	6.72	6.48	4.68	5.76	4.37	5.37	8,380.0	.9513
1300	6.84	6.72	4.80	6.00	4.45	5.53	8,830.0	1.0599
1330	6.84	6.72	4.92	6.12	4.45	5.61	9,280.0	1.1741
1400	7.08	6.84	4.92	6.12	4.45	5.64	9,730.0	1.2937
1430	7.20	7.08	5.04	6.48	4.45	5.83	9,970.0	1.4163
1500	7.20	7.20	5.28	6.72	4.55	6.01	10,200.0	1.5418
1530	7.20	7.32	5.52	6.96	4.60	6.19	10,500.0	1.6709
1600	7.44	7.56	5.52	6.96	4.62	6.25	10,800.0	1.8037
1630	7.44	7.56	6.24	6.96	4.67	6.51	10,900.0	1.9378
1700	7.44	7.68	6.72	6.96	4.69	6.70	11,000.0	2.0731
1730	7.44	7.92	6.72	6.96	4.73	6.76	11,000.0	2.2083
1800	7.44	8.28	6.84	6.96	4.73	6.87	11,100.0	2.3449
1830	7.44	8.28	6.84	7.08	4.73	6.90	11,100.0	2.4814
1900	7.44	8.88	6.84	7.08	4.73	7.02	11,200.0	2.6191

STORM RAINFALL AND RUNOFF

08075500 Sims Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 5500 (inches)	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-21, 1983--Continued					
Aug. 18								
1930	7.44	9.00	6.84	7.08	4.83	7.06	11,200.0	2.7568
2000	7.56	9.60	7.20	7.08	4.83	7.31	11,300.0	2.8958
2030	7.80	10.08	7.20	7.08	4.83	7.42	11,300.0	3.0348
2100	7.80	10.68	7.20	7.08	4.83	7.54	11,400.0	3.5255
2400	7.80	10.68	7.20	7.08	4.83	7.54	10,200.0	4.2781
Aug. 19								
0000	7.80	10.68	7.20	7.08	4.83	7.54	10,200.0	4.2781
0300	7.80	10.68	7.20	7.08	4.83	7.54	8,270.0	4.8884
0600	7.80	10.68	7.20	7.08	4.83	7.54	6,050.0	5.2604
0800	7.80	10.68	7.20	7.08	4.83	7.54	4,710.0	5.4921
1000	7.80	10.68	7.20	7.08	4.83	7.54	3,670.0	5.6275
1100	7.80	10.68	7.20	7.08	4.83	7.54	3,280.0	5.7082
1200	7.80	10.68	7.20	7.20	4.83	7.57	2,890.0	5.8148
1400	7.80	10.68	7.20	7.20	4.83	7.57	2,300.0	5.9280
1600	7.80	10.68	7.20	7.20	4.83	7.57	1,850.0	6.0190
1800	7.80	10.68	7.20	7.20	4.83	7.57	1,490.0	6.0923
2000	7.80	10.68	7.20	7.20	4.83	7.57	1,200.0	6.1808
2400	7.80	10.68	7.20	7.20	4.83	7.57	799.0	6.2791
Aug. 20								
0000	7.80	10.68	7.20	7.20	4.83	7.57	799.0	6.2791
0600	7.80	10.68	7.20	7.20	4.83	7.57	480.0	6.3204
0700	7.80	10.68	7.20	7.20	4.83	7.57	444.0	6.3313
0800	7.92	10.68	7.20	7.20	4.83	7.58	411.0	6.3566
1200	7.92	10.68	7.20	7.20	4.83	7.58	297.0	6.3931
1800	7.92	10.68	7.20	7.20	4.83	7.58	206.0	6.4235
2400	7.92	10.68	7.20	7.20	4.83	7.58	154.0	6.4462
Aug. 21								
0000	7.92	10.68	7.20	7.20	4.83	7.58	154.0	6.4462
0600	7.92	10.68	7.20	7.20	4.83	7.58	121.0	6.4641
1200	7.92	10.68	7.20	7.20	4.83	7.58	98.0	6.4761
1600	7.92	10.68	7.20	7.20	4.83	7.58	80.0	6.4820
1800	7.92	10.68	7.20	7.20	4.83	7.58	86.0	6.4863
2000	7.92	10.68	7.20	7.20	4.83	7.58	97.0	6.4934
2400	7.92	10.68	7.20	7.20	4.83	7.58	78.0	6.4973

STORM RAINFALL AND RUNOFF

08075500 Sims Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 5500 (inches)	Rainfall at gage 5470 (inches)	Rainfall at gage 5400 (inches)	Rainfall at gage 305R (inches)	Rainfall at gage 31R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
Storm of Sept. 19-22, 1983								
Sept. 19								
0000	0.0	0.0	0.0	0.0	0.0	0.0	86.0	0.0021
0200	.0	.0	.0	.12	.0	.03	83.0	.0062
0400	.0	.0	.24	.12	.47	.18	85.0	.0093
0500	.12	.12	.48	.24	1.60	.50	96.0	.0111
0530	.24	.24	.72	.36	2.13	.72	123.0	.0126
0600	.24	.48	.96	.48	2.55	.95	150.0	.0145
0630	.48	.60	2.40	1.08	3.45	1.77	298.0	.0181
0700	.60	.84	3.84	1.68	4.23	2.60	445.0	.0236
0730	.96	1.32	4.92	2.28	4.80	3.32	1,070.0	.0368
0800	1.44	1.80	5.40	3.00	5.13	3.84	1,700.0	.0577
0830	1.80	2.16	6.12	3.60	5.35	4.37	2,720.0	.0911
0900	2.52	3.00	6.24	3.96	5.43	4.71	3,740.0	.1371
0930	3.00	3.36	6.36	4.20	5.53	4.93	4,820.0	.1964
1000	3.12	3.48	6.48	4.20	5.57	5.01	5,900.0	.2690
1030	3.24	3.48	6.48	4.20	5.57	5.01	6,590.0	.3500
1100	3.24	3.48	6.60	4.32	5.64	5.09	7,270.0	.4394
1130	3.24	3.48	6.72	4.32	5.66	5.14	7,650.0	.5335
1200	3.24	3.60	6.72	4.32	5.66	5.16	8,030.0	.6322
1230	3.24	3.60	6.72	4.32	5.66	5.16	8,290.0	.7342
1300	3.36	3.60	6.72	4.32	5.66	5.17	8,550.0	1.1022
1600	3.36	3.60	6.72	4.32	5.66	5.17	9,110.0	1.6624
1800	3.36	3.60	6.72	4.32	5.66	5.17	8,570.0	2.1894
2100	3.36	3.60	6.72	4.32	5.66	5.17	6,670.0	2.6816
2400	3.36	3.60	6.72	4.32	5.66	5.17	4,560.0	2.9620
Sept. 20								
0000	3.36	3.60	6.72	4.32	5.66	5.17	4,560.0	2.9620
0200	3.36	3.60	6.72	4.32	5.66	5.17	3,500.0	3.1341
0400	3.36	3.60	6.72	4.44	5.72	5.21	2,740.0	3.2689
0600	3.48	3.60	6.72	4.44	5.83	5.23	2,120.0	3.3993
0900	3.48	3.72	6.72	4.44	5.83	5.25	1,470.0	3.5078
1200	3.48	3.72	6.72	4.44	5.83	5.25	1,040.0	3.6229
1800	3.48	3.84	7.08	4.56	5.83	5.43	670.0	3.7218
2400	3.84	3.96	7.08	4.68	5.83	5.51	495.0	3.7948
Sept. 21								
0000	3.84	3.96	7.08	4.68	5.83	5.51	495.0	3.7948
0600	3.96	3.96	7.08	4.68	5.83	5.51	308.0	3.8403
1200	3.96	3.96	7.08	4.68	5.83	5.51	201.0	3.8848
2400	3.96	3.96	7.08	4.68	5.83	5.51	102.0	3.9149
Sept. 22								
0000	3.96	3.96	7.08	4.68	5.83	5.51	102.0	3.9149
1200	3.96	3.96	7.08	4.68	5.83	5.51	61.0	3.9329
2400	3.96	3.96	7.08	4.68	5.83	5.51	44.0	3.9394

BERRY BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Berry Bayou drainage basin are shown in figure 15.

Weighted-mean rainfall over the drainage basin for the 1983 water year was not determined.

The storm of Aug. 18-19 was selected for analysis at both gaging station 08075550, Berry Bayou at Gilpin Street and station 08075650, Berry Bayou at Forest Oaks Street.

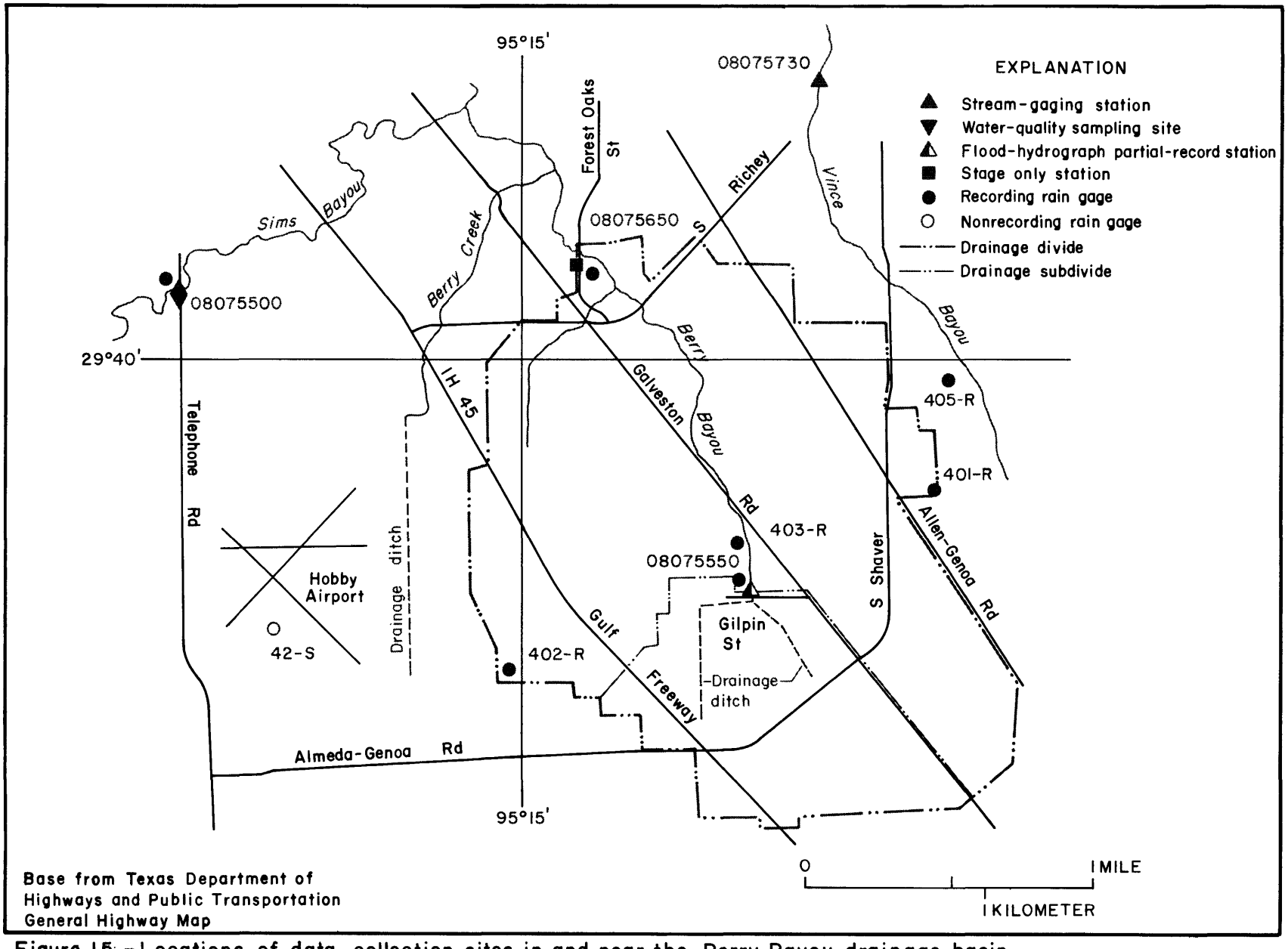

Figure 15.-Locations of data-collection sites in and near the Berry Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table14.--Storm rainfall-runoff data, 1983 Water Year, Berry Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Berry Bayou at Gilpin St., Houston, TX (Drainage Area -- 2.56 mi^2)								
Aug. 18-19, 1983	10.3	9.84	0.36	0.72	1.32	6.57	0.67	547*
Berry Bayou at Forest Oaks St., Houston, TX (Drainage Area -- 10.7 mi^2)								Maximum Gage Height (ft.)
Aug. 18-19, 1983	10.5	9.70	0.36	0.72	1.32	--	--	22.58*

* - Peak Discharge/Gage Height for 1983 Water Yeaer

08075550 BERRY BAYOU AT GILPIN STREET, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'32", long 95°13'22", Harris County, Hydrologic Unit 12040104, at bridge on Gilpin Street in southeast Houston.

DRAINAGE AREA.--2.56 mi^2. Oct. 1, 1973 to Oct. 1, 1978, 2.87 mi^2. Prior to Oct. 1, 1973, 3.26 mi^2.

PERIOD OF RECORD.--April 1964 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 26, 1978 a flood hydrograph and rainfall recorder (type SR) and a crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment, unadjusted for land surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 738 ft^3/s May 10, 1968; maximum elevation, 37.07 ft, July 26, 1979. Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
June 17	1245	490	34.99
July 16	unknown	361	33.73
Aug. 18	1400	*547	35.84
Sept. 10	1030	368	34.01
Sept. 19	1000	436	34.74

Minimum discharge not determined.

STORM RAINFALL AND RUNOFF

08075550 Berry Bayou at Gilpin Street, Houston, Tex.

Date and time	Rainfall at gage 403R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-19, 1983		
Aug. 18				
0000	0.0	0.0	1.0	0.0001
0015	.12	.12	1.0	.0002
0030	.12	.12	1.0	.0004
0045	.24	.24	1.0	.0005
0100	.36	.36	1.0	.0007
0115	.60	.60	1.0	.0008
0130	.72	.72	1.0	.0010
0145	.84	.84	1.0	.0011
0200	.96	.96	1.0	.0013
0215	1.08	1.08	1.0	.0014
0230	1.20	1.20	3.0	.0019
0245	1.32	1.32	102.0	.0173
0300	1.32	1.32	131.0	.0372
0315	1.44	1.44	152.0	.0602
0330	1.68	1.68	170.0	.0859
0345	1.92	1.92	196.0	.1155
0400	2.04	2.04	236.0	.1513
0415	2.16	2.16	264.0	.1912
0430	2.28	2.28	281.0	.2337
0445	2.40	2.40	297.0	.2787
0500	2.40	2.40	308.0	.3253
0515	2.64	2.64	311.0	.3723
0530	2.64	2.64	317.0	.4203
0545	2.76	2.76	319.0	.4686
0600	3.00	3.00	325.0	.5178
0615	3.36	3.36	343.0	.5697
0630	3.72	3.72	367.0	.6252
0645	4.08	4.08	398.0	.6854
0700	4.20	4.20	422.0	.7493
0715	4.44	4.44	437.0	.8154
0730	4.80	4.80	445.0	.8828
0745	5.04	5.04	458.0	.9521
0800	5.28	5.28	468.0	1.0229
0815	5.40	5.40	476.0	1.0949
0830	5.52	5.52	481.0	1.1677
0845	5.76	5.76	484.0	1.2410
0900	6.00	6.00	489.0	1.3150
0915	6.24	6.24	490.0	1.3891
0930	6.48	6.48	494.0	1.4639

08075550 Berry Bayou at Gilpin Street, Houston, Tex.--Continued

Date and time	Rainfall at gage 403R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Aug. 18-19, 1983--Continued			
Aug. 18				
0945	6.72	6.72	496.0	1.5389
1000	6.96	6.96	502.0	1.6149
1015	7.20	7.20	504.0	1.6911
1030	7.44	7.44	507.0	1.7679
1045	7.56	7.56	512.0	1.8453
1100	7.68	7.68	512.0	1.9228
1115	8.04	8.04	512.0	2.0003
1130	8.40	8.40	517.0	2.0785
1145	8.76	8.76	522.0	2.1575
1200	8.88	8.88	531.0	2.2379
1215	9.00	9.00	534.0	2.3187
1230	9.12	9.12	536.0	2.3998
1245	9.24	9.24	537.0	2.4811
1300	9.48	9.48	539.0	2.5626
1315	9.48	9.48	544.0	2.6450
1330	9.60	9.60	542.0	2.7270
1345	9.84	9.84	545.0	2.8094
1400	9.84	9.84	547.0	3.0164
1500	9.84	9.84	526.0	3.3348
1600	9.84	9.84	504.0	3.6398
1700	9.84	9.84	485.0	3.9334
1800	9.84	9.84	467.0	4.5341
2115	9.84	9.84	379.0	5.1076
2300	9.84	9.84	306.0	5.3623
2400	9.84	9.84	267.0	5.5643
Aug. 19				
0000	9.84	9.84	267.0	5.5643
0130	9.84	9.84	209.0	5.7857
0330	9.84	9.84	159.0	5.9782
0530	9.84	9.84	121.0	6.0698
0600	9.84	9.84	112.0	6.1376
0730	9.84	9.84	90.0	6.2329
0930	9.84	9.84	72.0	6.3201
1130	9.84	9.84	68.0	6.3715
1200	9.84	9.84	54.0	6.4042
1330	9.84	9.84	54.0	6.4369
1400	9.84	9.84	39.0	6.4900
1800	9.84	9.84	22.0	6.5566
2400	9.84	9.84	8.5	6.5720

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, at gaging station at Forest Oaks Street Bridge in southeast Houston, 0.8 mi upstream from mouth of Berry Creek, and 1.7 mi upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi². Prior to Oct. 1, 1973, 11.1 mi². Oct. 1, 1976, to Dec. 31, 1977, 10.1 mi². Drainage ditch relocations resulted in drainage area changes.

PERIOD OF RECORD.--October 1967 to current year (stage only beginning October 1982). October 1966 to September 1982 operated as partial discharge or flood-hydrograph partial-record station. April 1964 to September 1966 operated as a daily discharge station.
Water-quality records.--Chemical, biochemical, and pesticide analyses: October 1968 to September 1981. Water temperatures: April 1964 to September 1981.

REVISED RECORDS.--WRD TX-80-2: 1979(P).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2.72 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment prior to Oct. 1, 1982, auxiliary water-stage recorder 0.8 mi downstream at same datum. June 25, 1964, to Jan. 11, 1965, auxiliary nonrecording gage 0.8 mi downstream at same datum. Rain gage also located at station.

REMARKS.--Low stages affected by tidal surge. Rises sometimes affected by backwater from Sims Bayou. The reports "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan area," for the water years 1965-82 contain additional storm runoff data for this station. Stage and rainfall radio-telemeter located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s, June 9, 1975; maximum gage height, 23.85 ft Sept. 20, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 22.58 ft Aug. 18 at 1430 hours; minimum gage height, 2.78 ft Apr. 2, 3.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT	
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
1	6.17	5.04	5.87	4.78	-		-	-	6.37	3.71	5.20	3.88	6.19	3.23	6.23	4.02	-	-	5.82	4.35	4.77	3.38	5.38	3.28
2	6.62	4.83	8.33	4.85	-		-	-	5.02	2.90	5.15	4.00	4.60	2.78	6.19	4.33	-	-	5.88	4.35	4.63	3.30	5.13	3.48
3	6.27	5.21	7.82	4.15	7.37		-	3.18	3.81	2.85	5.28	3.74	5.19	2.78	5.48	3.80	-	-	-	-	4.87	3.28	5.45	3.72
4	6.05	4.60	4.33	3.03	-		4.68	3.66	5.73	3.45	5.93	3.86	6.02	3.84	5.27	3.41	-	-	-	-	5.49	3.63	5.62	3.62
5	6.16	4.57	5.03	3.72	-		5.10	3.98	12.25	4.80	6.06	4.15	5.70	4.10	5.36	3.59	-	-	-	-	5.26	3.49	6.05	3.92
6	6.25	5.02	5.40	4.15	-		5.03	3.90	6.75	3.90	5.38	3.66	4.68	3.08	6.28	4.85	-	-	-	-	5.06	3.29	7.60	4.17
7	6.30	4.42	5.10	4.45	-		5.30	3.95	4.95	3.37	5.45	3.78	4.47	3.07	5.83	4.48	-	-	5.15	3.37	5.12	3.05	7.35	5.18
8	6.10	4.75	5.55	4.35	-		5.15	3.78	5.05	3.43	5.33	3.47	4.42	3.22	4.88	3.55	-	-	5.32	3.40	7.45	3.08	6.25	4.56
9	6.22	4.03	5.60	4.13	-		5.33	3.59	8.66	4.04	4.83	2.99	4.33	2.95	6.28	4.53	-	-	5.70	3.66	6.41	3.35	8.53	4.85
10	5.62	3.60	5.58	-	-		5.10	3.57	8.10	4.17	4.15	2.80	4.28	3.17	7.32	5.25	-	-	5.95	3.75	5.04	3.99	11.35	4.90
11	5.32	3.60	5.88	-	-		4.98	3.10	4.97	3.44	4.28	2.87	4.72	3.48	6.38	5.40	6.15	3.92	5.85	3.88	10.35	4.64	6.28	4.23
12	5.77	3.98	-	-	-		4.56	2.94	5.04	3.62	4.72	3.00	5.17	4.02	6.27	4.80	6.17	4.11	5.90	3.83	8.94	5.34	5.37	3.66
13	5.12	3.82	-	-	-		4.77	3.18	5.07	3.68	4.84	3.42	5.42	4.25	6.46	4.80	6.20	3.96	6.87	4.08	6.41	3.93	4.98	3.37
14	5.16	3.55	5.77	-	-		4.63	3.02	5.10	3.75	5.03	3.50	4.80	2.93	6.70	4.85	5.90	4.03	6.77	4.63	4.58	3.15	5.13	3.51
15	5.30	4.16			-		4.45	2.92	6.87	4.96	5.50	4.31	4.83	2.98	6.22	4.47	5.38	3.53	7.33	4.92	4.33	3.40	5.71	3.86
16	5.05	4.00	6.22	-	-		4.78	3.34	6.25	4.32	5.98	4.52	5.30	3.41	5.42	3.39	8.00	3.33	12.47	6.10	5.47	3.55	5.40	3.83
17	5.45	4.27	6.45	-	-		4.84	3.37	5.18	4.17	4.95	2.88	5.37	3.53	6.58	4.14	13.27	5.70	6.10	4.60	8.12	4.17	5.29	3.76
18	5.40	4.10	-	-	-		5.22	4.10	4.98	4.00	4.82	2.83	4.94	3.28	-	-	6.33	4.63	6.12	4.32	22.58	6.56	5.78	4.09
19	5.32	4.29	7.00	-	-		6.47	6.22	5.68	3.90	5.02	3.38	6.27	3.48	-	-	5.60	4.50	5.17	3.57	19.96	6.29	17 97	4.24
20	5.40	3.87	6.15	-	-		6.35	5.01	7.00	4.32	4.64	2.98	6.32	4.56	-	-	5.55	4.38	5.00	3.26	6.29	4.55	14.90	6.08
21	5.28	3.95	5.40	-	-		5.86	4.51	8.14	5.06	3.83	2.83	6.20	4.77	-	-	5.50	4.12	6.27	3.07	5.41	4.08	6.08	3.91
22	4.88	3.88	-	-	-		5.18	3.86	5.06	3.25	5.55	2.87	5.78	4.40	-	-	5.50	3.95	5.03	3.17	5.28	3.72	5.95	4.00
23	5.20	3.88	-	-	-		5.03	3.65	4.80	3.03	11.10	4.45	4.99	3.07	-	-	5.58	3.97	5.03	3.30	5.14	3.55	5.93	4.83
24	4.97	4.12	-	-	-		4.97	3.27	4.91	3.14	8.12	4.43	4.23	2.90	-	-	5.67	3.95	4.77	3.13	5.14	3.67	5.89	4.86
25	5.44	4.34	-	-	11.13		5.13	3.18	5.48	3.23	6.38	4.16	5.48	3.23	-	-	7.35	3.80	4.72	3.11	6.36	3.64	5.91	4.81
26	5.30	4.16	9.85	-	-		5.32	3.30	6.27	4.30	7.02	4.88	5.44	4.27	-	-	6.52	4.02	4.52	3.03	5.21	3.88	6.00	4.63
27	5.13	4.06	10.10	-	-		4.38	2.88	6.71	4.63	5.43	3.38	5.51	4.09	-	-	6.03	4.28	4.55	2.97	5.82	3.89	5.92	4.62
28	5.55	4.31	-	-	-		5.53	3.62	5.62	3.90	4.97	3.43	5.47	3.81	-	-	6.03	4.22	4.50	3.05	6.18	4.76	6.02	4.36
29	5.77	4.70	-	-	-		5.97	3.72	----	----	5.98	4.53	5.67	3.88	-	-	5.75	4.00	5.03	3.10	5.46	4.44	6.04	4.33
30	5.73	4.85	-	-	-		5.43	3.53	----	----	6.03	4.64	5.78	3.88	-	-	5.65	4.00	5.32	4.40	5.28	3.52	5.86	4.02
31	5.85	4.80	----	----	-		6.40	5.00	----	----	5.70	4.14	----	----	-	-	----	----	5.62	4.23	4.68	3.28	----	----

STORM RAINFALL AND RUNOFF

08075650 Berry Bayou at Forest Oaks St., Houston, Tex.

Date and time	Rainfall at gage 5650 (inches)	Rainfall at gage 403R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
		Storm of Aug. 18-19, 1983		
Aug. 18				
0000	0.0	0.0	0.0	6.65
0030	.12	.12	.12	6.65
0100	.12	.36	.26	6.62
0130	.36	.72	.58	7.00
0200	.60	.96	.82	7.65
0230	.84	1.20	1.06	8.40
0300	.96	1.32	1.18	9.45
0330	1.08	1.68	1.44	10.50
0400	1.32	2.04	1.75	11.40
0430	1.56	2.28	1.99	12.60
0500	1.80	2.40	2.16	13.60
0530	1.92	2.64	2.35	14.25
0600	2.04	3.00	2.62	14.80
0630	2.28	3.72	3.14	15.60
0700	2.88	4.20	3.67	17.00
0730	3.24	4.80	4.18	18.15
0800	3.96	5.28	4.75	19.20
0830	4.56	5.52	5.14	20.00
0900	5.16	6.00	5.66	20.50
0930	5.52	6.48	6.10	20.75
1000	5.88	6.96	6.53	21.00
1030	6.36	7.44	7.01	21.20
1100	6.72	7.68	7.30	21.35
1130	7.44	8.40	8.02	21.60
1200	7.92	8.88	8.50	22.00
1230	8.16	9.12	8.74	22.15
1300	8.52	9.48	9.10	22.30
1330	8.64	9.60	9.22	22.35
1400	9.12	9.84	9.55	22.50
1430	9.12	9.84	9.55	22.58
1600	9.12	9.84	9.55	22.40
1630	9.24	9.84	9.60	22.27
1800	9.24	9.84	9.60	21.75
1900	9.24	9.84	9.60	21.35
2000	9.24	9.84	9.60	21.08
2030	9.36	9.84	9.65	21.28
2100	9.36	9.84	9.65	21.18
2230	9.36	9.84	9.65	20.65
2330	9.36	9.84	9.65	20.20

Stage records are relative to gage datum. Discharge records are not currently available for this storm.

08075650 Berry Bayou at Forest Oaks St., Houston, Tex.--Continued

Date and time	Rainfall at gage 5650 (inches)	Rainfall at gage 403R (inches)	Accumulated weighted rainfall (inches)	Stage (feet)
	Storm of Aug. 18-19, 1983--Continued			
Aug. 18				
2400	9.36	9.84	9.65	19.96
AUG.19				
0000	9.36	9.84	9.65	19.96
0100	9.36	9.84	9.65	19.52
0200	9.36	9.84	9.65	19.04
0300	9.36	9.84	9.65	18.60
0400	9.36	9.84	9.65	18.02
0430	9.36	9.84	9.65	17.70
0530	9.36	9.84	9.65	17.00
0600	9.36	9.84	9.65	16.60
0630	9.36	9.84	9.65	16.20
0700	9.36	9.84	9.65	15.80
0730	9.36	9.84	9.65	15.40
0800	9.36	9.84	9.65	15.00
0830	9.36	9.84	9.65	14.55
0900	9.36	9.84	9.65	14.20
0930	9.36	9.84	9.65	13.80
1000	9.36	9.84	9.65	13.40
1030	9.36	9.84	9.65	13.00
1100	9.36	9.84	9.65	12.60
1130	9.36	9.84	9.65	12.25
1200	9.36	9.84	9.65	12.00
1230	9.36	9.84	9.65	11.55
1300	9.48	9.84	9.70	11.30
1330	9.48	9.84	9.70	10.90
1400	9.48	9.84	9.70	10.65
1430	9.48	9.84	9.70	10.40
1500	9.48	9.84	9.70	10.15
1530	9.48	9.84	9.70	9.80
1600	9.48	9.84	9.70	9.50
1630	9.48	9.84	9.70	9.30
1700	9.48	9.84	9.70	9.00
1730	9.48	9.84	9.70	8.75
1800	9.48	9.84	9.70	8.52
1830	9.48	9.84	9.70	8.30
1900	9.48	9.84	9.70	8.10
1930	9.48	9.84	9.70	7.90
2000	9.48	9.84	9.70	7.72
2100	9.48	9.84	9.70	7.35
2400	9.48	9.84	9.70	6.29

Stage records are relative to gage datum. Discharge records are not currently available for this storm.

VINCE BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the drainage basin are shown in figure 16.

Weighted-mean rainfall in the drainage basin based on two rain gages for the 1983 water year was 70.02 inches or 21.83 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
1.90	8.01	5.44	2.33	4.42	3.60	0.21	4.38	6.29	7.97	15.88	9.59	70.02

The storm of Aug. 17-19 was selected for analysis at station 08075730, Vince Bayou at Pasadena, Tex.

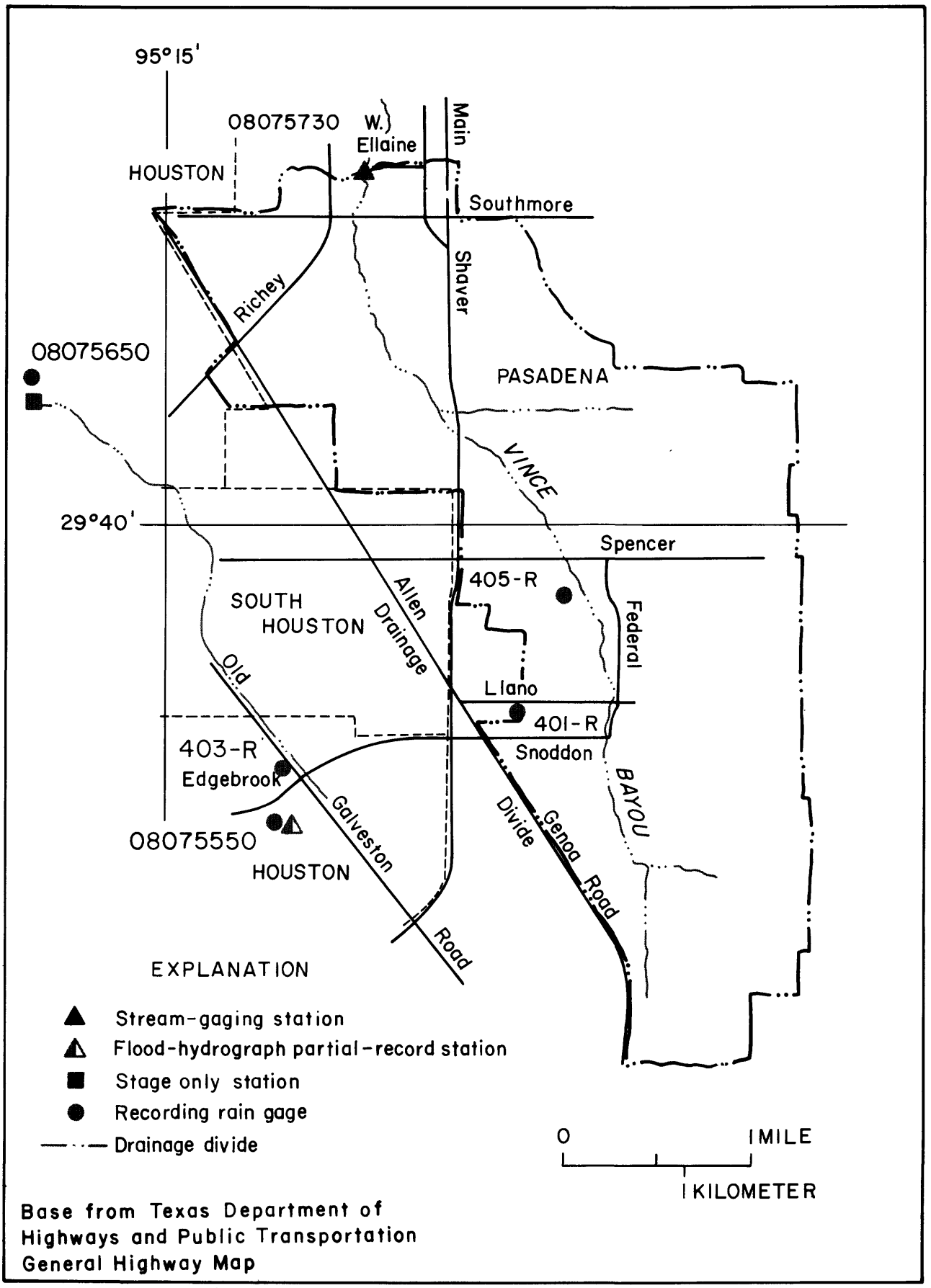

Figure 16.- Locations of data-collection sites in and near the Vince Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 15.--Storm rainfall-runoff data, 1983 Water Year, Vince Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Vince Bayou at Pasadena, TX (Drainage Area -- 7.32 mi^2)								
Aug. 17-19, 1983	11.3	10.14	0.72	1.20	1.68	8.72	0.86	3720*

* - Peak Discharge for 1983 Water Year

SAN JACINTO RIVER BASIN

08075730 VINCE BAYOU AT PASADENA, TX

LOCATION.--Lat 29°41'40", long 95°12'58", Harris County, Hydrologic Unit 12040104, on right bank of concrete lined channel at end of West Ellaine Avenue in Pasadena and 2.4 mi upstream from mouth.

DRAINAGE AREA.--7.32 mi^2. Prior to Jan. 1, 1978, 8.21 mi^2. Jan. 1 to Sept. 30, 1978, 7.61 mi^2. Drainage area revisions due to drainage ditch changes.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.54 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by Corps of Engineers).

REMARKS.--Records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--12 years, 17.4 ft^3/s (12,610 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,720 ft^3/s May 3, 1981 (gage height, 18.30 ft); no flow Aug. 5, 6, 18, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 17	1300	1,930	14.24	Aug. 18	0915	*3,720	17.02
June 25	1445	1,530	13.47	Sept. 19	0930	2,490	15.19
July 16	0630	1,540	13.49				

Minimum daily discharge, 0.10 ft^3/s Oct. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.56	16	10	5.8	.67	.31	.25	.24	.23	1.2	43
2	.19	82	2.7	1.5	1.7	.51	.27	.25	.24	3.6	.39	33
3	.25	42	16	1.0	1.1	.54	.28	.30	.19	.34	.33	6.6
4	.21	1.3	2.0	.83	.76	3.0	.73	.25	.40	.18	14	1.6
5	.18	.56	1.0	.83	248	6.6	.42	.21	22	9.9	9.4	4.3
6	.21	.83	.68	.76	18	.79	.45	.25	2.0	1.2	.50	23
7	1.3	.56	.68	.68	4.4	.44	.32	.25	.52	.30	.41	42
8	.83	.44	1.0	2.8	2.0	.42	.30	.30	.23	.25	99	58
9	.25	.42	.68	1.1	88	.75	.30	.44	.21	.17	23	58
10	1.3	.35	40	.78	17	.41	.25	50	.13	.13	4.3	219
11	.83	.84	5.0	.81	3.5	.57	.21	1.9	.15	.13	222	29
12	1.5	.87	1.0	.81	1.9	.75	.22	.24	.13	2.9	161	6.1
13	.35	.34	.56	.56	2.0	1.0	.28	.21	.15	121	28	3.1
14	.21	.83	25	.59	.96	1.1	.34	.15	.15	70	2.8	3.3
15	.21	.57	1.5	.55	52	.91	.27	23	.17	282	1.4	1.8
16	.10	3.6	1.0	.52	19	5.2	.28	1.7	32	501	1.2	1.7
17	.13	16	.90	.44	2.4	2.8	.31	.30	315	23	16	8.6
18	.13	1.3	.80	1.7	1.6	1.2	.39	.74	26	10	1600	8.2
19	1.3	89	.70	89	1.2	1.2	.29	15	1.7	3.3	92	542
20	.30	11	.60	16	29	17	.30	211	2.2	1.0	7.1	108
21	.21	22	.60	4.4	141	1.9	.63	83	1.4	31	2.4	39
22	.13	3.0	.50	2.6	5.3	1.6	1.5	13	2.4	.68	1.4	4.8
23	.25	2.4	.50	1.6	2.2	183	.98	1.9	.81	.44	1.5	2.0
24	.17	1.5	.40	1.6	1.8	19	.47	.82	.55	.35	1.0	1.5
25	.44	.56	300	1.8	1.4	1.6	.21	.56	150	.25	15	.97
26	.25	202	300	2.1	1.4	22	.21	.42	89	.30	4.0	.68
27	.44	343	50	1.6	1.5	1.1	.21	.35	4.8	.30	23	.58
28	.35	12	10	.68	.95	.55	.17	.34	.32	.56	5.6	.54
29	9.9	2.4	2.0	1.0	---	.59	.21	.28	.18	.35	46	.35
30	37	47	1.0	.76	---	1.7	.44	.25	.74	.35	32	.37
31	3.3	---	4.0	41	---	.50	---	.26	---	1.7	6.1	---
TOTAL	62.60	889.23	786.80	190.40	655.87	279.40	11.55	407.92	654.01	1066.91	2422.03	1251.09
MEAN	2.02	29.6	25.4	6.14	23.4	9.01	.39	13.2	21.8	34.4	78.1	41.7
MAX	37	343	300	89	248	183	1.5	211	315	501	1600	542
MIN	.10	.34	.40	.44	.76	.41	.17	.15	.13	.13	.33	.35
AC-FT	124	1760	1560	378	1300	554	23	809	1300	2120	4800	2480

CAL YR 1982 TOTAL 4322.83 MEAN 11.8 MAX 368 MIN .10 AC-FT 8570
WTR YR 1983 TOTAL 8677.81 MEAN 23.8 MAX 1600 MIN .10 AC-FT 17210

STORM RAINFALL AND RUNOFF

08075730 Vince Bayou at Pasadena, Tex.

Date and time	Rainfall at gage 405R (inches)	Rainfall at gage 5650 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 17-19, 1983			
Aug. 17					
0000	0.0	0.0	0.0	0.7	0.0010
1330	.0	.0	.0	.7	.0020
1400	.36	.12	.34	1.5	.0022
1430	.36	.12	.34	13.0	.0036
1500	.36	.12	.34	95.0	.0136
1530	.36	.12	.34	74.0	.0371
1800	.48	.12	.44	44.0	.0604
2030	.48	.12	.44	25.0	.0763
2400	.48	.12	.44	13.0	.0818
Aug. 18					
0000	.48	.12	.44	13.0	.0818
0030	.60	.24	.56	14.0	.0833
0100	.72	.24	.67	22.0	.0856
0130	.96	.48	.91	65.0	.0908
0145	1.08	.60	1.03	113.0	.0967
0200	1.20	.72	1.15	196.0	.1071
0215	1.44	.84	1.38	289.0	.1224
0230	1.56	.96	1.50	391.0	.1431
0245	1.68	.96	1.61	499.0	.1695
0300	1.80	1.08	1.73	603.0	.2014
0315	1.80	1.08	1.73	646.0	.2356
0330	1.92	1.20	1.85	698.0	.2726
0345	2.16	1.32	2.08	729.0	.3111
0400	2.52	1.44	2.41	882.0	.3578
0415	2.64	1.56	2.53	1,100.0	.4160
0430	2.76	1.68	2.65	1,250.0	.4822
0445	3.00	1.92	2.89	1,380.0	.5552
0500	3.12	1.92	3.00	1,540.0	.6367
0515	3.24	2.04	3.12	1,610.0	.7219
0530	3.36	2.04	3.23	1,610.0	.8071
0545	3.48	2.16	3.35	1,560.0	.8897
0600	3.60	2.16	3.46	1,520.0	.9701
0615	3.84	2.28	3.68	1,460.0	1.0474
0630	4.08	2.40	3.91	1,620.0	1.1331
0645	4.56	2.76	4.38	1,800.0	1.2284
0700	5.28	3.00	5.05	2,060.0	1.3374
0715	5.52	3.12	5.28	2,300.0	1.4591
0730	5.76	3.36	5.52	2,620.0	1.5978
0745	5.88	3.72	5.66	2,920.0	1.7523
0800	6.00	4.08	5.81	3,190.0	1.9212

08075730 Vince Bayou at Pasadena, Tex.--Continued

Date and time	Rainfall at gage 405R (inches)	Rainfall at gage 5650 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 17-19, 1983--Continued			
Aug. 18					
0815	6.12	4.44	5.95	3,430.0	2.1027
0830	6.24	4.68	6.08	3,580.0	2.2921
0845	6.36	5.04	6.23	3,640.0	2.4848
0900	6.60	5.28	6.47	3,720.0	2.6817
0915	6.84	5.40	6.70	3,720.0	2.8785
0930	7.08	5.64	6.94	3,660.0	3.0722
0945	7.32	5.88	7.18	3,590.0	3.2622
1000	7.56	6.00	7.40	3,470.0	3.4459
1015	7.80	6.24	7.64	3,430.0	3.6274
1030	8.04	6.48	7.88	3,320.0	3.8031
1045	8.16	6.72	8.02	3,280.0	3.9767
1100	8.16	6.84	8.03	3,200.0	4.1460
1115	8.28	7.20	8.17	3,120.0	4.3112
1130	8.40	7.56	8.32	3,100.0	4.4752
1145	8.76	7.80	8.66	3,130.0	4.6409
1200	9.00	8.04	8.90	3,170.0	4.8086
1215	9.24	8.28	9.14	3,140.0	4.9748
1230	9.36	8.28	9.25	3,160.0	5.1420
1245	9.48	8.52	9.38	3,070.0	5.3045
1300	9.72	8.64	9.61	2,970.0	5.4617
1315	9.84	8.64	9.72	2,940.0	5.6173
1330	9.84	8.76	9.73	2,830.0	5.7671
1345	9.96	9.00	9.86	2,750.0	5.9126
1400	10.08	9.24	10.00	2,850.0	6.2897
1500	10.08	9.24	10.00	2,360.0	6.6644
1530	10.20	9.24	10.10	1,980.0	6.8739
1600	10.20	9.24	10.10	1,750.0	7.1518
1700	10.20	9.36	10.12	1,290.0	7.4249
1800	10.20	9.36	10.12	949.0	7.6258
1900	10.20	9.36	10.12	701.0	7.7742
2000	10.20	9.36	10.12	555.0	7.8623
2030	10.20	9.48	10.13	606.0	7.9264
2100	10.20	9.48	10.13	545.0	8.1283
2400	10.20	9.48	10.13	314.0	8.4274
Aug. 19					
0000	10.20	9.48	10.13	314.0	8.4274
0600	10.20	9.48	10.13	128.0	8.5900
1200	10.20	9.48	10.13	66.0	8.6739
1800	10.20	9.60	10.14	32.0	8.7145
2400	10.20	9.60	10.14	16.0	8.7247

HUNTING BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Hunting Bayou drainage basin are shown in figure 17.

Weighted-mean rainfall in the drainage basin based on two rain gages for the 1983 water year was 62.87 inches, or 14.68 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
1.88	5.64	3.57	1.87	3.12	5.23	0.32	6.96	5.98	6.73	12.32	9.25	62.87

The storms of Aug. 18-20 and Sept. 19-21 were selected for analysis at station 08075760, Hunting Bayou at Falls Street. The storms of Feb. 15-17 and Sept. 19-22 were selected for analysis at station 08075770, Hunting Bayou at Interstate Highway 610.

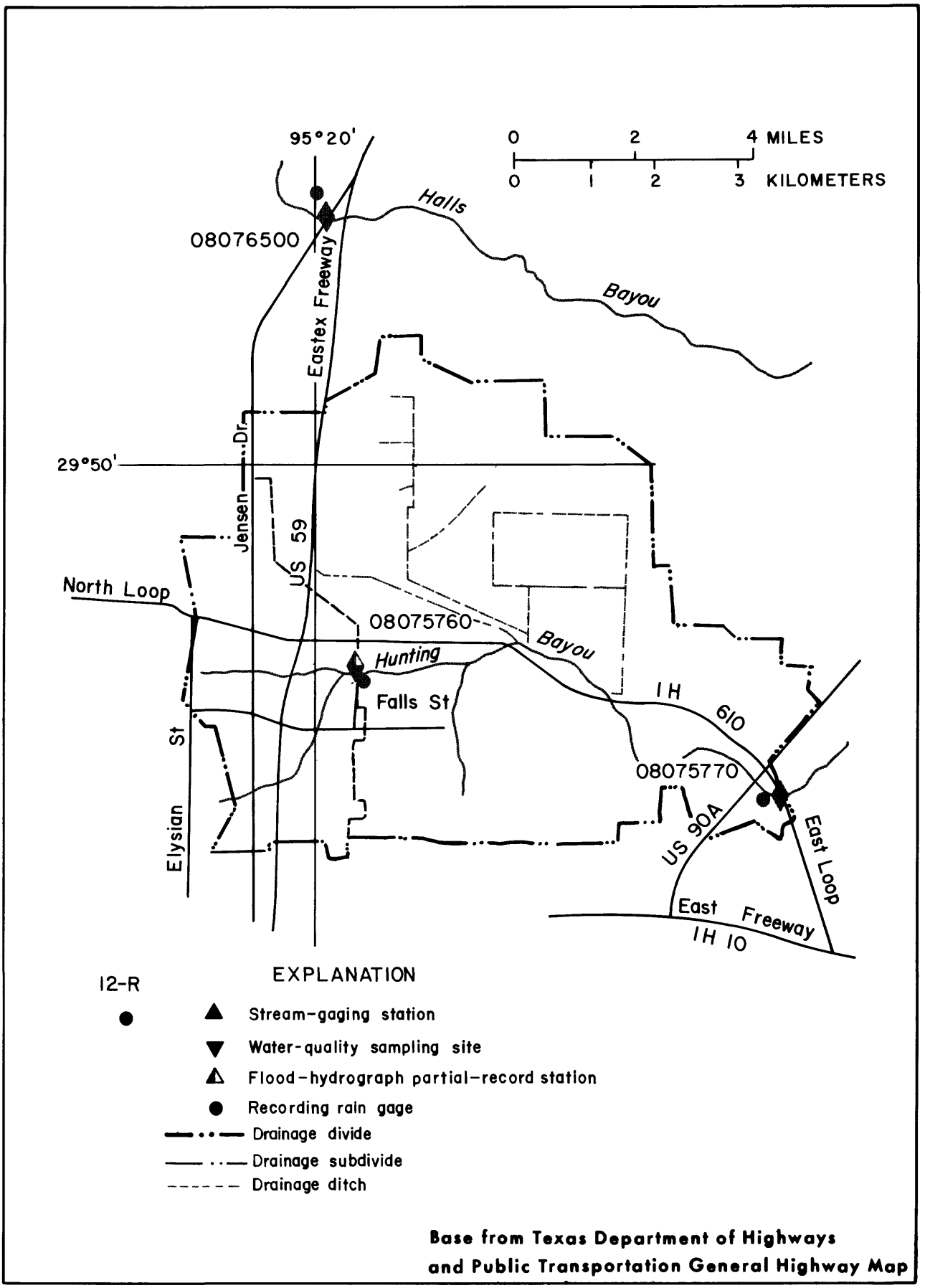

Figure 17.- Locations of data-collection sites in and near the Hunting Bayou drainage basin

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GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table16.--Storm rainfall-runoff data, 1983 Water Year, Hunting Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Hunting Bayou at Falls St., Houston, TX (Drainage Area -- 2.57 mi^2)								
Aug. 18-20, 1983	12.3	7.25	0.35	0.55	1.10	6.74	0.93	640*
Sept. 19-20, 1983	5.3	4.50	0.60	0.95	1.55	4.34	0.67	427
Sept. 20-21, 1983	2.3	1.95	0.50	0.85	1.35			355
Hunting Bayou at Interstate Highway 610, Houston, TX (Drainage Area -- 15.8 mi^2)								
Feb. 15-17, 1983	14.0	0.56	0.07	0.14	0.18	0.25	0.45	97
Sept. 19-20, 1983	5.0	4.50	0.48	0.95	1.55	4.60	0.71	2000
Sept. 20-22, 1983	2.0	1.95	0.43	0.85	1.35			1490

* - Peak Discharge for 1983 Water Year

SAN JACINTO RIVER BASIN

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'22", long 95°19'50", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Falls Street in northeast Houston.

DRAINAGE AREA.--2.57 mi^2. Oct. 1, 1973, to Sept. 30, 1978, 2.75 mi^2. Prior to Oct. 1, 1973, 3.50 mi^2. Drainage area changes due to changes in storm sewers.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year.

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1983."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft^3/s June 13, 1973 (elevation, 46.70 ft); maximum elevation, 47.35 ft Sept. 1, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Elevation (ft)	Date	Time	Discharge (ft^3/s)	Elevation (ft)
May 10	1100	262	41.34	Aug. 18	1715	*640	46.15
May 20	0445	295	41.72	Sept. 19	1030	427	44.07
Aug. 9	1345	289	41.65	Sept. 20	1915	355	43.37

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB												
15...	1020	41	300	7.3	14.5	100	120	7.6	75	19	40000	110000
15...	1200	25	280	7.8	14.0	50	85	7.4	72	>85	41000	140000
15...	1455	10	564	8.0	14.0	800	250	5.4	53	>207	120000	100000
16...	1116	3.6	750	7.4	14.0	35	19	2.0	19	20	180000	35000
MAR												
02...	0915	.93	1320	7.5	18.0	20	2.5	.4	4	44	60000	61000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
FEB												
15...	79	0	25	4.0	20	1.0	3.4	90	24	15	.20	5.2
15...	79	0	26	3.5	18	.9	3.9	85	27	15	.30	5.1
15...	110	0	35	5.7	71	3.1	11	150	69	43	.40	8.3
16...	210	0	63	12	61	1.9	5.9	220	66	57	.50	13
MAR												
02...	360	0	100	26	150	3.6	3.2	420	83	140	.90	21

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB											
15...	151	129	56	.71	.090	.80	2.40	13	15.0	1.60	25
15...	150	95	30	.92	.080	1.0	2.00	8.0	10.0	1.40	97
15...	334	129	81	1.0	.180	1.2	3.60	29	33.0	2.60	>400
16...	410	39	<1	.90	.100	1.0	4.40	5.5	9.90	1.50	18
MAR											
02...	777	10	9	--	<.020	<.10	4.80	2.6	7.40	3.60	31

08075760 HUNTING BAYOU AT FALLS ST, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
FEB							
15...	1020	4	33	<1	<10	7	79
15...	1200	3	40	<1	10	8	200
15...	1455	4	34	1	30	16	320
MAR							
02...	0915	3	140	<1	<10	<1	330

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB						
15...	15	65	<.1	<1	<1	37
15...	8	140	<.1	<1	<1	73
15...	10	110	<.1	<1	<1	240
MAR						
02...	<1	610	<.1	<1	<1	33

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
FEB								
15...	1020	<.10	<.10	.10	<.10	<.10	<2.0	.1
15...	1200	<1.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0
15...	1455	<10	<10	<10	<10.0	<10	<80	<10
MAR								
02...	0915	<.10	<.10	.10	<.10	<.10	--	.2

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
FEB							
15...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
15...	<1.0	<1.0	<4.0	<4.0	<1.0	<1.0	<1.0
15...	<10	<10.0	<80	<80	<10.0	<10	<10
MAR							
02...	<.1	<.10	--	--	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08075760 Hunting Bayou at Falls Street, Houston, Tex.

Date and time	Rainfall at gage 5760 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-20, 1983		
Aug. 18				
0000	0.0	0.0	0.5	0.0002
0100	.0	.0	.5	.0004
0130	.05	.05	.5	.0005
0200	.10	.10	1.0	.0008
0230	.20	.20	2.0	.0014
0300	.30	.30	4.0	.0023
0315	.40	.40	22.0	.0057
0330	.40	.40	29.0	.0100
0345	.45	.45	33.0	.0150
0400	.50	.50	35.0	.0203
0415	.70	.70	41.0	.0265
0430	.90	.90	57.0	.0350
0445	1.05	1.05	73.0	.0461
0500	1.15	1.15	89.0	.0595
0515	1.35	1.35	103.0	.0750
0530	1.50	1.50	130.0	.0946
0545	1.60	1.60	152.0	.1175
0600	1.65	1.65	167.0	.1427
0615	1.75	1.75	175.0	.1691
0630	1.75	1.75	184.0	.1968
0645	2.10	2.10	204.0	.2275
0700	2.15	2.15	224.0	.2613
0715	2.25	2.25	239.0	.2973
0730	2.40	2.40	254.0	.3356
0745	2.50	2.50	276.0	.3772
0800	2.60	2.60	298.0	.4221
0815	2.70	2.70	321.0	.4705
0830	2.90	2.90	344.0	.5224
0845	2.95	2.95	359.0	.5765
0900	3.00	3.00	369.0	.6321
0915	3.15	3.15	384.0	.6900
0930	3.30	3.30	400.0	.7503
0945	3.50	3.50	426.0	.8145
1000	3.70	3.70	453.0	.8828
1015	3.95	3.95	480.0	.9552
1030	4.25	4.25	508.0	1.0317
1045	4.50	4.50	528.0	1.1113
1100	4.75	4.75	548.0	1.1939
1115	5.05	5.05	566.0	1.2792

08075760 Hunting Bayou at Falls Street, Houston, Tex.--Continued

Date and time	Rainfall at gage 5760 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
Storm of Aug. 18-20, 1983--Continued				
Aug. 18				
1130	5.25	5.25	584.0	1.3673
1145	5.35	5.35	593.0	1.4567
1200	5.50	5.50	602.0	1.5474
1215	5.60	5.60	606.0	1.6387
1230	5.70	5.70	611.0	1.7769
1300	5.80	5.80	611.0	1.9150
1315	5.85	5.85	608.0	2.0067
1330	5.85	5.85	606.0	2.0980
1345	5.90	5.90	601.0	2.2339
1415	5.90	5.90	588.0	2.3669
1430	5.95	5.95	583.0	2.4548
1445	5.95	5.95	576.0	2.5416
1500	6.00	6.00	569.0	2.6274
1515	6.05	6.05	562.0	2.7121
1530	6.25	6.25	567.0	2.7975
1545	6.30	6.30	576.0	2.8844
1600	6.60	6.60	585.0	2.9725
1615	6.65	6.65	595.0	3.0622
1630	6.70	6.70	606.0	3.1536
1645	7.05	7.05	619.0	3.2469
1700	7.10	7.10	632.0	3.3422
1715	7.15	7.15	640.0	3.4386
1730	7.15	7.15	640.0	3.5351
1745	7.15	7.15	637.0	3.6311
1800	7.20	7.20	635.0	4.2054
2045	7.20	7.20	510.0	4.8973
2230	7.20	7.20	412.0	5.2078
2315	7.20	7.20	354.0	5.3146
2330	7.20	7.20	354.0	5.3946
2400	7.20	7.20	325.0	5.7375
Aug. 19				
0000	7.20	7.20	325.0	5.7375
0300	7.20	7.20	180.0	6.0631
0600	7.20	7.20	105.0	6.3480
1200	7.25	7.25	45.0	6.5108
1800	7.25	7.25	25.0	6.6013
2400	7.25	7.25	15.0	6.6827
Aug. 20				
0000	7.25	7.25	15.0	6.6827
1200	7.25	7.25	6.0	6.7261
2400	7.25	7.25	3.0	6.7369

08075760 Hunting Bayou at Falls Street, Tex.--Continued

Date and time	Rainfall at gage 5760 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Sept. 19-21, 1983		
Sept. 19				
0000	0.0	0.0	0.5	0.0005
0330	.0	.0	0.5	.0011
0345	.05	.05	0.5	.0012
0400	.05	.05	0.5	.0013
0430	.10	.10	1.0	.0016
0500	.20	.20	2.0	.0020
0515	.25	.25	2.0	.0023
0530	.30	.30	3.0	.0028
0545	.30	.30	3.0	.0032
0600	.35	.35	4.0	.0038
0615	.70	.70	26.0	.0078
0630	1.30	1.30	65.0	.0176
0645	1.65	1.65	151.0	.0403
0700	1.90	1.90	203.0	.0709
0715	2.10	2.10	246.0	.1080
0730	2.20	2.20	259.0	.1470
0745	2.35	2.35	272.0	.1880
0800	2.50	2.50	279.0	.2301
0815	2.70	2.70	293.0	.2743
0830	3.15	3.15	330.0	.3240
0845	3.25	3.25	365.0	.3790
0900	3.40	3.40	383.0	.4368
0915	3.60	3.60	395.0	.4963
0930	3.70	3.70	408.0	.5578
0945	3.80	3.80	411.0	.6198
1000	3.85	3.85	415.0	.6823
1015	4.00	4.00	421.0	.7458
1030	4.05	4.05	427.0	.8745
1115	4.05	4.05	400.0	.9951
1130	4.10	4.10	387.0	1.0826
1200	4.10	4.10	365.0	1.3027
1330	4.10	4.10	291.0	1.5439
1445	4.10	4.10	230.0	1.7173
1600	4.10	4.10	181.0	1.8537
1715	4.10	4.10	142.0	1.9393
1800	4.10	4.10	122.0	2.0129
1915	4.10	4.10	99.0	2.0651
1945	4.10	4.10	94.0	2.0864
2000	4.30	4.30	91.0	2.1069

08075760 Hunting Bayou at Falls Street, Tex.--Continued

Date and time	Rainfall at gage 5760 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Sept. 19-21, 1983--Continued			
Sept. 19				
2030	4.30	4.30	94.0	2.1636
2200	4.30	4.30	82.0	2.2440
2345	4.30	4.30	66.0	2.2837
2400	4.30	4.30	64.0	2.3127
Sept. 20				
0000	4.30	4.30	64.0	2.3127
0115	4.30	4.30	52.0	2.3636
0315	4.30	4.30	43.0	2.3928
0330	4.50	4.50	43.0	2.4285
0600	4.50	4.50	43.0	2.5386
1200	4.50	4.50	25.0	2.6102
1530	4.50	4.50	17.0	2.6295
1545	4.60	4.60	17.0	2.6320
1600	4.60	4.60	16.0	2.6344
1615	4.90	4.90	25.0	2.6382
1630	4.95	4.95	38.0	2.6439
1645	5.00	5.00	48.0	2.6548
1715	5.00	5.00	65.0	2.6695
1730	5.00	5.00	70.0	2.6800
1745	5.35	5.35	85.0	2.6928
1800	5.85	5.85	160.0	2.7170
1815	6.05	6.05	241.0	2.7533
1830	6.35	6.35	306.0	2.7994
1845	6.40	6.40	344.0	2.8772
1915	6.40	6.40	355.0	2.9842
1945	6.40	6.40	340.0	3.0611
2000	6.45	6.45	331.0	3.2357
2130	6.45	6.45	268.0	3.4579
2245	6.45	6.45	209.0	3.5997
2345	6.45	6.45	169.0	3.6634
2400	6.45	6.45	159.0	3.7473
Sept. 21				
0000	6.45	6.45	159.0	3.7473
0130	6.45	6.45	123.0	3.8585
0300	6.45	6.45	93.0	3.9566
0500	6.45	6.45	75.0	4.0245
0600	6.45	6.45	66.0	4.0842
0800	6.45	6.45	50.0	4.1746
1200	6.45	6.45	32.0	4.2711
1800	6.45	6.45	15.0	4.3253
2400	6.45	6.45	8.0	4.3398

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX

LOCATION.--Lat 29°47'35", long 95°16'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of downstream service road bridge of Interstate Highway 610 in northeast Houston and 8.8 mi upstream from mouth.

DRAINAGE AREA.--15.8 mi^2. Prior to Oct. 1, 1973, 16.8 mi^2. Oct. 1, 1973, to Sept. 30, 1978, 14.7 mi^2. Changes due to storm sewer relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1973, published as "U.S. Highway 90-A, Houston".

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Prior to Oct. 1, 1972, water-stage recorder at site 1,800 ft upstream at same datum.

REMARKS.--Water-discharge records good. Low flow is largely maintained by sewage and industrial effluent. Recording rain gage at station.

AVERAGE DISCHARGE.--19 years, 23.8 ft^3/s (17,240 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,440 ft^3/s Aug. 18, 1983 (elevation, 39.16 ft); maximum gage height, 39.28 ft June 15, 1976; minimum daily, 0.88 ft^3/s Aug. 24, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Elevation (ft)
Aug. 18	b1800	*3,440	a39.16
Sept. 19	b1100	2,000	35.19
Sept. 20	2130	1,490	33.37

a From crest-stage gage peak mark.
b About.

Minimum daily discharge, 1.8 ft^3/s Oct. 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.4	21	18	17	7.9	18	4.1	4.7	5.3	5.8	18
2	2.4	24	10	12	7.9	7.8	12	3.9	4.7	4.7	5.3	8.2
3	2.2	49	42	8.7	6.8	6.8	9.8	16	4.2	4.3	5.2	7.0
4	2.1	7.0	12	7.4	5.6	13	8.7	4.1	21	4.6	29	6.4
5	2.0	4.3	6.3	6.8	168	20	8.3	4.1	12	4.1	18	6.4
6	2.3	3.9	5.3	6.6	47	8.1	7.9	3.7	7.0	3.8	7.0	16
7	2.4	3.0	4.9	6.1	21	6.9	7.4	3.7	5.1	4.0	17	17
8	2.7	2.8	4.1	6.2	13	6.0	7.0	3.1	4.5	3.8	12	13
9	2.1	2.4	3.6	5.5	119	6.5	8.2	14	4.1	3.5	169	19
10	2.9	2.6	20	5.1	74	5.8	5.8	220	3.7	3.6	117	119
11	4.7	4.8	19	4.9	22	5.7	5.2	33	3.6	3.8	68	92
12	28	3.9	16	4.6	15	5.4	5.2	11	3.6	3.7	127	16
13	5.2	2.5	6.5	4.4	12	5.4	5.1	6.5	3.4	111	72	11
14	3.4	2.4	8.7	4.4	10	5.1	4.9	6.8	3.6	51	15	8.3
15	3.1	2.3	12	4.5	49	5.4	4.6	24	39	245	12	9.2
16	2.8	9.7	5.6	4.2	41	18	4.4	11	36	374	9.3	8.6
17	2.2	59	4.4	4.2	16	11	10	6.6	116	45	7.6	6.8
18	2.0	7.6	3.9	6.4	12	5.2	5.5	6.6	27	25	1930	8.1
19	1.8	86	3.7	75	10	4.8	4.4	5.2	8.4	11	902	944
20	1.8	50	3.6	34	13	17	4.8	324	9.3	8.8	87	550
21	1.9	9.7	3.4	14	134	5.7	4.6	262	15	19	25	433
22	2.0	9.7	3.7	11	27	4.6	8.6	111	6.4	21	17	42
23	2.2	7.2	3.1	12	15	270	7.5	28	5.0	7.7	14	17
24	2.2	4.2	3.0	6.9	12	160	10	12	5.0	6.3	12	13
25	2.2	3.6	75	6.2	11	21	5.8	9.1	73	5.6	11	10
26	2.0	122	103	6.0	9.3	59	4.8	10	188	5.2	9.5	9.5
27	2.2	287	107	5.4	8.7	20	4.2	6.6	54	4.8	8.6	10
28	2.4	25	25	5.3	7.9	11	4.3	6.1	12	4.8	9.2	8.1
29	34	14	14	5.3	---	8.9	4.3	6.8	7.4	24	8.2	7.4
30	5.5	40	8.9	4.8	---	156	4.9	5.1	5.8	8.4	7.3	6.8
31	3.6	---	7.9	29	---	57	---	5.0	---	17	7.1	---
TOTAL	138.8	853.0	566.6	334.9	904.2	945.0	206.2	1173.1	692.5	1043.8	3744.1	2440.8
MEAN	4.48	28.4	18.3	10.8	32.3	30.5	6.87	37.8	23.1	33.7	121	81.4
MAX	34	287	107	75	168	270	18	324	188	374	1930	944
MIN	1.8	2.3	3.0	4.2	5.6	4.6	4.2	3.1	3.4	3.5	5.2	6.4
AC-FT	275	1690	1120	664	1790	1870	409	2330	1370	2070	7430	4840

CAL YR 1982 TOTAL 7450.9 MEAN 20.4 MAX 652 MIN 1.8 AC-FT 14780
WTR YR 1983 TOTAL 13043.0 MEAN 35.7 MAX 1930 MIN 1.8 AC-FT 25870

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
FEB												
15...	1114	77	515	7.9	14.0	50	170	7.4	72	23	11000	52000
15...	1400	97	545	7.6	14.5	50	100	5.7	56	18	30000	60000
15...	1753	70	415	7.6	14.5	100	75	5.9	58	18	31000	42000
16...	1153	40	505	7.6	13.0	40	60	5.4	51	9.9	140000	32000
17...	1138	16	715	7.5	15.0	45	17	5.4	53	8.7	29000	7000
MAR												
02...	1050	7.2	980	7.7	19.5	10	2.2	7.5	82	7.2	580	500

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
FEB												
15...	150	0	46	8.8	52	1.9	4.2	160	46	41	.40	9.0
15...	160	3	49	9.8	48	1.7	3.1	160	44	39	.50	9.9
15...	130	0	41	6.8	32	1.3	3.5	130	33	25	.40	8.2
16...	160	2	50	9.0	38	1.4	3.3	160	45	29	.50	12
17...	220	0	66	13	61	1.9	3.4	230	58	46	.60	14
MAR												
02...	280	0	80	20	110	3.0	3.5	310	78	88	.80	16

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB											
15...	304	244	58	1.1	.120	1.2	.710	2.1	2.80	.920	31
15...	299	188	44	.67	.130	.80	1.20	2.1	3.30	.880	23
15...	228	101	57	.94	.160	1.1	1.90	2.4	4.30	.870	19
16...	283	48	30	.99	.110	1.1	1.20	2.6	3.80	.620	17
17...	400	14	11	1.4	.230	1.6	1.30	2.1	3.40	.860	17
MAR											
02...	583	3	<1	2.1	.570	2.7	1.10	2.2	3.30	.800	11

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
FEB							
15...	1114	3	76	<1	<10	5	21
15...	1753	6	72	<1	10	5	39
16...	1153	6	99	<1	10	4	54
MAR							
02...	1050	4	140	<1	<10	4	17

08075770 HUNTINIG BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER OCTOBER 1981 TO SEPTEMBER 1982

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
FEB						
15...	2	130	<.1	<1	<1	40
15...	5	68	<.1	<1	<1	100
16...	2	64	<.1	<1	<1	60
MAR						
02...	3	180	<.1	<1	<1	73

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
FEB								
15...	1114	<.10	<.10	.10	<.10	<.10	<2.0	.9
15...	1753	<.10	<.10	.10	<.10	<.10	<2.0	.7
16...	1153	<.10	<.10	.20	<1.0	<.10	<2.0	1.0
MAR								
02...	1050	<.10	<.10	.10	<.10	<.10	<2.0	.3

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
FEB							
15,..	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
15...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
16...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
MAR							
02...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08075770 Hunting Bayou at I.H. 610, Houston, Tex.

Date and time	Rainfall at gage 5770 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Feb. 15-17, 1983		
Feb. 15				
0000	0.0	0.0	9.6	0.0028
0600	.0	.0	9.3	.0058
0630	.0	.0	9.3	.0062
0700	.10	.10	13.0	.0069
0730	.10	.10	16.0	.0077
0800	.11	.11	19.0	.0086
0830	.25	.25	29.0	.0100
0900	.29	.29	40.0	.0120
0930	.31	.31	50.0	.0144
1000	.34	.34	60.0	.0174
1030	.34	.34	68.0	.0207
1100	.36	.36	75.0	.0244
1130	.38	.38	79.0	.0283
1200	.38	.38	83.0	.0384
1400	.38	.38	97.0	.0503
1430	.38	.38	97.0	.0646
1700	.38	.38	78.0	.0780
1800	.38	.38	68.0	.0880
2000	.38	.38	54.0	.0946
2030	.40	.40	53.0	.0972
2100	.48	.48	51.0	.0997
2130	.50	.50	53.0	.1023
2200	.50	.50	54.0	.1050
2230	.53	.53	56.0	.1104
2400	.53	.53	60.0	.1178
Feb. 16				
0000	.53	.53	60.0	.1178
0100	.53	.53	61.0	.1223
0130	.56	.56	62.0	.1284
0300	.56	.56	63.0	.1423
0600	.56	.56	56.0	.1588
0900	.56	.56	46.0	.1678
1000	.56	.56	48.0	.1748
1200	.56	.56	40.0	.1905
1800	.56	.56	26.0	.2058
2400	.56	.56	20.0	.2235
Feb. 17				
0000	.56	.56	20.0	.2235
1200	.56	.56	17.0	.2435
2400	.56	.56	13.0	.2511

08075770 Hunting Bayou at I.H. 610, Houston, Tex.--Continued

Date and time	Rainfall at gage 5760 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
Storm of Sept. 19-22, 1983				
Sept. 19				
0000	0.0	0.0	E 6.0	0.0010
0330	.0	.0	E 6.0	.0022
0400	.05	.05	E 6.0	.0025
0430	.10	.10	E 7.0	.0028
0500	.20	.20	E 8.0	.0032
0530	.30	.30	E 15.0	.0040
0600	.35	.35	E 21.0	.0050
0630	1.30	1.30	E 138.0	.0118
0700	1.90	1.90	E 254.0	.0242
0730	2.20	2.20	E 507.0	.0491
0800	2.50	2.50	E 760.0	.0864
0830	3.15	3.15	E 1,210.0	.1457
0900	3.40	3.40	E 1,650.0	.2266
0930	3.70	3.70	E 1,800.0	.3149
1000	3.85	3.85	E 1,940.0	.4100
1030	4.05	4.05	E 1,970.0	.5066
1100	4.05	4.05	* 2,000.0	.6047
1130	4.10	4.10	* 2,000.0	.7028
1200	4.10	4.10	* 1,990.0	1.0931
1530	4.10	4.10	1,620.0	1.5300
1730	4.10	4.10	1,280.0	1.6869
1800	4.10	4.10	1,190.0	1.8036
1930	4.10	4.10	987.0	1.9004
2000	4.30	4.30	919.0	2.0131
2200	4.30	4.30	709.0	2.1522
2400	4.30	4.30	569.0	2.2498
Sept. 20				
0000	4.30	4.30	569.0	2.2498
0130	4.30	4.30	455.0	2.3168
0300	4.30	4.30	406.0	2.3566
0330	4.50	4.50	390.0	2.4140
0600	4.50	4.50	310.0	2.4900
0830	4.50	4.50	263.0	2.5351
0930	4.50	4.50	268.0	2.5614
1030	4.50	4.50	263.0	2.5936
1200	4.50	4.50	236.0	2.6399
1430	4.50	4.50	180.0	2.6708
1530	4.50	4.50	154.0	2.6821
1600	4.60	4.60	141.0	2.6891
1630	4.95	4.95	168.0	2.6973

Note--Discharge values for the period from 0000 hours on Sept. 19 to 1200 hours on Sept. 19 are partially estimated. Values flagged with "E" are determined by considering the upstream hydrograph and the typical hydrograph at the site. Values flagged with "*" are determined from either an actual discharge measurement or a recorded peak mark at the site.

08075770 Hunting Bayou at I.H. 610, Houston, Tex.--Continued

Date and time	Rainfall at gage 5760 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Sept. 19-22, 1983--Continued			
Sept. 20				
1700	5.00	5.00	352.0	2.7146
1730	5.00	5.00	483.0	2.7382
1800	5.85	5.85	606.0	2.7680
1830	6.35	6.35	795.0	2.8069
1900	6.40	6.40	982.0	2.8551
1930	6.40	6.40	1,140.0	2.9110
2000	6.45	6.45	1,300.0	3.0385
2130	6.45	6.45	1,490.0	3.2942
2330	6.45	6.45	1,350.0	3.4597
2400	6.45	6.45	1,290.0	3.6179
Sept. 21				
0000	6.45	6.45	1,290.0	3.6179
0200	6.45	6.45	972.0	3.8562
0500	6.45	6.45	698.0	3.9931
0600	6.45	6.45	600.0	4.0814
0800	6.45	6.45	485.0	4.1765
1000	6.45	6.45	370.0	4.2309
1100	6.45	6.45	370.0	4.2672
1200	6.45	6.45	342.0	4.3343
1500	6.45	6.45	251.0	4.3959
1700	6.45	6.45	185.0	4.4231
1800	6.45	6.45	164.0	4.4794
2400	6.45	6.45	82.0	4.5075
Sept. 22				
0000	6.45	6.45	82.0	4.5075
0100	6.45	6.45	62.0	4.5258
0600	6.45	6.45	49.0	4.5402
0700	6.45	6.45	46.0	4.5469
0900	6.45	6.45	50.0	4.5543
1000	6.45	6.45	46.0	4.5611
1200	6.45	6.45	37.0	4.5719
1600	6.45	6.45	30.0	4.5808
1800	6.45	6.45	27.0	4.5900
2300	6.45	6.45	22.0	4.5965
2400	6.45	6.45	21.0	4.5975

GREENS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Greens Bayou drainage basin above U.S. Highway 59 are shown in figure 18. Data-collection sites in the lower portion of the drainage basin are shown in figure 1.

Halls Bayou, which is a part of the Greens Bayou drainage basin, is shown as a separate drainage basin within the Greens Bayou section.

Weighted-mean rainfall for the drainage basin, above the U.S. Highway 75 station (station 08075900), based on four rain gages, for the 1983 water year was 65.59 inches or 17.40 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
7.71	8.66	3.84	1.98	4.76	3.98	0.15	8.10	4.72	4.97	11.63	5.09	65.59

Weighted-mean rainfall for the drainage basin above the U.S. Highway 59 station (station 08076000), based on six rain gages, for the 1983 water year was 62.82 inches or 14.63 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
6.49	8.57	3.80	1.82	4.48	4.00	0.21	7.90	4.45	4.83	10.22	6.05	62.82

The storms of Oct. 11-14 and Aug. 18-21 were selected for analysis at station 08075780 Greens Bayou at Cutten Road. The storms of Oct. 12-14, May 20-25, and Aug. 18-23 were selected for analysis at station 08075900, Greens Bayou at U.S. Highway 75 near Houston. The storms of Oct. 11-14, May 10-12, May 20-25, and Aug. 18-23 were selected for analysis at station 08076000, Greens Bayou near Houston (at U.S. Highway 59). The storm of Aug. 18-23 was selected for analysis at station 08076700, Greens Bayou at at Ley Road, Houston.

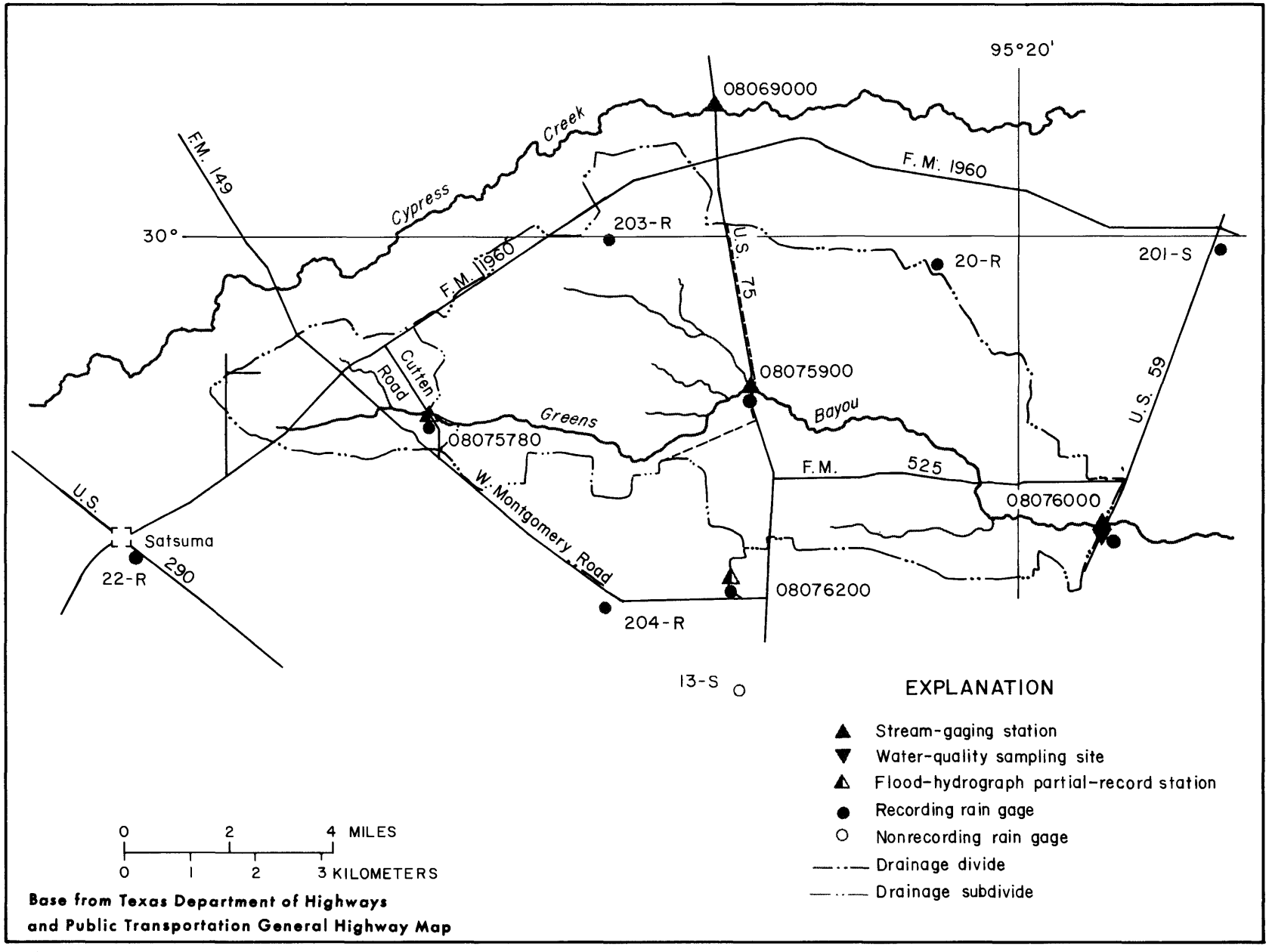

Figure 18.– Locations of data-collection sites in and near the Greens Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table17.--Storm rainfall-runoff data, 1983 Water Year, Greens Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Greens Bayou at Cutten Road, Houston, TX (Drainage Area -- 8.06 mi^2)								
Oct. 11-14, 1982	7.5	5.72	0.48	0.95	1.60	2.12	0.37	425
Aug. 18-21, 1983	18.5	5.63	0.37	0.73	1.05	3.92	0.70	768*,++
Greens Bayou at U.S. Highway 75 near Houston, TX (Drainage Area -- 36.1 mi^2)								
Oct. 12-14, 1982	4.5	5.20	0.48	0.95	1.60	1.73	0.33	2800
May 20-21, 1983	12.0	5.36	1.03	2.07	3.00	4.28	0.59	4150
May 21-25, 1983	4.5	1.85	0.66	1.32	1.74			3460
Aug. 18-23, 1983	16.5	7.57	0.37	0.73	1.10	5.84	0.77	5910*,++

* - Peak Discharge for 1983 Water Year

++ - Peak Discharge for Period of Record

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 17.--Storm rainfall-runoff data, 1983 Water Year, Greens Bayou--Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Greens Bayou near Houston, TX (Drainage Area -- 69.6 mi^2)								
Oct. 11-14, 1982	9.0	4.16	0.48	0.95	1.60	1.17	0.28	2670
May 10-12, 1983	1.5	1.56	0.68	1.35	1.58	0.40	0.26	1220
May 20-21, 1983	11.5	4.42	1.03	2.07	3.00	3.54	0.53	4170
May 21-25, 1983	4.0	2.21	0.66	1.32	1.74			4490
Aug. 18-23, 1983	17.0	6.70	0.37	0.73	1.10	3.69	0.55	4760*
Greens Bayou at Ley Rd., Houston, TX (Drainage Area -- 182.0 mi^2)								
Aug. 18-23, 1983	17.0	6.01	0.36	0.72	1.43	5.80	0.96	14800*

* - Peak Discharge for 1983 Water Year.

08075780 GREENS BAYOU AT CUTTEN ROAD NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--29°56'56", long 95°31'10", Harris County, Hydrologic Unit 12040104, at dowmstream side of bridge on Cutten Road, 16.2 miles upstream from station 08076000, Greens Bayou near Houston, and 16.5 miles northwest of the main post office in downtown Houston.

DRAINAGE AREA.--8.06 mi^2. Prior to Oct. 1, 1973, 8.73 mi^2.

PERIOD OF RECORD.--Aug. 1964 to Nov. 1977; April 20, 1978 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to Nov. 1977 a flood-hydrograph recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 768 ft^3/s, Aug. 18, 1983 (elevation 114.04 ft) after channel rectification. Maximum discharge, 520 ft^3/s, June 13, 1973 (elevation 118.27), prior to channel rectification; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 280 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Oct. 12	1130	425	112.47
Nov. 17	0630	350	111.89
Nov. 30	2000	286	111.34
Feb. 9	unknown	348	111.87
May 21	1430	292	111.39
Aug. 11	1600	381	111.70
Aug. 18	2230	*768	114.04
Sept. 19	1030	301	111.02

Minimum discharge not determined.

STORM RAINFALL AND RUNOFF

08075780 Greens Bayou at Cutten Road near Houston, Tex.

Date and time	Rainfall at gage 5780 (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Oct. 11-14, 1982			
Oct. 11					
0000	0.0	0.0	0.0	6.5	0.0037
0600	.0	.0	.0	6.5	.0081
0700	.01	.0	.01	6.5	.0100
0900	.01	.0	.01	6.5	.0119
1000	.11	.09	.11	6.5	.0131
1100	.12	.09	.12	6.5	.0144
1200	.12	.11	.12	6.5	.0156
1300	.12	.11	.12	6.5	.0169
1400	.24	.11	.23	6.5	.0181
1500	.27	.21	.27	6.5	.0194
1600	.29	.21	.29	6.8	.0207
1700	.29	.24	.29	6.9	.0220
1800	.29	.27	.29	6.8	.0233
1900	.34	.32	.34	6.6	.0246
2000	.41	.34	.41	6.8	.0259
2100	.45	.41	.45	7.2	.0273
2200	.50	.45	.50	7.5	.0287
2300	.52	.50	.52	7.8	.0302
2400	.54	.55	.54	7.8	.0313
Oct. 12					
0000	.54	.55	.54	7.8	.0313
0030	.55	.55	.55	8.0	.0321
0100	.57	.59	.57	8.0	.0329
0130	.58	.67	.58	8.1	.0337
0200	.63	.79	.64	8.3	.0345
0230	.73	1.34	.76	8.3	.0353
0300	1.25	1.94	1.28	8.9	.0361
0330	1.51	2.54	1.56	16.0	.0376
0400	2.46	3.15	2.49	30.0	.0405
0430	3.11	3.48	3.13	84.0	.0486
0500	4.06	3.84	4.05	151.0	.0631
0530	4.53	4.08	4.51	237.0	.0859
0600	4.74	4.38	4.72	312.0	.1159
0630	4.80	4.51	4.79	339.0	.1485
0700	4.95	4.69	4.94	364.0	.1835
0730	5.17	4.78	5.15	384.0	.2204
0800	5.21	4.90	5.19	413.0	.2601
0830	5.26	4.96	5.24	424.0	.3008
0830	5.26	4.96	5.24	424.0	.3008
0900	5.34	5.07	5.33	424.0	.3416
0930	5.43	5.07	5.41	424.0	.3824

08075780 Greens Bayou at Cutten Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 5780 (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Oct. 11-14, 1982--Continued			
Oct. 12					
1000	5.54	5.12	5.52	420.0	0.4227
1030	5.65	5.12	5.62	419.0	.4630
1100	5.68	5.14	5.65	424.0	.5038
1130	5.71	5.15	5.68	425.0	.5446
1200	5.72	5.21	5.69	420.0	.5850
1230	5.73	5.21	5.70	413.0	.6247
1300	5.73	5.21	5.70	408.0	.6639
1330	5.74	5.21	5.71	404.0	.7028
1400	5.74	5.23	5.71	398.0	.7410
1430	5.74	5.23	5.71	384.0	.7779
1500	5.74	5.25	5.72	376.0	.9044
1800	5.74	5.25	5.72	341.0	1.1994
2400	5.74	5.25	5.72	286.0	1.5019
Oct. 13					
0000	5.74	5.25	5.72	286.0	1.5019
0500	5.74	5.25	5.72	221.0	1.6293
0600	5.74	5.25	5.72	207.0	1.7089
0900	5.74	5.25	5.72	165.0	1.8041
1200	5.74	5.25	5.72	130.0	1.8791
1500	5.74	5.25	5.72	101.0	1.9373
1800	5.74	5.25	5.72	78.0	1.9823
2100	5.74	5.25	5.72	59.0	2.0163
2400	5.74	5.25	5.72	44.0	2.0544
Oct. 14					
0000	5.74	5.25	5.72	44.0	2.0544
0600	5.74	5.25	5.72	24.0	2.0821
1200	5.74	5.25	5.72	15.0	2.0922
1300	5.75	5.25	5.72	14.0	2.1003
1800	5.75	5.25	5.72	11.0	2.1119
2400	5.75	5.25	5.72	8.3	2.1167

08075780 Greens Bayou at Cutten Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 203R (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-21, 1983			
Aug. 18					
0000	0.0	0.0	0.0	5.0	0.0005
0100	.0	.0	.0	5.0	.0012
0130	.0	.04	.03	5.0	.0017
0200	.0	.10	.06	5.0	.0022
0230	.0	.17	.11	5.0	.0026
0300	.0	.29	.19	5.0	.0031
0330	.0	.42	.27	5.0	.0036
0400	.10	.60	.42	5.0	.0041
0430	.17	.72	.53	19.0	.0059
0500	.42	.88	.72	28.0	.0086
0530	.78	1.06	.96	45.0	.0129
0600	.90	1.26	1.13	74.0	.0200
0630	1.30	1.47	1.41	112.0	.0308
0700	1.68	1.71	1.70	161.0	.0463
0730	1.90	1.83	1.85	204.0	.0659
0800	2.63	2.01	2.23	229.0	.0879
0830	2.95	2.24	2.49	264.0	.1133
0900	3.20	2.48	2.73	305.0	.1426
0930	3.46	2.66	2.94	334.0	.1747
1000	3.68	2.88	3.16	361.0	.2094
1030	4.04	3.05	3.40	397.0	.2476
1100	4.19	3.23	3.57	448.0	.2906
1130	4.51	3.41	3.79	485.0	.3373
1200	4.78	3.59	4.01	526.0	.3878
1230	5.10	3.66	4.16	557.0	.4414
1300	5.42	3.78	4.35	583.0	.4974
1330	5.60	3.80	4.43	601.0	.5552
1400	5.79	3.86	4.54	606.0	.6134
1430	5.90	3.86	4.57	611.0	.6722
1500	5.94	3.87	4.59	609.0	.7307
1530	6.00	3.87	4.62	604.0	.8468
1700	6.00	3.87	4.62	579.0	.9582
1730	6.00	3.87	4.62	604.0	1.0162
1800	6.02	3.87	4.62	603.0	1.0742
1830	6.15	3.87	4.67	589.0	1.1308
1900	6.20	3.87	4.69	574.0	1.1860
1930	6.20	3.87	4.69	561.0	1.2399
2000	6.20	3.89	4.70	550.0	1.2928
2030	6.20	3.89	4.70	601.0	1.3505

08075780 Greens Bayou at Cutten Road near Houston, Tex.--Continued

Date and time	Rainfall at gage 203R (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-21, 1983--Continued			
Aug. 18					
2100	6.20	3.91	4.71	687.0	1.4166
2130	6.20	3.94	4.73	700.0	1.4839
2200	6.62	4.00	4.92	756.0	1.5566
2230	6.89	4.00	5.01	768.0	1.6304
2300	7.56	4.00	5.25	739.0	1.7014
2330	7.68	4.00	5.29	705.0	1.7692
2400	7.68	4.00	5.29	670.0	1.9946
Aug. 19					
0000	7.68	4.00	5.29	670.0	1.9946
0300	7.68	4.00	5.29	539.0	2.3055
0600	7.68	4.00	5.29	445.0	2.6049
1000	7.68	4.00	5.29	340.0	2.8010
1200	7.68	4.00	5.29	300.0	3.0029
1700	7.68	4.00	5.29	234.0	3.1379
1800	7.68	4.00	5.29	221.0	3.2441
2200	7.68	4.00	5.29	180.0	3.3479
2400	7.68	4.00	5.29	162.0	3.4413
Aug. 20					
0000	7.68	4.00	5.29	162.0	3.4413
0400	7.68	4.00	5.29	129.0	3.5157
0600	7.68	4.00	5.29	113.0	3.5809
1000	7.68	4.00	5.29	91.0	3.6334
1200	7.68	4.00	5.29	82.0	3.6965
1800	7.68	4.00	5.29	60.0	3.7368
1900	7.68	4.53	5.63	57.0	3.7697
2400	7.68	4.53	5.63	44.0	3.8162
Aug. 21					
0000	7.68	4.53	5.63	44.0	3.8162
0600	7.68	4.53	5.63	32.0	3.8531
1200	7.68	4.53	5.63	25.0	3.8820
1800	7.68	4.53	5.63	21.0	3.9062
2400	7.68	4.53	5.63	18.0	3.9166

08075900 GREENS BAYOU AT U.S. HIGHWAY 75 NEAR HOUSTON, TX

LOCATION.--Lat 29°57'24", long 95°25'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of U.S. Highway 75 access road bridge, 9.0 mi upstream from station 08076000, and 21 mi upstream from Halls Bayou.

DRAINAGE AREA.--36.1 mi^2. Prior to October 1973, 34.8 mi^2.

PERIOD OF RECORD.--August 1965 to current year (discharge measurements and supplemental peak discharges only, Oct. 1, 1980, to Mar. 26, 1981).

REVISED RECORDS.--WDR TX-76-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. Channel was rectified (widened and bed lowered about 2 ft) in 1980-81. Records furnished by Houston Lighting and Power Co. show that about 1,080 acre-ft of ground water used for cooling purposes was released to bayou about 8 mi upstream from gage during the current year. No know diversion above station. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years (water years 1966-80, 1982-1983), 34.5 ft^3/s (25,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,910 ft^3/s Aug. 18, 1983 (elevation, 86.91 ft); maximum elevation, 91.09 ft Feb. 21, 1969, occurred prior to 1980-81 channel rectification; minimum daily discharge, 0.16 ft^3/s Oct. 21, 22, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 12	0930	2,800	83.22	May 21	1600	3,460	84.04
Nov. 17	0700	1,730	81.00	Aug 11	1700	2,120	81.91
Feb. 9	1630	2,030	81.65	Aug 18	2400	*5,910	86.91
May 20	1530	4,150	84.95				

Minimum daily discharge, 6 9 ft^3/s Apr. 16, May 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	20	150	153	50	10	24	8.7	16	13	55	28
2	13	44	70	70	22	10	16	8.7	15	12	25	21
3	15	145	40	38	16	10	13	11	15	12	15	17
4	15	39	25	26	13	50	11	8.7	14	12	14	16
5	15	17	20	18	196	25	11	7.8	16	13	18	17
6	22	16	17	14	97	15	9.5	7.3	23	12	18	89
7	29	13	16	12	42	11	9.3	6.9	14	12	57	33
8	38	13	15	10	27	9.8	9.4	7.3	14	13	340	20
9	20	14	15	10	592	9.5	9.8	7.8	13	13	231	39
10	14	14	20	10	432	9.8	9.8	232	13	12	60	40
11	15	13	30	10	131	11	11	58	15	12	739	22
12	1330	15	20	10	60	12	9.1	25	14	12	484	22
13	290	12	15	8.7	41	10	9.0	20	12	127	125	17
14	60	11	21	8.2	31	9.9	9.2	15	12	79	41	15
15	30	10	87	7.3	76	12	7.4	21	109	295	24	16
16	20	123	41	7.3	83	15	6.9	20	188	984	34	15
17	15	964	26	9.2	40	18	7.2	15	219	242	20	18
18	13	149	18	11	24	11	8.8	13	48	60	2760	27
19	12	220	14	168	18	10	8.0	11	20	38	2320	595
20	12	340	13	107	50	38	7.8	1420	17	24	370	442
21	11	78	13	50	500	21	7.9	1730	52	17	123	244
22	11	41	12	32	150	13	15	716	27	18	56	60
23	11	26	57	17	50	605	15	183	14	17	34	30
24	10	23	42	11	25	304	12	67	235	17	26	20
25	10	20	115	11	17	92	13	39	195	15	24	17
26	10	150	144	9.8	14	99	9.8	30	261	13	21	17
27	9.8	200	139	9.8	12	53	8.2	25	85	13	30	15
28	9.8	70	62	9.8	11	33	8.7	21	30	12	38	15
29	277	40	37	9.8	---	25	8.7	17	19	22	27	14
30	76	100	24	9.8	---	50	9.2	15	14	16	19	14
31	41	---	64	23	---	40	---	14	---	15	17	---
TOTAL	2467.6	2940	1382	900.7	2820	1642.0	314.7	4781.2	1739	2172	8165	1955
MEAN	79.6	98.0	44.6	29.1	101	53.0	10.5	154	58.0	70.1	263	65 2
MAX	1330	964	150	168	592	605	24	1730	261	984	2760	595
MIN	9.8	10	12	7.3	11	9.5	6.9	6.9	12	12	14	14
AC-FT	4890	5830	2740	1790	5590	3260	624	9480	3450	4310	16200	3880

CAL YR 1982 TOTAL 17072.0 MEAN 46.8 MAX 1330 MIN 6.5 AC-FT 33860
WTR YR 1983 TOTAL 31279.2 MEAN 85.7 MAX 2760 MIN 6.9 AC-FT 62040

STORM RAINFALL AND RUNOFF

08075900 Greens Bayou at U.S. Highway 75 near Houston, Tex.

Date and time	Rainfall at gage 5780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
Storm of Oct. 12-14, 1982				
Oct. 12				
0000	0.0	0.0	25.0	0.0005
0100	.03	.03	26.0	.0017
0200	.09	.09	27.0	.0025
0230	.19	.19	34.0	.0033
0300	.71	.71	40.0	.0041
0330	.97	.97	81.0	.0058
0400	1.92	1.92	109.0	.0082
0430	2.57	2.57	136.0	.0111
0500	3.52	3.52	265.0	.0168
0530	3.99	3.99	338.0	.0240
0600	4.20	4.20	490.0	.0346
0630	4.26	4.26	1,010.0	.0562
0700	4.41	4.41	1,520.0	.0889
0730	4.63	4.63	1,980.0	.1314
0800	4.67	4.67	2,430.0	.1835
0830	4.72	4.72	2,610.0	.2395
0900	4.80	4.80	2,780.0	.2992
0930	4.89	4.89	2,800.0	.3593
1000	5.00	5.00	2,790.0	.4192
1030	5.11	5.11	2,740.0	.4780
1100	5.14	5.14	2,680.0	.5355
1130	5.17	5.17	2,610.0	.6195
1230	5.19	5.19	2,400.0	.7225
1330	5.20	5.20	2,140.0	.8833
1600	5.20	5.20	1,700.0	1.0475
1800	5.20	5.20	1,420.0	1.1694
2000	5.20	5.20	1,130.0	1.2664
2200	5.20	5.20	864.0	1.3406
2400	5.20	5.20	598.0	1.4047
Oct. 13				
0000	5.20	5.20	598.0	1.4047
0300	5.20	5.20	482.0	1.4668
0600	5.20	5.20	372.0	1.5387
1200	5.20	5.20	253.0	1.6038
1800	5.20	5.20	177.0	1.6494
2400	5.20	5.20	115.0	1.6790
Oct. 14				
0000	5.20	5.20	115.0	1.6790
0600	5.20	5.20	72.0	1.6976
1200	5.20	5.20	62.0	1.7215
2400	5.20	5.20	37.0	1.7311

08075900 Greens Bayou at U.S. Highway 75 near Houston, Tex.--Continued

Date and time	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of May 20-25, 1983			
May 20					
0000	0.0	0.0	0.0	11.0	0.0004
0130	.0	.0	.0	11.0	.0008
0200	.0	.10	.08	11.0	.0011
0230	.55	.80	.75	11.0	.0013
0300	1.05	1.36	1.30	234.0	.0063
0330	1.15	1.41	1.36	269.0	.0121
0400	1.21	1.45	1.40	422.0	.0212
0430	1.23	1.50	1.45	583.0	.0337
0500	1.29	1.50	1.46	642.0	.0543
0600	1.29	1.50	1.46	746.0	.0864
0700	1.29	1.50	1.46	810.0	.1298
0830	1.29	1.50	1.46	715.0	.1759
1000	1.29	1.50	1.46	572.0	.2127
1130	1.29	1.50	1.46	456.0	.2323
1200	1.29	1.50	1.46	417.0	.2412
1230	1.33	1.50	1.47	378.0	.2493
1300	3.40	3.40	3.40	685.0	.2640
1330	3.43	4.50	4.29	1,900.0	.3048
1400	3.53	4.78	4.53	2,960.0	.3683
1430	3.70	5.58	5.20	3,440.0	.4422
1500	3.70	5.68	5.28	3,950.0	.5269
1530	3.71	5.68	5.29	4,150.0	.7496
1730	3.71	5.68	5.29	3,390.0	.9315
1800	3.73	5.68	5.29	3,090.0	1.0310
1900	3.73	5.68	5.29	2,480.0	1.1108
1930	3.75	5.68	5.29	2,290.0	1.1600
2000	3.75	5.68	5.29	2,100.0	1.2050
2030	3.81	5.69	5.31	1,900.0	1.2458
2100	3.86	5.71	5.34	1,710.0	1.3009
2200	3.86	5.74	5.36	1,550.0	1.4007
2400	3.86	5.74	5.36	1,220.0	1.5054
May 21					
0000	3.86	5.74	5.36	1,220.0	1.5054
0200	3.86	5.74	5.36	993.0	1.5907
0400	3.86	5.74	5.36	799.0	1.6592
0600	3.86	5.74	5.36	694.0	1.7412
0930	3.86	5.74	5.36	566.0	1.7898
1000	3.86	5.74	5.36	537.0	1.8013
1030	5.18	6.16	5.96	1,000.0	1.8227
1100	5.60	6.34	6.19	1,470.0	1.8543

08075900 Greens Bayou at U.S. Highway 75 near Houston, Tex.--Continued

Date and time	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of May 20-25, 1983--Continued			
May 21					
1130	5.68	6.43	6.28	1,930.0	1.8957
1200	5.68	6.52	6.35	2,390.0	1.9470
1230	5.68	6.54	6.37	2,570.0	2.0022
1300	5.86	6.54	6.40	2,740.0	2.0610
1330	5.86	6.54	6.40	2,800.0	2.1211
1400	6.36	6.89	6.78	2,870.0	2.1827
1430	6.45	7.04	6.92	3,060.0	2.2483
1500	6.51	7.08	6.97	3,250.0	2.3181
1530	6.66	7.20	7.09	3,360.0	2.3902
1600	6.72	7.23	7.13	3,460.0	2.4645
1630	6.72	7.27	7.16	3,390.0	2.5372
1700	6.72	7.31	7.19	3,320.0	2.6085
1730	6.72	7.33	7.21	3,170.0	2.6765
1800	6.72	7.34	7.22	3,020.0	2.8061
1930	6.72	7.34	7.22	2,400.0	2.9607
2100	6.72	7.34	7.22	1,920.0	3.1255
2330	6.72	7.34	7.22	1,500.0	3.2221
2400	6.72	7.34	7.22	1,420.0	3.3288
May 22					
0000	6.72	7.34	7.22	1,420.0	3.3288
0300	6.72	7.34	7.22	1,150.0	3.4768
0600	6.72	7.34	7.22	901.0	3.6315
1100	6.72	7.34	7.22	714.0	3.7235
1200	6.72	7.34	7.22	676.0	3.7960
1600	6.72	7.34	7.22	540.0	3.8656
1800	6.72	7.34	7.22	472.0	3.9466
2400	6.72	7.34	7.22	316.0	4.0280
MAY 23					
0000	6.72	7.34	7.22	316.0	4.0280
0600	6.72	7.34	7.22	222.0	4.0852
1200	6.72	7.34	7.22	169.0	4.1287
1800	6.72	7.34	7.22	130.0	4.1622
2400	6.72	7.34	7.22	101.0	4.1882
May 24					
0000	6.72	7.34	7.22	101.0	4.1882
0600	6.72	7.34	7.22	77.0	4.2080
1200	6.72	7.34	7.22	62.0	4.2240
1800	6.72	7.34	7.22	54.0	4.2379
2400	6.72	7.34	7.22	47.0	4.2560
May 25					
0000	6.72	7.34	7.22	47.0	4.2560
1200	6.72	7.34	7.22	35.0	4.2741
2400	6.72	7.34	7.22	35.0	4.2831

08075900 Greens Bayou at U.S. Highway 75 near Houston, Tex.--Continued

Date and time	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Aug. 18-23, 1983			
Aug. 18					
0000	0.0	0.0	0.0	16.0	0.0009
0230	.0	.0	.0	16.0	.0019
0300	.07	.0	.01	20.0	.0023
0330	.12	.0	.02	29.0	.0029
0400	.25	.10	.13	37.0	.0037
0430	.35	.17	.21	88.0	.0056
0500	.65	.42	.47	138.0	.0086
0530	.80	.78	.78	201.0	.0129
0600	.97	.90	.91	263.0	.0185
0630	1.20	1.30	1.28	326.0	.0255
0700	1.40	1.68	1.62	613.0	.0387
0730	1.70	1.90	1.86	900.0	.0580
0800	2.05	2.63	2.51	1,190.0	.0836
0830	2.20	2.95	2.80	1,470.0	.1151
0900	2.30	3.20	3.02	1,760.0	.1529
0930	2.50	3.46	3.27	2,080.0	.1975
1000	2.65	3.68	3.47	2,400.0	.2490
1030	2.85	4.04	3.80	2,720.0	.3074
1100	3.00	4.19	3.95	3,040.0	.3727
1130	3.15	4.51	4.24	3,360.0	.4448
1200	3.42	4.78	4.51	3,680.0	.5237
1230	3.65	5.10	4.81	3,920.0	.6079
1300	3.87	5.42	5.11	4,160.0	.6972
1330	4.02	5.60	5.28	4,390.0	.7914
1400	4.20	5.79	5.47	4,630.0	.8908
1430	4.40	5.90	5.60	4,750.0	.9927
1500	4.55	5.94	5.66	4,760.0	1.0949
1530	4.62	6.00	5.72	4,670.0	1.1951
1600	4.65	6.00	5.73	4,450.0	1.3861
1730	4.65	6.00	5.73	3,780.0	1.5484
1800	4.72	6.02	5.76	4,030.0	1.6349
1830	5.40	6.15	6.00	4,680.0	1.7353
1900	5.65	6.20	6.09	4,880.0	1.8400
1930	5.65	6.20	6.09	4,830.0	1.9437
2000	5.70	6.20	6.10	4,680.0	2.0441
2030	5.75	6.20	6.11	4,450.0	2.1396
2100	5.75	6.20	6.11	4,210.0	2.2300
2130	5.90	6.20	6.14	4,360.0	2.3236
2200	6.55	6.62	6.61	4,940.0	2.4296

08075900 Greens Bayou at U.S. Highway 75 near Houston, Tex.--Continued

Date and time	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
	Storm of Aug. 18-23, 1983--Continued				
Aug. 18					
2230	7.00	6.89	6.91	5,190.0	2.5410
2300	7.02	7.56	7.45	5,480.0	2.6586
2330	7.12	7.68	7.57	5,770.0	2.7824
2400	7.12	7.68	7.57	5,910.0	2.9727
Aug. 19					
0000	7.12	7.68	7.57	5,910.0	2.9727
0100	7.12	7.68	7.57	5,690.0	3.2170
0200	7.12	7.68	7.57	5,200.0	3.4402
0300	7.12	7.68	7.57	4,700.0	3.7428
0500	7.12	7.68	7.57	3,710.0	3.9817
0600	7.12	7.68	7.57	3,210.0	4.1883
0800	7.12	7.68	7.57	2,580.0	4.4098
1000	7.12	7.68	7.57	2,080.0	4.5884
1200	7.12	7.68	7.57	1,710.0	4.7719
1500	7.12	7.68	7.57	1,360.0	4.9470
1800	7.12	7.68	7.57	1,080.0	5.0745
2030	7.12	7.68	7.57	874.0	5.1777
2330	7.12	7.68	7.57	715.0	5.2314
2400	7.12	7.68	7.57	691.0	5.2981
Aug. 20					
0000	7.12	7.68	7.57	691.0	5.2981
0400	7.12	7.68	7.57	559.0	5.3701
0600	7.12	7.68	7.57	483.0	5.4219
0900	7.12	7.68	7.57	390.0	5.4722
1200	7.12	7.68	7.57	337.0	5.5228
1600	7.12	7.68	7.57	265.0	5.5569
1800	7.12	7.68	7.57	245.0	5.5990
2400	7.12	7.68	7.57	184.0	5.6464
Aug. 21					
0000	7.12	7.68	7.57	184.0	5.6464
0600	7.12	7.68	7.57	151.0	5.6820
1100	7.12	7.68	7.57	120.0	5.6975
1200	7.12	7.68	7.57	114.0	5.7146
1800	7.12	7.68	7.57	97.0	5.7396
2400	7.12	7.68	7.57	79.0	5.7599
Aug. 22					
0000	7.12	7.68	7.57	79.0	5.7599
0600	7.12	7.68	7.57	66.0	5.7769
1200	7.12	7.68	7.57	54.0	5.7978
2400	7.12	7.68	7.57	42.0	5.8194
Aug. 23					
0000	7.12	7.68	7.57	42.0	5.8194
1200	7.12	7.68	7.57	30.0	5.8349
2400	7.12	7.68	7.57	30.0	5.8426

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX

LOCATION.--Lat 29°55'05", long 95°18'24", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on U.S. Highway 59 access road, 10.5 mi northeast of Houston, 12.0 mi upstream from Halls Bayou, and 23.4 mi upstream from mouth.

DRAINAGE AREA.--69.6 mi^2. Prior to Oct. 1, 1973, 72.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Channel rectified during the water years 1974-75. No known diversion above station. Low flow is sustained by Houston Light and Power Co. effluent, which is obtained from ground-water sources. Recording rain gage at station.

AVERAGE DISCHARGE.--31 years, 62.0 ft^3/s (44,920 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,730 ft^3/s Apr. 18, 1976 (gage height, 61.92 ft); maximum gage height, 65.75 ft Sept. 12, 1961 (prior to channel rectification); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 12	1400	2,670	58.59	May 21	1830	4,490	62.55
Feb. 9	1930	2,220	57.43	July 16	1000	2,200	58.17
Mar. 23	1800	2,610	58.45	Aug. 19	0130	4,760	64.68
May 20	1830	4,170	62.13	Sept. 19	1230	3,790	61.59

Minimum daily discharge, 18 ft^3/s July 4, 7, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	37	250	287	94	38	56	27	31	23	55	60
2	26	81	150	134	47	36	44	26	30	21	39	46
3	24	308	60	72	35	35	34	33	30	19	26	36
4	25	55	40	53	31	200	36	26	31	18	29	30
5	24	31	33	45	374	80	37	23	38	20	32	28
6	29	26	32	41	233	40	33	22	99	19	29	298
7	37	24	32	39	76	33	32	23	36	18	34	145
8	45	23	33	37	54	31	31	24	26	20	451	58
9	31	24	30	34	713	30	31	23	25	20	269	61
10	26	25	36	34	928	31	30	527	20	19	129	193
11	25	26	59	31	255	31	30	179	23	18	587	159
12	1270	27	50	32	115	32	31	44	23	19	847	57
13	602	22	31	29	77	29	30	33	20	342	264	50
14	119	20	34	29	63	29	29	31	21	170	76	38
15	48	20	109	26	204	29	27	42	79	387	42	38
16	31	59	57	26	240	36	26	38	217	1560	45	36
17	28	1490	37	27	99	44	27	27	446	448	34	62
18	27	304	30	29	68	32	26	31	145	145	2410	113
19	27	425	26	436	55	29	27	24	40	106	3280	1920
20	28	715	24	311	59	68	27	1740	28	54	795	1500
21	28	126	24	105	1200	46	28	2680	80	111	216	879
22	26	71	23	66	300	31	44	1540	86	76	108	189
23	25	57	46	48	100	967	45	428	26	36	70	95
24	25	68	65	41	70	804	35	151	185	32	54	64
25	26	40	334	36	60	186	32	84	339	28	46	47
26	24	145	453	34	50	211	28	62	519	26	42	42
27	24	1000	642	31	45	113	26	50	186	25	45	39
28	25	200	157	31	40	62	25	43	55	24	68	35
29	744	60	73	30	---	49	25	35	35	36	52	35
30	152	150	50	28	---	157	30	33	26	34	37	34
31	57	---	134	51	---	92	---	43	---	23	32	---
TOTAL	3652	5659	3154	2253	5685	3631	962	8092	2945	3897	10243	6387
MEAN	118	189	102	72.7	203	117	32.1	261	98.2	126	330	213
MAX	1270	1490	642	436	1200	967	56	2680	519	1560	3280	1920
MIN	24	20	23	26	31	29	25	22	20	18	26	28
AC-FT	7240	11220	6260	4470	11280	7200	1910	16050	5840	7730	20320	12670

CAL YR 1982 TOTAL 32881 MEAN 90.1 MAX 1800 MIN 19 AC-FT 65220
WTR YR 1983 TOTAL 56560 MEAN 155 MAX 3280 MIN 18 AC-FT 112200

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
01...	0955	37	820	7.7	15.5	10	28	7.2	72	11	52000	7300
MAY												
10...	1310	771	325	7.3	22.0	40	400	5.6	64	17	34000	260000
10...	1450	1130	175	7.4	22.5	35	280	6.0	69	15	32000	290000
10...	1945	1020	201	7.9	23.0	50	420	5.0	58	11	29000	110000
11...	1130	108	355	7.2	23.5	30	160	6.6	77	9.6	6700	51000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAR												
01...	180	0	57	9.0	84	2.8	4.2	220	40	93	.40	21
MAY												
10...	79	2	26	3.5	34	1.7	4.3	78	22	37	.20	9.1
10...	48	0	16	2.0	15	1.0	3.5	49	13	15	.10	5.1
10...	57	1	19	2.3	15	.9	3.6	56	17	16	.20	5.9
11...	97	2	32	4.0	33	1.5	5.3	95	24	32	.20	11

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR											
01...	441	48	15	1.5	.500	2.0	2.00	2.1	4.10	2.20	8.4
MAY											
10...	183	916	126	.45	.150	.60	1.10	2.8	3.90	1.20	4.3
10...	99	666	86	.38	.120	.50	.780	3.0	3.80	.870	18
10...	113	672	130	.38	.120	.50	.800	2.4	3.20	.680	16
11...	199	280	40	.98	.220	1.2	1.10	1.4	2.50	1.10	13

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
01...	0955	4	290	<1	<10	6	13
MAY							
10...	1310	5	130	<1	<10	<1	65
10...	1945	7	87	<1	<10	4	110
11...	1130	15	160	<1	<10	<1	96

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
01...	4	70	<.1	1	<1	14
MAY						
10...	9	26	<.1	1	<1	8
10...	6	5	<.1	<1	<1	5
11...	<1	33	<.1	<1	<1	14

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR								
01...	0955	<.10	<.10	.60	<.10	<.10	<2.0	1.0
MAY								
10...	1310	<.10	<.10	3.5	<.10	<.10	<2.0	1.7
10...	1945	<.10	<.10	1.7	<.10	<.10	<2.0	8.5
11...	1130	<.10	<.10	1.9	<.10	<.10	<2.0	5.1

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR							
01...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
MAY							
10...	<.1	.40	<2.0	<2.0	.10	<.10	<.1
10...	<.1	<.10	<2.0	<2.0	.20	<.10	<.1
11...	<.1	<.10	<2.0	<2.0	.10	<.10	<.1

STORM RAINFALL AND RUNOFF

08076000 Greens Bayou near Houston, Tex.

Date and time	Rainfall at gage 6000 (inches)	Rainfall at gage 5780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Oct. 11-14, 1982			
Oct. 11					
0000	0.0	0.0	0.0	25.0	0.0017
0600	.0	.0	.0	25.0	.0036
0700	.0	.01	.01	25.0	.0045
0900	.0	.01	.01	24.0	.0053
1000	.0	.11	.07	24.0	.0058
1100	.0	.12	.07	24.0	.0063
1200	.0	.12	.07	24.0	.0069
1300	.0	.12	.07	24.0	.0074
1400	.0	.24	.14	24.0	.0079
1500	.10	.27	.20	24.0	.0085
1600	.20	.29	.25	25.0	.0093
1800	.20	.29	.25	27.0	.0102
1900	.20	.34	.28	28.0	.0108
2000	.20	.41	.33	29.0	.0115
2100	.20	.45	.35	30.0	.0121
2200	.20	.50	.38	32.0	.0128
2300	.20	.52	.39	33.0	.0136
2400	.20	.54	.40	34.0	.0141
Oct. 12					
0000	.20	.54	.40	34.0	.0141
0030	.20	.55	.41	34.0	.0145
0100	.22	.57	.43	36.0	.0149
0130	.30	.58	.47	37.0	.0153
0200	.35	.63	.52	39.0	.0158
0230	.35	.73	.58	40.0	.0162
0300	.37	1.25	.90	42.0	.0167
0330	.38	1.51	1.06	47.0	.0172
0400	.38	2.46	1.63	51.0	.0178
0430	.40	3.11	2.03	56.0	.0184
0500	.57	4.06	2.66	60.0	.0191
0530	.59	4.53	2.95	65.0	.0198
0600	.62	4.74	3.09	69.0	.0206
0630	.68	4.80	3.15	85.0	.0215
0700	.80	4.95	3.29	100.0	.0226
0730	.90	5.17	3.46	151.0	.0243
0800	.92	5.21	3.49	202.0	.0265
0830	.95	5.26	3.54	383.0	.0308
0900	1.00	5.34	3.60	564.0	.0371
0930	1.04	5.43	3.67	857.0	.0466
1000	1.20	5.54	3.80	1,150.0	.0594

08076000 Greens Bayou near Houston, Tex.--Continued

Date and time	Rainfall at gage 6000 (inches)	Rainfall at gage 5780 (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Oct. 11-14, 1982--Continued			
Oct. 12					
1030	1.40	5.65	3.95	1,520.0	0.0764
1100	1.60	5.68	4.05	1,880.0	.0973
1130	1.60	5.71	4.07	2,100.0	.1207
1200	1.60	5.72	4.07	2,310.0	.1464
1230	1.62	5.73	4.09	2,440.0	.1735
1300	1.65	5.73	4.10	2,570.0	.2021
1330	1.75	5.74	4.14	2,620.0	.2313
1400	1.80	5.74	4.16	2,670.0	.3651
1800	1.80	5.74	4.16	2,170.0	.5342
2100	1.80	5.74	4.16	1,720.0	.6395
2330	1.80	5.74	4.16	1,390.0	.6859
2400	1.80	5.74	4.16	1,330.0	.7821
Oct. 13					
0000	1.80	5.74	4.16	1,330.0	.7821
0600	1.80	5.74	4.16	1,040.0	.9095
1100	1.80	5.74	4.16	812.0	.9637
1200	1.80	5.74	4.16	766.0	1.0064
1600	1.80	5.74	4.16	580.0	1.0451
1800	1.80	5.74	4.16	487.0	1.0668
2000	1.80	5.74	4.16	394.0	1.0843
2200	1.80	5.74	4.16	301.0	1.0977
2400	1.80	5.74	4.16	208.0	1.1162
Oct. 14					
0000	1.80	5.74	4.16	208.0	1.1162
0600	1.80	5.74	4.16	165.0	1.1364
1100	1.80	5.74	4.16	133.0	1.1453
1200	1.80	5.74	4.16	127.0	1.1524
1600	1.80	5.74	4.16	101.0	1.1591
1800	1.80	5.74	4.16	88.0	1.1640
2100	1.80	5.74	4.16	69.0	1.1679
2300	1.80	5.74	4.16	56.0	1.1698
2400	1.80	5.74	4.16	50.0	1.1703

STORM RAINFALL AND RUNOFF

08076000 Greens Bayou near Houston, Tex.--Continued

Date and time	Rainfall at gage 6000 (inches)	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of May 10-12, 1983				
May 10							
0000	0.0	0.0	0.0	0.0	0.0	24.0	0.0012
0430	.0	.0	.0	.0	.0	65.0	.0048
0500	.0	.0	.0	.01	.00	79.0	.0061
0600	.0	.0	.0	.04	.00	92.0	.0082
0700	.0	.0	.0	.17	.02	92.0	.0097
0730	.0	.0	.0	.35	.04	91.0	.0107
0800	.0	.0	.0	.58	.06	90.0	.0117
0830	.0	.0	.0	.76	.08	86.0	.0127
0900	.0	.15	.0	.95	.16	82.0	.0136
0930	.0	.38	.22	.95	.33	80.0	.0145
1000	.10	1.73	.44	1.00	1.03	78.0	.0154
1030	.55	1.90	.78	1.00	1.27	166.0	.0172
1100	1.40	1.94	.82	1.00	1.43	254.0	.0200
1130	1.54	1.94	1.05	1.00	1.52	355.0	.0240
1200	1.64	1.94	1.05	1.00	1.53	455.0	.0291
1230	1.68	1.94	1.05	1.00	1.54	590.0	.0389
1330	1.68	1.94	1.05	1.00	1.54	860.0	.0581
1430	1.68	1.94	1.05	1.00	1.54	1,070.0	.0878
1600	1.68	1.94	1.05	1.00	1.54	1,220.0	.1354
1800	1.68	1.94	1.05	1.00	1.54	1,180.0	.1945
2030	1.68	1.94	1.05	1.00	1.54	947.0	.2419
2230	1.68	1.94	1.05	1.00	1.54	752.0	.2712
2400	1.68	1.94	1.05	1.00	1.54	617.0	.2953
May 11							
0000	1.68	1.94	1.05	1.00	1.54	617.0	.2953
0200	1.68	1.94	1.05	1.00	1.54	461.0	.3158
0400	1.68	1.94	1.05	1.00	1.54	331.0	.3305
0600	1.68	1.94	1.05	1.00	1.54	216.0	.3401
0800	1.68	1.94	1.05	1.00	1.54	165.0	.3475
1000	1.68	1.94	1.05	1.00	1.54	128.0	.3532
1200	1.68	1.94	1.05	1.00	1.54	105.0	.3614
1700	1.68	1.94	1.05	1.00	1.54	82.0	.3669
1800	1.68	1.94	1.05	1.00	1.54	77.0	.3729
2400	1.68	1.94	1.05	1.00	1.54	65.0	.3808
May 12							
0000	1.68	1.94	1.05	1.00	1.54	65.0	.3808
0500	1.68	1.94	1.05	1.00	1.54	51.0	.3842
0600	1.68	1.94	1.05	1.00	1.54	49.0	.3880
1200	1.68	1.94	1.05	1.00	1.54	40.0	.3934
1800	1.68	1.94	1.05	1.00	1.54	37.0	.3983
2400	1.68	1.94	1.05	1.00	1.54	34.0	.4006

08076000 Greens Bayou near Houston, Tex.--Continued

Date and time	Rainfall at gage 6000 (inches)	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of May 20-25, 1983			
May 20						
0000	0.0	0.0	0.0	0.0	23.0	0.0004
0130	.0	.0	.0	.0	23.0	.0009
0200	.0	.0	.10	.04	23.0	.0012
0230	.0	.55	.80	.57	23.0	.0014
0300	.60	1.05	1.36	1.11	42.0	.0019
0330	.72	1.15	1.41	1.19	83.0	.0028
0400	1.00	1.21	1.45	1.27	110.0	.0040
0430	1.19	1.23	1.50	1.33	207.0	.0063
0500	1.20	1.29	1.50	1.36	304.0	.0097
0530	1.20	1.29	1.50	1.36	461.0	.0148
0600	1.20	1.29	1.50	1.36	617.0	.0251
0700	1.20	1.29	1.50	1.36	856.0	.0490
0830	1.20	1.29	1.50	1.36	1,070.0	.0966
1100	1.20	1.29	1.50	1.36	1,190.0	.1430
1200	1.20	1.29	1.50	1.36	1,170.0	.1625
1230	1.20	1.33	1.50	1.38	1,150.0	.1753
1300	1.43	3.40	3.40	3.10	1,140.0	.1880
1330	2.17	3.43	4.50	3.67	1,120.0	.2005
1400	2.25	3.53	4.78	3.84	1,240.0	.2143
1430	2.29	3.70	5.58	4.24	1,490.0	.2309
1500	2.31	3.70	5.68	4.28	1,730.0	.2501
1530	2.34	3.71	5.68	4.29	2,270.0	.2754
1600	2.36	3.71	5.68	4.30	2,800.0	.3066
1630	2.40	3.71	5.68	4.30	3,250.0	.3608
1730	2.40	3.71	5.68	4.30	3,920.0	.4263
1800	2.40	3.73	5.68	4.31	4,130.0	.4723
1830	2.40	3.73	5.68	4.31	4,170.0	.5187
1900	2.40	3.73	5.68	4.31	4,160.0	.5882
2000	2.40	3.75	5.68	4.32	3,970.0	.6765
2100	2.45	3.86	5.71	4.39	3,630.0	.7574
2200	2.56	3.86	5.74	4.42	3,290.0	.8672
2400	2.56	3.86	5.74	4.42	2,630.0	.9990
May 21						
0000	2.56	3.86	5.74	4.42	2,630.0	.9990
0230	2.56	3.86	5.74	4.42	2,100.0	1.1276
0530	2.56	3.86	5.74	4.42	1,690.0	1.1934
0600	2.56	3.86	5.74	4.42	1,620.0	1.2655
0930	2.56	3.86	5.74	4.42	1,310.0	1.3239
1000	2.56	3.86	5.74	4.42	1,260.0	1.3379
1030	3.06	5.18	6.16	5.25	1,220.0	1.3515

08076000 Greens Bayou near Houston, Tex.--Continued

Date and time	Rainfall at gage 6000 (inches)	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of May 20-25, 1983--Continued			
May 21						
1100	3.61	5.60	6.34	5.60	1,280.0	1.3657
1130	3.91	5.68	6.43	5.71	1,450.0	1.3819
1200	3.91	5.68	6.52	5.75	1,610.0	1.3998
1230	3.91	5.68	6.54	5.76	1,940.0	1.4214
1300	3.91	5.86	6.54	5.84	2,260.0	1.4465
1330	3.93	5.86	6.54	5.84	2,630.0	1.4758
1400	3.96	6.36	6.89	6.21	3,000.0	1.5092
1430	4.11	6.45	7.04	6.33	3,230.0	1.5452
1500	4.21	6.51	7.08	6.39	3,460.0	1.5837
1530	4.28	6.66	7.20	6.52	3,660.0	1.6244
1600	4.41	6.72	7.23	6.58	3,860.0	1.6674
1630	4.46	6.72	7.27	6.60	4,060.0	1.7126
1700	4.47	6.72	7.31	6.62	4,260.0	1.7600
1730	4.47	6.72	7.33	6.63	4,340.0	1.8083
1800	4.47	6.72	7.34	6.63	4,410.0	1.8574
1830	4.47	6.72	7.34	6.63	4,490.0	1.9074
1900	4.47	6.72	7.34	6.63	4,450.0	1.9817
2000	4.47	6.72	7.34	6.63	4,300.0	2.0774
2100	4.47	6.72	7.34	6.63	4,040.0	2.1899
2230	4.47	6.72	7.34	6.63	3,570.0	2.3091
2400	4.47	6.72	7.34	6.63	3,070.0	2.4629
May 22						
0000	4.47	6.72	7.34	6.63	3,070.0	2.4629
0300	4.47	6.72	7.34	6.63	2,320.0	2.6179
0600	4.47	6.72	7.34	6.63	1,890.0	2.7651
1000	4.47	6.72	7.34	6.63	1,520.0	2.8667
1200	4.47	6.72	7.34	6.63	1,370.0	2.9887
1800	4.47	6.72	7.34	6.63	1,090.0	3.1343
2400	4.47	6.72	7.34	6.63	782.0	3.2387
May 23						
0000	4.47	6.72	7.34	6.63	782.0	3.2387
0600	4.47	6.72	7.34	6.63	548.0	3.3119
1200	4.47	6.72	7.34	6.63	379.0	3.3626
1800	4.47	6.72	7.34	6.63	287.0	3.4009
2400	4.47	6.72	7.34	6.63	213.0	3.4436
May 24						
0000	4.47	6.72	7.34	6.63	213.0	3.4436
1200	4.47	6.72	7.34	6.63	136.0	3.4799
2400	4.47	6.72	7.34	6.63	112.0	3.5098
May 25						
0000	4.47	6.72	7.34	6.63	112.0	3.5098
1200	4.47	6.72	7.34	6.63	81.0	3.5315
2400	4.47	6.72	7.34	6.63	70.0	3.5408

08076000 Greens Bayou near Houston, Tex.--Continued

Date and time	Rainfall at gage 6000 (inches)	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-23, 1983				
Aug. 18							
0000	0.0	0.0	0.0	0.0	0.0	30.0	0.0003
0100	.0	.0	.0	.0	.0	30.0	.0008
0130	.0	.0	.0	.04	.00	30.0	.0012
0200	.0	.0	.0	.10	.01	30.0	.0015
0230	.0	.0	.0	.17	.02	30.0	.0018
0300	.0	.07	.0	.29	.06	30.0	.0022
0330	.01	.12	.0	.42	.10	34.0	.0025
0400	.03	.25	.10	.60	.21	37.0	.0030
0430	.18	.35	.17	.72	.31	61.0	.0036
0500	.29	.65	.42	.88	.55	84.0	.0046
0530	.62	.80	.78	1.06	.79	108.0	.0058
0600	.72	.97	.90	1.26	.94	131.0	.0072
0630	.92	1.20	1.30	1.47	1.21	303.0	.0106
0700	1.10	1.40	1.68	1.71	1.47	474.0	.0159
0730	1.34	1.70	1.90	1.83	1.72	646.0	.0231
0800	1.60	2.05	2.63	2.01	2.15	817.0	.0322
0830	1.90	2.20	2.95	2.24	2.38	989.0	.0432
0900	1.98	2.30	3.20	2.48	2.54	1,160.0	.0561
0930	2.08	2.50	3.46	2.66	2.74	1,460.0	.0723
1000	2.20	2.65	3.68	2.88	2.91	1,750.0	.0918
1030	2.32	2.85	4.04	3.05	3.15	2,050.0	.1146
1100	2.52	3.00	4.19	3.23	3.31	2,350.0	.1408
1130	2.78	3.15	4.51	3.41	3.53	2,640.0	.1702
1200	3.06	3.42	4.78	3.59	3.79	2,940.0	.2029
1230	3.25	3.65	5.10	3.66	4.03	3,140.0	.2379
1300	3.45	3.87	5.42	3.78	4.26	3,340.0	.2751
1330	3.65	4.02	5.60	3.80	4.42	3,550.0	.3146
1400	3.78	4.20	5.79	3.86	4.58	3,750.0	.3563
1430	3.82	4.40	5.90	3.86	4.71	3,950.0	.4003
1500	3.85	4.55	5.94	3.87	4.79	4,150.0	.4465
1530	3.85	4.62	6.00	3.87	4.84	4,180.0	.4930
1600	3.87	4.65	6.00	3.87	4.86	4,210.0	.5399
1630	4.20	4.65	6.00	3.87	4.91	4,250.0	.5872
1700	4.20	4.65	6.00	3.87	4.91	4,280.0	.6349
1730	4.30	4.65	6.00	3.87	4.92	4,310.0	.6828
1800	4.32	4.72	6.02	3.87	4.96	4,340.0	.7311
1830	4.32	5.40	6.15	3.87	5.31	4,300.0	.7790
1900	4.32	5.65	6.20	3.87	5.44	4,250.0	.8263
1930	4.34	5.65	6.20	3.87	5.44	4,280.0	.8740

08076000 Greens Bayou near Houston, Tex.--Continued

Date and time	Rainfall at gage 6000 (inches)	Rainfall at gage 5900 (inches)	Rainfall at gage 203R (inches)	Rainfall at gage 22R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug 18-23, 1983--Continued				
Aug. 18							
2000	4.34	5.70	6.20	3.89	5.46	4,310.0	0.9219
2030	4.34	5.75	6.20	3.89	5.49	4,330.0	.9701
2100	4.34	5.75	6.20	3.91	5.49	4,340.0	1.0185
2130	4.34	5.90	6.20	3.94	5.56	4,390.0	1.0673
2200	4.54	6.55	6.62	4.00	6.01	4,440.0	1.1168
2230	4.54	7.00	6.89	4.00	6.30	4,490.0	1.1667
2300	4.85	7.02	7.56	4.00	6.55	4,540.0	1.2173
2330	4.92	7.12	7.68	4.00	6.65	4,590.0	1.2684
2400	4.92	7.12	7.68	4.00	6.65	4,640.0	1.3717
Aug. 19							
0000	4.92	7.12	7.68	4.00	6.65	4,640.0	1.3717
0130	4.92	7.12	7.68	4.00	6.65	4,760.0	1.4777
0200	4.92	7.12	7.68	4.00	6.65	4,760.0	1.5306
0230	4.92	7.12	7.68	4.00	6.65	4,760.0	1.5836
0300	4.92	7.12	7.68	4.00	6.65	4,760.0	1.7691
0600	4.92	7.12	7.68	4.00	6.65	4,390.0	2.1112
1000	4.92	7.12	7.68	4.00	6.65	3,590.0	2.3510
1200	4.92	7.12	7.68	4.00	6.65	3,200.0	2.5647
1600	4.92	7.12	7.68	4.00	6.65	2,610.0	2.7390
1800	4.92	7.12	7.68	4.00	6.65	2,300.0	2.8799
2130	4.92	7.12	7.68	4.00	6.65	1,880.0	3.0054
2400	4.92	7.12	7.68	4.00	6.65	1,610.0	3.1219
Aug. 20							
0000	4.92	7.12	7.68	4.00	6.65	1,610.0	3.1219
0400	4.92	7.12	7.68	4.00	6.65	1,240.0	3.2047
0600	4.92	7.12	7.68	4.00	6.65	1,060.0	3.2755
1000	4.92	7.12	7.68	4.00	6.65	825.0	3.3306
1200	4.92	7.12	7.68	4.00	6.65	707.0	3.3936
1800	4.92	7.12	7.68	4.00	6.65	473.0	3.4568
2400	4.92	7.12	7.68	4.53	6.70	338.0	3.5019
Aug. 21							
0000	4.92	7.12	7.68	4.53	6.70	338.0	3.5019
0600	4.92	7.12	7.68	4.53	6.70	255.0	3.5360
1200	4.92	7.12	7.68	4.53	6.70	202.0	3.5630
1800	4.92	7.12	7.68	4.53	6.70	171.0	3.5858
2400	4.92	7.12	7.68	4.53	6.70	144.0	3.6147
Aug. 22							
0000	4.92	7.12	7.68	4.53	6.70	144.0	3.6147
1200	4.92	7.12	7.68	4.53	6.70	103.0	3.6422
2400	4.92	7.12	7.68	4.53	6.70	84.0	3.6646
Aug. 23							
0000	4.92	7.12	7.68	4.53	6.70	84.0	3.6646
1200	4.92	7.12	7.68	4.53	6.70	67.0	3.6825
2400	4.92	7.12	7.68	4.53	6.70	64.0	3.6911

HALLS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Halls Bayou drainage basin are shown in figure 19.

Weighted-mean rainfall for the drainage basin, based on five rain gages above the Jensen Drive station (station 08076500) for the 1983 water year was 60.04 inches, or 11.85 inches more than the 30-year (1941-70) average of 48.19 inches for Houston. The monthly totals, in inches, for the 1983 water year weighted-mean rainfall are as follows:

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total
3.73	7.33	3.31	1.67	3.78	4.42	0.26	7.04	4.38	5.31	9.33	9.48	60.04

The storms of March 23-25 and May 20-23 were selected for analysis at station 08076200, Halls Bayou at Deertrail Street. The storms of March 23-28, May 10-11, and Aug. 18-23 were selected for analysis at station 08076500, Halls Bayou at Houston (Jensen Drive).

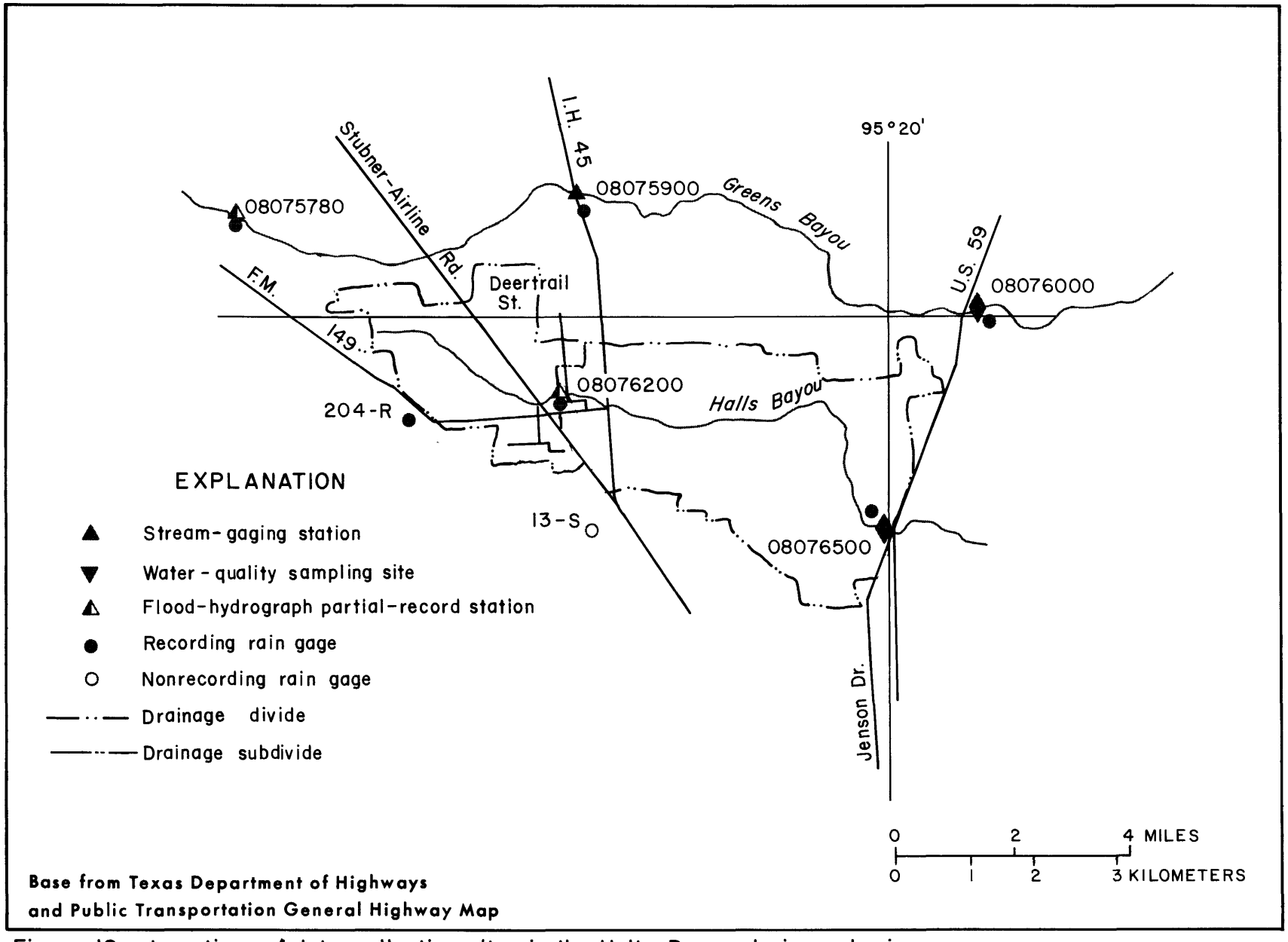

Figure 19.– Locations of data-collection sites in the Halls Bayou drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 18.--Storm rainfall-runoff data, 1983 Water Year, Halls Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Halls Bayou at Deertrail St., Houston, TX (Drainage Area -- 8.99 mi^2)								
Mar. 23-25, 1983	4.5	2.11	0.40	0.60	0.96	1.06	0.50	487
May 20, 1983	1.3	1.36	0.92	0.98	1.06	3.65	0.57	221
May 20-21, 1983	1.3	2.52	1.46	1.80	2.08			816
May 21-23, 1983	4.0	2.50	0.84	1.04	1.56			674
Halls Bayou at Houston, TX (Drainage Area -- 27.6 mi^2)								
Mar. 23-26, 1983	4.0	2.12	0.30	0.60	0.96	1.14	0.47	1170
Mar. 26-28, 1983	1.0	0.30	0.08	0.15	0.30			128
May 10-11, 1983	3.0	1.62	0.50	1.00	1.48	0.32	0.20	485
Aug. 18-23, 1983	16.0	5.31	0.39	0.78	0.96	5.63	1.06	3120*,++

* - Peak Discharge for 1983 Water Year ++ - Maximum Stage for Period of Record occurred this storm.

08076200 HALLS BAYOU AT DEERTRAIL STREET NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°54'07", long 95°25'21", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Deertrail Street, 0.6 mile west of U.S. Highway 75, 3.0 miles north of city limits of Houston, and 7.7 miles upstream from station 08076500, Halls Bayou at Houston.

DRAINAGE AREA.--8.99 mi^2. For period Oct. 1, 1973 to Sept. 30, 1977, 8.69 mi^2. Prior to Oct. 1, 1973, 6.31 mi^2.

PERIOD OF RECORD.--Aug. 1964 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 27, 1978 a flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1961 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft^3/s, Aug. 18, 1983 (gage height, 85.66 ft); maximum gage height, 86.07 ft, April 18, 1976. Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 400 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Mar. 23	1515	487	81.75
May 20	1400	816	84.08
May 21	1445	674	83.32
Aug. 11	1500	452	81.77
Aug. 18	unknown	*1,200	85.66
Sept. 19	0945	754	83.76

Minimum discharge not determined.

08076200 Halls Bayou at Deertrail Street near Houston, Tex.

Date and time	Rainfall at gage 6200 (inches)	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of Mar. 23-25, 1983			
Mar. 23					
0000	0.0	0.0	0.0	3.0	0.0023
0845	.0	.0	.0	3.0	.0046
0900	.0	.40	.18	3.0	.0048
0930	.12	.74	.40	20.0	.0061
0945	.48	.92	.68	30.0	.0074
1000	.72	1.00	.85	40.0	.0091
1015	.96	1.08	1.01	79.0	.0125
1030	1.08	1.10	1.09	132.0	.0210
1100	1.20	1.24	1.22	205.0	.0343
1115	1.32	1.30	1.31	238.0	.0445
1130	1.44	1.34	1.39	269.0	.0561
1145	1.44	1.40	1.42	298.0	.0690
1200	1.56	1.42	1.50	323.0	.0829
1215	1.56	1.48	1.52	343.0	.0977
1230	1.56	1.52	1.54	357.0	.1131
1245	1.68	1.62	1.65	367.0	.1289
1300	1.68	1.70	1.69	373.0	.1449
1315	1.80	1.78	1.79	377.0	.1612
1330	1.92	1.84	1.88	385.0	.1778
1345	1.92	1.94	1.93	397.0	.1949
1400	2.04	2.04	2.04	410.0	.2126
1415	2.16	2.05	2.11	417.0	.2485
1500	2.16	2.05	2.11	482.0	.2900
1515	2.16	2.05	2.11	487.0	.3110
1530	2.16	2.05	2.11	486.0	.3424
1600	2.16	2.05	2.11	473.0	.4443
1800	2.16	2.05	2.11	388.0	.5697
1945	2.16	2.05	2.11	314.0	.6577
2115	2.16	2.05	2.11	256.0	.7239
2245	2.16	2.05	2.11	205.0	.7725
2400	2.16	2.05	2.11	170.0	.8347
Mar. 24					
0000	2.16	2.05	2.11	170.0	.8347
0300	2.16	2.05	2.11	114.0	.8937
0600	2.16	2.05	2.11	83.0	.9581
1200	2.16	2.05	2.11	40.0	1.0201
2400	2.16	2.05	2.11	12.0	1.0449
Mar. 25					
0000	2.16	2.05	2.11	12.0	1.0449
1200	2.16	2.05	2.11	4.0	1.0532
2400	2.16	2.05	2.11	3.0	1.0563

08076200 Halls Bayou at Deertrail Street near Houston, Tex.--Continued

Date and time	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
		Storm of May 20-23, 1983		
May 20				
0000	0.0	0.0	3.0	0.0005
0200	.0	.0	40.0	.0083
0215	.92	.92	89.0	.0121
0230	.98	.98	103.0	.0165
0245	1.02	1.02	131.0	.0222
0300	1.06	1.06	163.0	.0292
0315	1.14	1.14	189.0	.0374
0330	1.24	1.24	207.0	.0463
0345	1.32	1.32	218.0	.0557
0400	1.36	1.36	221.0	.0938
0545	1.36	1.36	178.0	.1244
0600	1.36	1.36	168.0	.1425
0700	1.36	1.36	135.0	.1658
0800	1.36	1.36	106.0	.1887
0930	1.36	1.36	84.0	.2158
1145	1.36	1.36	66.0	.2300
1200	1.36	1.36	144.0	.2362
1215	1.60	1.60	310.0	.2496
1230	3.06	3.06	462.0	.2695
1245	3.40	3.40	596.0	.2952
1300	3.44	3.44	686.0	.3247
1315	3.46	3.46	752.0	.3571
1330	3.52	3.52	798.0	.3915
1345	3.60	3.60	804.0	.4262
1400	3.80	3.80	816.0	.5141
1500	3.80	3.80	767.0	.6463
1600	3.80	3.80	681.0	.7637
1700	3.80	3.80	600.0	.8671
1800	3.80	3.80	516.0	.9783
1930	3.80	3.80	421.0	1.0508
2000	3.84	3.84	392.0	1.0762
2015	3.86	3.86	381.0	1.0926
2030	3.88	3.88	369.0	1.2119
2400	3.88	3.88	248.0	1.3508
May 21				
0000	3.88	3.88	248.0	1.3508
0300	3.88	3.88	191.0	1.4495
0600	3.88	3.88	150.0	1.5271
0900	3.88	3.88	123.0	1.5616
0915	3.88	3.88	135.0	1.5674

08076200 Halls Bayou at Deertrail Street near Houston, Tex.--Continued

Date and time	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
Storm of May 20-23, 1983--Continued				
May 21				
0930	3.88	3.88	196.0	1.5758
0945	4.72	4.72	273.0	1.5876
1000	4.92	4.92	382.0	1.6040
1015	5.24	5.24	503.0	1.6257
1030	5.44	5.44	579.0	1.6507
1045	5.54	5.54	618.0	1.6906
1115	5.54	5.54	637.0	1.7592
1200	5.54	5.54	612.0	1.8120
1215	5.54	5.54	604.0	1.8380
1230	5.62	5.62	596.0	1.8765
1300	5.62	5.62	573.0	1.9136
1315	5.62	5.62	579.0	1.9385
1330	5.80	5.80	597.0	1.9643
1345	6.02	6.02	610.0	1.9905
1400	6.04	6.04	623.0	2.0174
1415	6.08	6.08	644.0	2.0451
1430	6.08	6.08	664.0	2.0737
1445	6.20	6.20	669.0	2.1026
1500	6.26	6.26	674.0	2.1316
1515	6.28	6.28	671.0	2.1605
1530	6.30	6.30	667.0	2.2036
1600	6.31	6.31	642.0	2.2590
1630	6.32	6.32	615.0	2.3120
1700	6.33	6.33	585.0	2.3624
1730	6.34	6.34	553.0	2.4101
1800	6.35	6.35	521.0	2.4550
1830	6.36	6.36	493.0	2.4974
1900	6.37	6.37	465.0	2.5375
1930	6.38	6.38	438.0	2.6319
2130	6.38	6.38	351.0	2.7680
2400	6.38	6.38	279.0	2.9724
May 22				
0000	6.38	6.38	279.0	2.9724
0600	6.38	6.38	204.0	3.1834
1200	6.38	6.38	165.0	3.3540
1800	6.38	6.38	122.0	3.4802
2400	6.38	6.38	74.0	3.5950
May 23				
0000	6.38	6.38	74.0	3.5950
1200	6.38	6.38	22.0	3.6405
2400	6.38	6.38	9.0	3.6498

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°51'42", long 95°20'05", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Jensen Drive in northeast section of Houston and 11.0 mi upstream from mouth.

DRAINAGE AREA.--27.6 mi^2. Oct. 1, 1973, to Sept. 30, 1977, 28.3 mi^2. Prior to Oct. 1, 1973, 24.7 mi^2. Changes were result of drainage ditch extensions or relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair except those for period of no gage-height record, which are poor. No known diversion above station. Low flow is sustained by sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--31 years, 28.9 ft^3/s (20,940 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft^3/s Mar. 21, 1972 (gage height, 60.70 ft); maximum gage height, 60.91 ft Aug. 18, 1983; no flow at times prior to 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 20	unknown	2,020	a58.27	Sept. 19	unknown	1,800	unknown
May 21	unknown	1,580	a57.12	Sept. 20	unknown	1,300	unknown
Aug. 18	1700	*3,120	60.91				

a From peak marks.

Minimum daily discharge, 7.0 ft^3/s Oct. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	12	100	52	23	13	29	12	10	11	10	19
2	8.3	40	50	29	13	13	18	13	10	11	10	13
3	9.3	100	25	16	11	13	15	14	9.9	10	9.8	11
4	9.5	20	15	12	10	19	15	12	12	10	9.8	10
5	9.5	12	13	13	111	39	14	11	14	10	16	9.6
6	9.7	10	12	15	39	18	13	12	15	10	54	122
7	10	9.0	11	15	18	14	13	12	14	9.6	46	66
8	10	8.5	11	16	14	13	13	13	11	9.6	112	22
9	9.7	8.2	11	17	228	13	13	12	11	9.3	67	138
10	9.9	8.0	14	14	150	13	13	186	10	9.3	42	60
11	10	10	22	13	37	13	13	51	10	9.3	280	29
12	131	12	18	13	22	13	13	12	10	9.3	310	15
13	76	10	13	13	18	13	13	9.5	10	88	74	12
14	12	9.0	12	12	16	13	12	9.0	12	51	22	10
15	7.7	9.0	21	12	101	13	11	25	50	177	15	10
16	7.3	25	15	12	94	16	11	15	50	557	13	10
17	7.3	400	11	12	29	15	12	10	207	90	12	20
18	7.7	50	11	12	20	13	12	12	61	24	1720	40
19	8.1	100	12	137	17	13	11	10	13	15	2000	900
20	7.7	200	11	74	23	19	11	650	16	13	320	650
21	7.7	30	11	25	470	13	12	950	50	101	78	400
22	8.6	20	11	18	58	12	22	550	50	155	33	75
23	7.7	15	12	15	28	562	14	150	15	18	21	35
24	7.1	13	17	13	21	118	11	50	11	14	17	25
25	7.5	12	162	12	18	38	11	25	146	12	16	20
26	7.0	100	150	12	15	79	11	16	136	11	14	17
27	7.6	350	216	11	14	27	11	14	47	10	13	14
28	8.0	60	43	11	14	19	11	13	13	10	18	12
29	150	25	19	11	---	16	12	12	12	10	12	11
30	30	50	11	11	---	310	12	11	11	10	11	10
31	17	---	30	18	---	68	---	11	---	10	10	---
TOTAL	627.7	1727.7	1090	666	1632	1571	402	2902.5	1046.9	1494.4	5385.6	2785.6
MEAN	20.2	57.6	35.2	21.5	58.3	50.7	13.4	93.6	34.9	48.2	174	92.9
MAX	150	400	216	137	470	562	29	950	207	557	2000	900
MIN	7.0	8.0	11	11	10	12	11	9.0	9.9	9.3	9.8	9.6
AC-FT	1250	3430	2160	1320	3240	3120	797	5760	2080	2960	10680	5530

CAL YR 1982 TOTAL 12312.8 MEAN 33.7 MAX 774 MIN 6.6 AC-FT 24420
WTR YR 1983 TOTAL 21331.4 MEAN 58.4 MAX 2000 MIN 7.0 AC-FT 42310

NOTE.--No gage-height record Oct. 29 to Dec. 5.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
01...	1100	13	900	7.6	17.5	15	17	6.0	63	7.5	130	56
MAY												
10...	1150	216	255	7.4	22.0	25	200	-6.0	68	13	160000	380000
10...	1625	471	210	7.1	23.0	40	230	4.1	48	17	150000	430000
10...	2050	342	203	7.6	23.0	35	180	3.5	41	10	120000	260000
11...	1125	32	367	6.9	23.5	30	22	3.9	46	9.0	120000	200000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAR												
01...	230	0	69	13	81	2.4	4.6	280	31	90	.40	22
MAY												
10...	74	0	24	3.4	19	1.0	4.4	74	15	21	.20	7.5
10...	62	3	20	2.8	15	.9	3.8	59	15	16	.20	5.3
10...	64	2	21	2.7	14	.8	3.7	62	15	16	.10	5.5
11...	110	76	36	5.3	32	1.4	4.9	36	22	35	.20	11

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR											
01...	479	31	21	.61	.490	1.1	4.90	4.3	9.20	3.40	11
MAY											
10...	139	350	96	.34	.060	.40	2.20	2.4	4.60	1.20	17
10...	114	498	148	.51	.090	.60	1.70	2.9	4.60	1.10	19
10...	115	268	64	.42	.080	.50	1.20	2.7	3.90	.870	14
11...	168	202	64	.08	.120	.20	2.00	2.4	4.40	1.20	13

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
01...	1100	4	260	<1	<10	4	16
MAY							
10...	1150	6	86	<1	<10	<1	84
10...	1625	26	99	<1	<10	2	90
11...	1125	14	160	<1	<10	<1	87

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
01...	<1	250	<.1	1	<1	16
MAY						
10...	<1	7	<.1	<1	<1	12
10...	2	99	<.1	<1	<1	16
11...	<1	33	<.1	<1	<1	16

DATE	TIME	AME-TRYNE TOTAL	ATRA-TONE TOTAL (UG/L),	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)
MAR								
01...	1100	<.10	<.10	.10	<.10	<.10	<2.0	<.1
MAY								
10...	1150	<.10	<.10	.20	<.10	<.10	<2.0	.4
10...	1625	<.10	<.10	1.1	<.10	<.10	--	.4
11...	1125	<.10	<.10	1.4	<.10	<.10	<2.0	1.1

08076500 HALLS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)
MAR							
01...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
MAY							
10...	<.1	<.10	<2.0	<2.0	<.10	<.10	<.1
10...	<.1	<.10	--	--	<.10	<.10	<.1
11...	<.1	<.10	<2.0	<2.0	.20	<.10	<.1

STORM RAINFALL AND RUNOFF

08076500 Halls Bayou at Houston, Tex.

Date and time	Rainfall at gage 6200 (inches)	Rainfall at gage 6000 (inches)	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Mar. 23-28, 1983			
Mar. 23						
0000	0.0	0.0	0.0	0.0	12.0	0.0020
0600	.0	.0	.0	.0	12.0	.0049
0830	.0	.0	.0	.0	12.0	.0059
0900	.0	.0	.40	.04	12.0	.0062
0930	.12	.0	.74	.15	12.0	.0066
1000	.72	.22	1.00	.60	26.0	.0073
1030	1.08	.74	1.10	.98	62.0	.0090
1100	1.20	1.00	1.24	1.14	148.0	.0132
1130	1.44	1.12	1.34	1.33	219.0	.0193
1200	1.56	1.28	1.42	1.46	288.0	.0274
1230	1.56	1.42	1.52	1.51	386.0	.0383
1300	1.68	1.50	1.70	1.63	501.0	.0523
1330	1.92	1.62	1.84	1.82	616.0	.0696
1400	2.04	1.78	2.04	1.96	719.0	.0898
1430	2.16	1.94	2.05	2.08	826.0	.1130
1500	2.16	2.08	2.05	2.12	931.0	.1522
1600	2.16	2.08	2.05	2.12	1,070.0	.2123
1700	2.16	2.08	2.05	2.12	1,160.0	.2774
1800	2.16	2.08	2.05	2.12	1,170.0	.3431
1900	2.16	2.08	2.05	2.12	1,120.0	.4060
2000	2.16	2.08	2.05	2.12	1,060.0	.4655
2100	2.16	2.08	2.05	2.12	968.0	.5062
2130	2.16	2.08	2.05	2.12	920.0	.5708
2330	2.16	2.08	2.05	2.12	710.0	.6206
2400	2.16	2.08	2.05	2.12	659.0	.6669
Mar. 24						
0000	2.16	2.08	2.05	2.12	659.0	.6669
0200	2.16	2.08	2.05	2.12	485.0	.7213
0400	2.16	2.08	2.05	2.12	357.0	.7614
0600	2.16	2.08	2.05	2.12	266.0	.7913
0800	2.16	2.08	2.05	2.12	206.0	.8144
1000	2.16	2.08	2.05	2.12	167.0	.8332
1200	2.16	2.08	2.05	2.12	139.0	.8527
1500	2.16	2.08	2.05	2.12	109.0	.8711
1800	2.16	2.08	2.05	2.12	90.0	.8887
2200	2.16	2.08	2.05	2.12	72.0	.9009
2400	2.16	2.08	2.05	2.12	65.0	.9136
Mar. 25						
0000	2.16	2.08	2.05	2.12	65.0	.9136
0500	2.16	2.08	2.05	2.12	53.0	.9226
0600	2.16	2.08	2.05	2.12	51.0	.9326

08076500 Halls Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 6200 (inches)	Rainfall at gage 6000 (inches)	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Mar. 23-28, 1983--Continued			
Mar. 25						
1200	2.16	2.08	2.05	2.12	42.0	0.9467
1800	2.16	2.08	2.05	2.12	38.0	.9595
2400	2.16	2.08	2.05	2.12	34.0	.9691
Mar. 26						
0000	2.16	2.08	2.05	2.12	34.0	.9691
0400	2.16	2.08	2.05	2.12	31.0	.9734
0500	2.16	2.08	2.15	2.13	30.0	.9751
0600	2.28	2.38	2.30	2.31	38.0	.9772
0700	2.40	2.52	2.30	2.43	78.0	.9816
0800	2.40	2.52	2.30	2.43	100.0	.9957
1200	2.40	2.52	2.30	2.43	128.0	1.0136
1300	2.40	2.52	2.30	2.43	128.0	1.0280
1600	2.40	2.52	2.30	2.43	103.0	1.0425
1800	2.40	2.52	2.30	2.43	83.0	1.0518
2000	2.40	2.52	2.30	2.43	67.0	1.0612
2300	2.40	2.52	2.30	2.43	53.0	1.0671
2400	2.40	2.52	2.30	2.43	50.0	1.0756
Mar. 27						
0000	2.40	2.52	2.30	2.43	50.0	1.0756
0500	2.40	2.52	2.30	2.43	40.0	1.0823
0600	2.40	2.52	2.30	2.43	38.0	1.0887
1100	2.40	2.52	2.30	2.43	31.0	1.0939
1200	2.40	2.52	2.30	2.43	30.0	1.0998
1800	2.40	2.52	2.30	2.43	28.0	1.1092
2400	2.40	2.52	2.30	2.43	24.0	1.1140
Mar. 28						
0000	2.40	2.52	2.30	2.43	24.0	1.1140
0100	2.40	2.52	2.30	2.43	24.0	1.1180
0600	2.40	2.52	2.30	2.43	21.0	1.1245
1200	2.40	2.52	2.30	2.43	18.0	1.1305
1800	2.40	2.52	2.30	2.43	19.0	1.1369
2400	2.40	2.52	2.30	2.43	18.0	1.1400

08076500 Halls Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 6200 (inches)	Rainfall at gage 6000 (inches)	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of May 10-11, 1983			
May 10						
0000	0.0	0.0	0.0	0.0	13.0	0.0002
0030	.0	.0	.12	.01	13.0	.0024
0600	.0	.0	.12	.01	13.0	.0047
0700	.0	.0	.12	.01	13.0	.0053
0730	.12	.0	.12	.08	13.0	.0057
0800	.84	.0	.12	.52	13.0	.0060
0830	1.56	.0	.12	.95	13.0	.0064
0900	1.56	.0	.12	.95	13.0	.0068
0930	1.56	.0	.20	.96	13.0	.0071
1000	1.56	.10	1.20	1.09	14.0	.0075
1030	1.56	.55	1.68	1.27	16.0	.0080
1100	1.56	1.40	1.77	1.53	51.0	.0094
1130	1.56	1.54	1.77	1.57	107.0	.0124
1200	1.56	1.64	1.77	1.60	165.0	.0170
1230	1.56	1.68	1.77	1.62	201.0	.0255
1330	1.56	1.68	1.77	1.62	257.0	.0399
1430	1.56	1.68	1.77	1.62	354.0	.0598
1530	1.56	1.68	1.77	1.62	436.0	.0782
1600	1.56	1.68	1.77	1.62	462.0	.0976
1700	1.56	1.68	1.77	1.62	485.0	.1248
1800	1.56	1.68	1.77	1.62	474.0	.1514
1900	1.56	1.68	1.77	1.62	438.0	.1822
2030	1.56	1.68	1.77	1.62	361.0	.2126
2200	1.56	1.68	1.77	1.62	277.0	.2359
2330	1.56	1.68	1.77	1.62	206.0	.2475
2400	1.56	1.68	1.77	1.62	186.0	.2605
May 11						
0000	1.56	1.68	1.77	1.62	186.0	.2605
0200	1.56	1.68	1.77	1.62	128.0	.2749
0400	1.56	1.68	1.77	1.62	92.0	.2852
0600	1.56	1.68	1.77	1.62	68.0	.2929
0800	1.56	1.68	1.77	1.62	50.0	.3013
1200	1.56	1.68	1.77	1.62	31.0	.3100
1800	1.56	1.68	1.77	1.62	21.0	.3171
2400	1.56	1.68	1.77	1.62	15.0	.3196

STORM RAINFALL AND RUNOFF

08076500 Halls Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 6500 (inches)	Rainfall at gage 6200 (inches)	Rainfall at gage 6000 (inches)	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-23, 1983				
Aug. 18							
0000	0.0	0.0	0.0	0.0	0.0	12.0	0.0005
0130	.0	.0	.0	.0	.0	12.0	.0012
0200	.0	.0	.0	.10	.01	13.0	.0015
0230	.12	.12	.0	.19	.12	13.0	.0019
0300	.12	.24	.0	.23	.18	15.0	.0023
0330	.24	.24	.01	.32	.24	20.0	.0029
0400	.24	.36	.03	.42	.30	22.0	.0035
0430	.36	.48	.18	.63	.43	36.0	.0045
0500	.48	.60	.29	.79	.56	53.0	.0060
0530	.60	.84	.62	1.00	.75	86.0	.0084
0600	.60	1.08	.72	1.18	.88	133.0	.0122
0630	.72	1.20	.92	1.30	1.00	197.0	.0177
0700	.96	1.32	1.10	1.52	1.18	280.0	.0255
0730	1.20	1.56	1.34	1.71	1.42	388.0	.0364
0800	1.32	1.68	1.60	1.84	1.55	502.0	.0505
0830	1.68	1.80	1.90	2.10	1.79	629.0	.0682
0900	1.68	1.92	1.98	2.17	1.85	757.0	.0894
0930	1.92	2.04	2.08	2.29	2.02	919.0	.1152
1000	2.40	2.16	2.20	2.41	2.28	1,080.0	.1456
1030	2.76	2.40	2.32	2.53	2.55	1,350.0	.1835
1100	3.12	2.64	2.52	2.75	2.84	1,620.0	.2289
1130	3.24	3.00	2.78	2.98	3.08	1,990.0	.2848
1200	3.36	3.24	3.06	3.20	3.27	2,360.0	.3510
1230	3.60	3.48	3.25	3.36	3.50	2,540.0	.4223
1300	3.72	3.84	3.45	3.54	3.74	2,720.0	.4987
1330	3.72	3.96	3.65	3.70	3.82	2,830.0	.5781
1400	3.72	3.96	3.78	3.80	3.84	2,930.0	.6604
1430	3.72	4.08	3.82	3.86	3.90	2,980.0	.7441
1500	3.72	4.08	3.85	3.97	3.91	3,030.0	.8291
1530	4.08	4.08	3.85	3.99	4.06	3,060.0	.9150
1600	4.20	4.08	3.87	4.01	4.11	3,090.0	1.0018
1630	4.32	4.08	4.20	4.03	4.18	3,110.0	1.0891
1700	4.44	4.08	4.20	4.05	4.23	3,120.0	1.1766
1730	4.44	4.08	4.30	4.22	4.25	3,110.0	1.2639
1800	4.44	4.32	4.32	5.00	4.44	3,100.0	1.3510
1830	4.44	4.56	4.32	5.10	4.55	3,100.0	1.4380
1900	4.44	4.56	4.32	5.10	4.55	3,090.0	1.5247
1930	4.44	4.56	4.34	5.20	4.56	3,070.0	1.6109
2000	4.44	4.68	4.34	5.20	4.62	3,050.0	1.6965

08076500 Halls Bayou at Houston, Tex.--Continued

Date and time	Rainfall at gage 6500 (inches)	Rainfall at gage 6200 (inches)	Rainfall at gage 6000 (inches)	Rainfall at gage 204R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
			Storm of Aug. 18-23, 1983--Continued				
Aug. 18							
2030	4.44	4.68	4.34	5.22	4.62	3,030.0	1.7816
2100	4.44	4.68	4.34	5.32	4.63	3,010.0	1.8661
2130	4.44	5.16	4.34	6.05	4.92	2,990.0	1.9500
2200	4.68	5.64	4.54	6.05	5.24	2,970.0	2.0334
2230	4.80	5.64	4.54	6.05	5.29	2,960.0	2.1165
2300	4.80	5.64	4.85	6.05	5.31	2,940.0	2.1990
2330	4.80	5.64	4.92	6.05	5.31	2,920.0	2.2810
2400	4.80	5.64	4.92	6.05	5.31	2,900.0	2.8102
Aug. 19							
0000	4.80	5.64	4.92	6.05	5.31	2,900.0	2.8102
0600	4.80	5.64	4.92	6.05	5.31	2,540.0	3.6658
1200	4.80	5.64	4.92	6.05	5.31	2,210.0	4.1621
1400	4.80	5.64	4.92	6.05	5.31	2,020.0	4.3322
1500	4.80	5.64	4.92	6.10	5.31	1,920.0	4.5478
1800	4.80	5.64	4.92	6.10	5.31	1,390.0	4.7820
2100	4.80	5.64	4.92	6.10	5.31	998.0	4.9500
2400	4.80	5.64	4.92	6.10	5.31	760.0	5.0781
Aug. 20							
0000	4.80	5.64	4.92	6.10	5.31	760.0	5.0781
0300	4.80	5.64	4.92	6.10	5.31	575.0	5.1749
0600	4.80	5.64	4.92	6.10	5.31	423.0	5.2462
0900	4.80	5.64	4.92	6.10	5.31	323.0	5.3006
1200	4.80	5.64	4.92	6.10	5.31	258.0	5.3513
1600	4.80	5.64	4.92	6.10	5.31	205.0	5.3858
1800	4.80	5.64	4.92	6.10	5.31	183.0	5.4166
2200	4.80	5.64	4.92	6.10	5.31	147.0	5.4414
2400	4.80	5.64	4.92	6.10	5.31	131.0	5.4634
Aug. 21							
0000	4.80	5.64	4.92	6.10	5.31	131.0	5.4634
0400	4.80	5.64	4.92	6.10	5.31	107.0	5.4815
0600	4.80	5.64	4.92	6.10	5.31	96.0	5.4976
1000	4.80	5.64	4.92	6.10	5.31	78.0	5.5108
1200	4.80	5.64	4.92	6.10	5.31	73.0	5.5272
1800	4.80	5.64	4.92	6.10	5.31	58.0	5.5467
2400	4.80	5.64	4.92	6.10	5.31	48.0	5.5709
Aug. 22							
0000	4.80	5.64	4.92	6.10	5.31	48.0	5.5709
1200	4.80	5.64	4.92	6.10	5.31	31.0	5.5918
2400	4.80	5.64	4.92	6.10	5.31	26.0	5.6093
Aug. 23							
0000	4.80	5.64	4.92	6.10	5.31	26.0	5.6093
1200	4.80	5.64	4.92	6.10	5.31	20.0	5.6228
2400	4.80	5.64	4.92	6.10	5.31	19.0	5.6292

SAN JACINTO RIVER BASIN

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX

LOCATION.--Lat 29°50'13", long 95°13'59", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of Ley Road Bridge in northeast Houston and 300 ft downstream from mouth of Halls Bayou.

DRAINAGE AREA.--182 mi^2.

PERIOD OF RECORD.--November 1962 to December 1964, May to September 1971 (discharge measurements only), October 1971 to current year.
Water-quality records:--Chemical, biochemical, and pesticide analyses: October 1970 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 2.13 ft below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records for August are good; all other records are poor. Discharge is computed for all storms that produce peak discharges over 2,000 ft^3/s. Tidal influences on the stage-discharge relationship affect discharge below about 500 ft^3/s. Discharge below 2,000 ft^3/s is estimated following designated storm periods only. Gage-height telemeter located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft^3/s June 13, 1973 (gage height, 34.27 ft); minimum not determined (affected by tides).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 17	unknown	4,200	unknown	May 21	unknown	11,000	unknown
Feb. 9	unknown	4,200	unknown	July 16	unknown	5,500	unknown
Mar. 23	unknown	4,700	unknown	Aug. 19	0200	*14,800	32.05
May 20	unknown	10,000	unknown	Sept. 20	unknown	11,200	28.04

Minimum discharge not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---			---	---		---		---	---	---
2	---	---			---	---		---		---	---	---
3	---	---			---	---		---		---	---	---
4	---	---			---	---		---		---	---	---
5	---	---			---	---		---		---	---	---
6	---	---			---	---		---		---	---	580
7	---	---			---	---		---		---	---	1040
8	---	---			---	---		---		---	---	220
9	---	---			1750	---		---		---	---	---
10	---	---			2000	---		920		---	---	---
11	---	---			550	---		830		---	280	---
12	750	---			250	---		220		---	1850	---
13	1370	---			---	---		---		---	1070	---
14	240	---			---	---		---		---	300	---
15	---	---			---	---		---		1050	---	---
16	---	150			---	---		---		3950	---	---
17	---	3500			---	---		---		1000	---	---
18	---	650			---	---		---		300	6740	---
19	---	1000			---	---		---		---	14000	5250
20	---	1700			---	---		4000		---	6280	3950
21	---	300			3100	---		6000		---	960	2400
22	---	---			650	---		6300		---	280	500
23	---	---			250	2850		1260		---	---	250
24	---	---			---	1700		490		---	---	---
25	---	---			---	400		---		---	---	---
26	---	450			---	---		---		---	---	---
27	---	2500			---	---		---		---	---	---
28	---	500			---	---		---		---	---	---
29	---	---			---	---		---		---	---	---
30	---	---			---	---		---		---	---	---
31	---	---			---	---		---		---	---	---
TOTAL	---	---			---	---		---		---	---	---
MEAN	---	---			---	---		---		---	---	---
MAX	---	---			---	---		---		---	---	---
MIN	---	---			---	---		---		---	---	---
AC-FT	---	---			---	---		---		---	---	---

CAL YR 1982 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1983 TOTAL - MEAN - MAX - MIN - AC-FT -

NOTE.--No gage-height record Nov. 5 to Feb. 28, Mar. 9 to Apr. 28, and other shorter periods.

STORM RAINFALL AND RUNOFF

08076700 Greens Bayou at Ley Road, Houston, Tex.

Date and time	Rainfall at gage 6500 (inches)	Rainfall at gage 6200 (inches)	Rainfall at gage 6000 (inches)	Rainfall at gage 5900 (inches)	Rainfall at gage 5770 (inches)	Rainfall at gage 204R (inches)	Rainfall at gage 203R (inches)	Rainfall at gage 20R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Aug. 18-23, 1983						
Aug. 18											
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0002
0100	.0	.0	.0	.0	.0	.0	.0	.05	.00	50.0	.0006
0200	.0	.0	.0	.0	.0	.10	.0	.19	.02	50.0	.0011
0300	.12	.24	.0	.07	.27	.23	.0	.43	.11	513.0	.0054
0400	.24	.36	.03	.25	.53	.42	.10	1.07	.26	975.0	.0137
0500	.48	.60	.29	.65	1.17	.79	.42	1.32	.57	1,440.0	.0260
0600	.60	1.08	.72	.97	1.83	1.18	.90	2.00	1.00	1,900.0	.0422
0700	.96	1.32	1.10	1.40	2.33	1.52	1.68	2.75	1.47	2,430.0	.0629
0800	1.32	1.68	1.60	2.05	2.77	1.84	2.63	3.10	2.00	2,970.0	.0881
0900	1.68	1.92	1.98	2.30	3.35	2.17	3.20	3.40	2.38	3,500.0	.1179
1000	2.40	2.16	2.20	2.65	3.68	2.41	3.68	3.90	2.74	4,030.0	.1523
1100	3.12	2.64	2.52	3.00	4.35	2.75	4.19	4.35	3.18	4,570.0	.1912
1200	3.36	3.24	3.06	3.42	4.83	3.20	4.78	4.65	3.66	5,100.0	.2346
1300	3.72	3.84	3.45	3.87	5.00	3.54	5.42	4.80	4.07	6,330.0	.2885
1400	3.72	3.96	3.78	4.20	5.15	3.80	5.79	4.86	4.31	7,570.0	.3529
1500	3.72	4.08	3.85	4.55	5.87	3.97	5.94	4.93	4.46	8,800.0	.4279
1600	4.20	4.08	3.87	4.65	7.30	4.01	6.00	4.93	4.61	10,000.0	.5130
1700	4.44	4.08	4.20	4.65	7.65	4.05	6.00	4.95	4.77	11,300.0	.6092
1800	4.44	4.32	4.32	4.72	7.75	5.00	6.02	5.24	4.92	12,500.0	.7156
1900	4.44	4.56	4.32	5.65	7.75	5.10	6.20	5.24	5.07	13,000.0	.8272
2000	4.44	4.68	4.34	5.70	7.75	5.20	6.20	5.26	5.10	13,800.0	.9447
2100	4.44	4.68	4.34	5.75	8.08	5.32	6.20	6.59	5.26	14,100.0	1.0647
2200	4.68	5.64	4.54	6.55	8.08	6.05	6.62	6.68	5.64	14,500.0	1.1882
2300	4.80	5.64	4.85	7.02	8.08	6.05	7.56	6.69	5.95	14,600.0	1.3125
2400	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,800.0	1.4385
Aug. 19											
0000	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,800.0	1.4385
0100	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,800.0	1.5645
0200	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,800.0	1.6905
0300	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,800.0	1.8165
0400	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,700.0	1.9417
0500	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,700.0	2.0668
0600	4.80	5.64	4.92	7.12	8.08	6.05	7.68	6.69	6.01	14,600.0	2.1912
0700	4.80	5.64	4.92	7.12	8.13	6.05	7.68	6.69	6.01	14,600.0	2.3776
0900	4.80	5.64	4.92	7.12	8.13	6.05	7.68	6.69	6.01	14,400.0	2.5615
1000	4.80	5.64	4.92	7.12	8.13	6.05	7.68	6.69	6.01	14,400.0	2.6841
1100	4.80	5.64	4.92	7.12	8.13	6.05	7.68	6.69	6.01	14,300.0	2.8059
1200	4.80	5.64	4.92	7.12	8.13	6.05	7.68	6.69	6.01	14,300.0	2.9885
1400	4.80	5.64	4.92	7.12	8.13	6.05	7.68	6.69	6.01	14,100.0	3.1686
1500	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	14,000.0	3.4070

08076700 Greens Bayou at Ley Road, Houston, Tex.--Continued

Date and time	Rainfall at gage 6500 (inches)	Rainfall at gage 6200 (inches)	Rainfall at gage 6000 (inches)	Rainfall at gage 5900 (inches)	Rainfall at gage 5770 (inches)	Rainfall at gage 204R (inches)	Rainfall at gage 203R (inches)	Rainfall at gage 20R (inches)	Accumulated weighted rainfall (inches)	Discharge (cubic feet per second)	Accumulated runoff (inches)
					Storm of Aug. 18-23, 1983--Continued						
Aug. 19											
1800	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	13,500.0	3.9242
2400	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	11,900.0	4.4815
Aug. 20											
0000	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	11,900.0	4.4815
0500	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	9,470.0	4.7234
0600	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	8,930.0	4.9134
1000	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	6,810.0	5.0874
1200	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	5,750.0	5.2098
1500	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	4,560.0	5.3263
1800	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	3,570.0	5.4174
2100	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	2,710.0	5.4751
2300	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	2,180.0	5.5030
2400	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	1,910.0	5.5355
Aug. 21											
0000	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	1,910.0	5.5355
0300	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	1,490.0	5.5735
0600	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	1,220.0	5.6203
1200	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	890.0	5.6658
1800	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	620.0	5.6974
2400	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	450.0	5.7204
Aug. 22											
0000	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	450.0	5.7204
0600	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	383.0	5.7400
1200	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	321.0	5.7564
1800	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	260.0	5.7697
2400	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	170.0	5.7783
Aug. 23											
0000	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	170.0	5.7783
0600	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	146.0	5.7858
1200	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	120.0	5.7919
1800	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	100.0	5.7970
2400	4.80	5.64	4.92	7.12	8.13	6.10	7.68	6.69	6.01	80.0	5.7991

08077000 CLEAR CREEK NEAR PEARLAND, TX

LOCATION.--Lat 29°35'50", long 95°17'11", Harris-Brazoria County line, Hydrologic Unit 12040204, at downstream side of bridge on State Highway 35, 0.7 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi upstream from Hickory Slough, 2.3 mi north of Pearland, and about 30 mi upstream from head of Clear Lake.

DRAINAGE AREA.--38.8 mi^2.

PERIOD OF RECORD.--July to October 1944, March to October 1946, April 1947 to December 1959, March 1963 to current year. Discharge for some high-water periods in 1944 and 1946 published in WSP 1392.

REVISED RECORDS.--WSP 1392: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 26.58 ft National Geodetic Vertical Datum of 1929, 1973 adjustment; prior records unadjusted for land-surface subsidence. Prior to June 9, 1948, nonrecording gage, and June 9, 1948, to Apr. 22, 1952, water-stage recorder at same site and datum 5.80 ft higher.

REMARKS.--Records good. Large area of riceland above station is irrigated with water from the Brazos River. Low flow from April to October is largely drainage from irrigated lands. Many diversions for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--32 years (water years 1948-59, 1964-83), 37.0 ft^3/s (26,810 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft^3/s Mar. 18, 1957; maximum gage height, 18.57 ft July 26, 1979; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1960 (stage and discharge unknown) may have exceeded that of Mar. 18, 1957. Channel was rectified in 1933, 1952, 1968, and 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 16	1400	664	11.34
Aug. 19	0700	*1,570	18.17
Sept. 19	2100	1,210	15.97

Minimum discharge, no flow Oct. 6-12, 21-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.07	16	17	24	6.2	6.7	3.5	3.2	3.2	2.0	6.9
2	.15	13	6.2	24	8.1	5.0	4.4	2.3	2.8	3.0	6.8	6.4
3	.10	19	14	15	4.6	4.1	3.3	1.7	2.4	3.5	8.0	5.3
4	.05	.70	12	8.2	3.0	4.0	2.9	2.0	2.0	3.2	10	4.2
5	.02	.00	6.8	5.5	243	4.6	2.9	3.0	2.4	3.0	8.8	3.4
6	.00	.00	3.8	4.0	311	4.1	2.7	1.9	2.5	3.5	8.1	45
7	.00	.00	2.3	3.3	106	3.4	2.6	4.8	5.3	3.2	8.2	289
8	.00	.00	1.6	3.0	41	2.8	2.6	4.8	5.7	3.0	53	155
9	.00	.00	1.3	2.8	110	2.9	2.6	3.5	5.5	2.8	25	307
10	.00	.00	7.4	2.4	286	2.6	2.5	11	5.3	3.0	26	249
11	.00	.00	10	2.1	136	1.9	2.3	18	5.9	4.0	228	77
12	.00	.00	8.2	1.8	58	1.7	2.2	6.9	6.7	4.0	323	59
13	.65	.00	5.0	1.7	31	1.7	2.3	3.6	7.1	60	170	62
14	.48	.00	4.3	1.7	19	1.7	2.1	2.8	5.7	80	67	18
15	.34	.00	8.4	1.6	112	1.6	1.6	3.2	3.8	100	25	9.2
16	.27	.00	4.4	1.2	292	1.8	1.4	4.6	8.3	511	9.0	7.0
17	.15	.15	2.9	1.0	142	2.8	1.3	3.8	37	348	6.5	6.0
18	.07	.00	2.0	1.0	58	1.9	1.2	3.5	32	96	851	12
19	.03	5.4	1.5	24	30	1.8	1.2	2.8	17	36	1550	681
20	.03	27	1.2	74	25	2.8	6.7	76	13	17	1430	1070
21	.00	18	1.1	42	355	2.2	8.2	96	9.0	7.5	1100	725
22	.00	10	1.1	22	231	1.7	6.4	106	6.5	7.2	465	330
23	.00	4.4	1.1	12	87	211	4.8	40	9.5	5.6	132	112
24	.00	.51	1.0	7.0	43	322	5.3	14	12	4.2	47	43
25	.00	.05	56	4.7	25	122	8.0	7.5	30	3.1	26	23
26	.00	11	136	3.5	16	80	7.0	5.7	20	1.9	37	15
27	.00	94	136	2.7	11	53	5.9	5.0	12	1.2	31	12
28	.02	65	89	2.2	8.1	24	3.3	4.1	7.0	.88	18	10
29	.31	38	33	2.0	---	12	4.1	3.8	4.0	1.0	11	8.5
30	.00	19	14	1.7	---	9.9	7.2	3.8	3.5	1.5	8.6	7.5
31	.03	---	8.4	11	---	9.3	---	3.5	---	1.7	6.4	---
TOTAL	2.90	325.28	596.0	306.1	2815.8	906.5	115.7	453.1	287.1	1323.18	6697.4	4358.4
MEAN	.094	10.8	19.2	9.87	101	29.2	3.86	14.6	9.57	42.7	216	145
MAX	.65	94	136	74	355	322	8.2	106	37	511	1550	1070
MIN	.00	.00	1.0	1.0	3.0	1.6	1.2	1.7	2.0	.88	2.0	3.4
AC-FT	5.8	645	1180	607	5590	1800	229	899	569	2620	13280	8640

CAL YR 1982 TOTAL 8120.54 MEAN 22.2 MAX 1100 MIN .00 AC-FT 16110
WTR YR 1983 TOTAL 18187.46 MEAN 49.8 MAX 1550 MIN .00 AC-FT 36070

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations

Station no. 1/	Station name	Location	Period of record 2/
10-S	Houston Heights	Lat 29°47', long 95°26' near Houston.	--
12-R	Houston-WB, City	Lat 29°46', long 95°22' at old Federal Building in downtown Houston.	--
13-S	Houston-Independent Heights	Lat 29°52', long 95°25' in northern section of Houston.	--
20-R	Houston WSO Airport	Lat 29°59', long 95°22' at Houston Intercontinental Airport in north Houston.	--
21-R	Brittmore	Lat 29°51'02", long 95°33'46", behind home of Mrs. Annie A. Joseph, 10610 Tanner Road, in northwest Houston.	May 6, 1964 to date
22-R	Houston-Satsuma	Lat 29°54', long 95°37' at Satsuma community northwest of Houston.	--
23-S	Houston-North Houston	Lat 29°53', long 95°31' near Fairbanks-North Houston Road, Houston.	--
24-S	Houston-Spring Branch	Lat 29°48', long 95°30' on Ridgecrest Street, Houston.	--
31-R	Stafford	Lat 29°36'43", long 95°32'58", at Ft. Bend County Water Control and Improvement District No. 2, Stafford.	May 9, 1964 to date
32-R	Houston-Alief	Lat 29°43', long 95°36' at Alief.	--

See footnotes at end of table.

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
33-R	Houston-Addicks	Lat 29°46', long 95°39' at U.S. Army Corps of Engineers office, Addicks	--
34-S	Clodine	Lat 29°43', long 95°41' at Clodine.	--
35-S	Houston-Westbury	Lat 29°40', long 95°28' in Westbury Subdivision, Houston.	--
36-S	Sugar Land	Lat 29°37', long 95°38' at Sugar Land.	--
42-S	Houston FAA Airport	Lat 29°39', long 95°17' at old Terminal Building, William P. Hobby Airport, Houston.	--
201-S	Humble	Lat 30°00', long 95°15' at Humble.	--
202-S	Houston-San Jacinto Dam	Lat 29°55', long 95°09' on west bank of Lake Houston at San Jacinto River Dam, Houston.	--
203-R	Mintz Lane	Lat 29°59'53", long 95°28'39", at home of Mr. Draper D. Mintz, in northwest Harris County, Houston.	Aug. 23, 1972 to date
204-R	Breen Street	Lat 29°53'57", long 95°27'38", at home of Mr. Joseph O. Eiland, 4909 Breen, in northwest Harris County, Houston.	Aug. 23, 1972 to date

See footnotes at end of table

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
205-R	Frontier Street	Lat 29°50'08", long 95°31'22", at home of Mrs. Eva S. Murphree near intersection of Frontier Street and Outpost Street in northwest Harris County, Houston.	Nov. 9, 1972 to date
305-R	Furman	Lat 29°37'45", long 95°22'45", Harris County on extreme right side of floodway for Sims Bayou at 14201 Furman Street.	Sept. 24, 1975 to date
308-R	Public Health	115 N. MacGregor, Houston.	--
401-R	Llano Street	Lat 29°39'11", long 95°12'07", behind home of Mrs. Lana H. Sims, 702 Llano, Pasadena, in Southeast Harris County.	Nov. 9, 1972 to Jan. 31, 1983
402-R	Klondike	Lat 29°38'06", long 95°15'04", behind home of H. F. Reams, 9302 Klondike, 10.9 miles southeast of Harris County Courthouse, Houston.	Nov. 11, 1973 to date
403-R	Edgebrook	Lat 29°38'55", long 95°12'55", southeast Harris County, in Sewage Treatment Plant near the intersection of Old Galveston Road and Edgebrook Street.	Sept. 19, 1975 to date

See footnotes at end of table.

Table 19.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued Station

no. 1/	Station name	Location	Period of record 2/
404-S	Deer Park	Lat 29°43', long 95°08' Harris County near Houston.	--
405-R	Lafferty St.	Lat 29°39'40", long 95°11'55", Harris County, behind Pasadena Independent School Dist. maintainance office, 3214 Laffertry St.	June 22, 1983 to date

1/ Station numbers are arbitrarily assigned for use in this project as follows: R, recording rain gage; S, nonrecording rain gage.

2/ Period of record is given only for those stations operated and maintained by the U.S. Geological Survey for this project.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
Oct.																				
2	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.31	0.0	0.0
3	.14	--	--	.24	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.05	--	D .06	.0	--	.0	.0	.02	.03	.03	--	.12	.0	.0	.0	.0	.90	.05	.04	.05
7	.26	--	.06	.16	--	.13	.11	.34	.26	.39	--	.12	.03	.03	.46	.26	.42	.0	.06	.05
8	.03	D .22	.02	.0	--	.0	.0	.0	.03	.05	--	.0	.02	.0	.10	.0	.0	.08	.06	.0
9	.01	.0	.0	.0	--	.0	.0	.03	.12	.08	--	.0	.0	.0	.07	.0	.0	.0	.0	.0
10	.03	--	.0	.0	--	.0	.0	.38	.0	.04	--	.0	.0	.0	.11	.0	.0	.0	.10	.05
11	.33	--	.22	.24	--	.22	.12	1.96	.55	.28	--	.24	.20	--	.54	.15	.28	.31	.17	.20
12	.04	D .99	.71	1.25	--	1.42	1.77	.0	4.70	2.47	--	2.16	1.60	D3.70	5.20	2.40	5.10	3.37	.59	.60
13	.01	.0	.0	.0	--	.0	.0	.0	.0	.02	--	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.03	.06	.0	.02	--	.0	.02	.0	.0	.0	D1.32	.0	.06	.0	.04	.0	.0	.12	.0	.0
26	.0	.0	.0	.0	--	.0	.0	.0	.0	.12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.05
29	.99	--	.90	1.11	--	1.00	1.23	1.27	1.30	1.02	--	1.80	1.72	1.38	2.05	1.65	1.86	2.38	.58	.85
30	.19	D1.27	.18	.0	A4.50	.05	.05	.35	.0	1.02	D1.44	.0	.04	.03	.07	.0	.0	.02	.0	.10
31	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.01	.0	.0	.0	.0	.0
MTOT	3.23	E 2.54	E 2.15	3.02	X 4.50	2.82	3.30	4.35	6.99	5.52	E 2.76	4.44	3.67	E 5.14	8.65	4.46	8.56	6.64	1.60	1.95

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	576
Nov.																				
1	0.0	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--	0.02	0.0	0.01	1.04	--	0.01	0.0	0.05
2	1.35	--	.93	1.05	1.08	.86	.92	1.23	.57	--	--	--	1.56	.50	.87	.08	--	.98	.88	--
3	.13	D1.52	.10	.13	.12	.10	.19	.14	.04	D2.30	D1.08	D .96	.12	.11	.06	.0	D1.20	.11	.18	D .90
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	--	.0	.0	.0	.0	.0	.0	.02	.0
11	.0	--	.0	.0	.0	.0	.04	.0	.0	.0	--	--	.04	.0	.0	.0	.0	.08	.02	.05
12	.01	D .12	.08	.0	.12	.0	.01	.08	.0	.07	--	--	.0	.07	.03	.05	.0	.06	.0	.05
16	1.51	--	1.08	1.35	1.32	1.15	1.43	1.54	2.68	1.47	--	--	1.25	2.23	2.07	--	3.20	2.29	.71	--
17	.43	D1.58	.23	.50	.60	.69	.68	.55	1.12	.74	--	--	.45	.86	1.13	--	1.28	0.67	.18	D .90
19	.97	--	1.46	1.73	1.44	1.58	1.49	1.37	2.07	1.59	--	--	1.32	1.28	1.65	--	1.60	1.27	1.39	--
20	.0	D1.88	.0	.0	.0	.0	.0	.0	.0	.0	--	--	.0	.0	.0	D3.90	.0	.0	.0	D .90
21	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	--	.0	.0	.0	.0	.0	.0	.0	.0
22	.0	--	.13	.0	.0	.0	.0	.0	.0	.0	--	--	.0	.0	.0	.0	.0	.13	.10	.05
23	.0	D .06	.0	.0	.0	.0	.03	.05	.25	.18	--	--	.04	.0	.01	.19	.0	.17	.08	.05
24	.0	--	.03	.0	.0	.0	.0	.0	.0	.0	--	--	.0	.0	.01	.0	.0	.0	.0	.0
25	.02	D .02	.0	.0	.0	.0	.0	.0	.0	.0	--	--	.0	.0	.0	.0	.0	.0	.0	.0
26	.71	--	1.30	1.15	.84	1.00	.92	.96	2.30	1.04	--	--	2.40	1.08	--	1.18	.78	1.85	2.54	--
27	.28	D2.89	.50	.47	.72	.47	.76	.81	.99	.72	--	--	.72	.48	--	.59	.35	.46	.75	D1.85
28	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	--	.0	.0	--	.0	.0	.0	.0	.0
30	.38	D .49	.31	.30	.48	.40	.29	.49	1.58	.60	D6.12	A6.50	.38	.77	A2.50	.51	2.12	.83	.13	.50
MTOT	5.81	E 8.56	6.15	6.68	6.72	6.25	6.76	7.22	11.60	E 8.71	E 7.20	E 7.46	8.30	7.38	E 8.34	E 7.54	E 10.53	8.91	6.98	E 5.30

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
Dec.																				
1	0.01	0.0	0.0	0.0	0.0	0.0	0.02	0.03	0.0	0.0	--	--	0.02	0.0	0.0	0.0	0.0	0.04	0.04	0.25
2	.08	.63	.01	.18	.24	.31	--	.27	.05	.21	--	--	.16	.24	.16	.22	.10	.26	.0	.05
3	.05	.01	.34	.12	.12	.06	A .40	.11	.44	.19	D .60	--	.33	.20	.32	.07	.0	.30	.47	.35
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.01	.0	.0
10	.05	--	.22	.13	--	.04	.21	.18	--	.19	.36	--	.20	.10	.16	.19	.21	.19	.38	.40
11	.11	D .64	.19	.14	--	.20	.16	.23	D .40	.25	--	A .80	.16	.16	.40	.22	.32	.23	.20	.20
14	.08	.17	.17	.15	D .36	.08	.23	.25	.0	.50	D .12	.24	.08	.0	.62	.24	.36	.21	.35	.15
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.02	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.01	.0	.0	.0	--	.0	.0	.0	.01	.0	.50	.01	.0	.0
23	.26	--	.0	.0	.60	.0	.13	.63	.04	.38	--	.0	.0	.0	.68	.0	.0	.16	.0	.0
24	.0	--	.0	.0	--	.0	.03	.02	.20	.0	--	--	.0	.0	.08	.06	.0	.06	.0	.05
25	.68	--	1.53	1.43	--	.69	.59	.86	--	.88	--	--	1.22	1.18	.55	1.12	1.47	1.64	1.36	.65
26	.02	--	.42	.15	--	.09	.17	.14	D1.02	.17	--	--	.40	.31	.21	.22	.07	.72	.63	.75
27	.01	D3.74	.43	.12	--	.11	.14	.16	.30	.18	--	--	.35	.27	.04	.17	.06	.45	.35	.50
31	A .35	D .18	.17	.47	A1.80	.45	.50	.62	.68	.60	D2.15	A2.10	.28	.50	D .75	.48	1.30	.63	.05	.15
MTOT	E 1.70	E 5.37	3.48	2.89	E 3.12	2.03	E 2.59	3.50	E 3.13	3.55	E 3.23	E 3.14	3.20	2.96	E 4.00	2.99	4.39	4.91	3.83	3.50
CTOT	E 42.08	E 47.39	E 38.21	34.84	E 35.78	30.07	E 35.32	37.77	E 44.90	E 40.53	E 40.25	E 37.24	41.81	E 32.25	E 44.37	E 35.48	E 49.47	42.87	41.25	E 44.15

MTOT = Monthly totals.
A = Total rainfall and time distribution estiamted.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.
CTOT = Calendar year totals.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
Jan.																				
1	A0.15	D0.28	0.17	0.14	A0.10	0.06	0.08	0.09	--	0.15	--	A0.10	0.16	0.12	--	0.09	0.05	0.13	0.20	0.20
2	.0	.0	.0	.0	.0	.0	.0	.0	D .14	.0	--	.0	.0	.0	--	.0	.0	.0	.0	.0
7	.03	--	.0	.0	.0	.0	.03	.0	.0	.0	--	.0	.0	.0	--	.0	.0	.0	.0	.0
8	.02	D .03	.01	.0	.0	.0	.05	.0	.0	.0	--	.0	.0	.0	--	.0	.0	.02	.0	.0
17	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	--	.0	.0	.0	.0	.0
18	.63	.40	.39	.38	--	.15	.38	.54	.52	.50	--	.36	.22	.20	--	.42	.50	.36	.27	--
19	.88	.98	.64	.86	--	.84	.94	.97	.73	.96	--	.96	--	1.02	--	.92	1.04	.98	.89	--
20	.05	.01	--	.0	--	.05	.02	.06	.05	.07	--	.0	--	.05	D1.60	.05	.10	.03	.02	D1.15
21	.04	.04	D .03	.03	A1.60	.05	.04	.04	.09	.04	--	.12	D .96	.0	.06	.04	.0	.04	.02	.05
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	.01	.0	.0	.0	.0	.0
28	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.0	.01	.0	.0
31	A .70	.26	D .36	.75	.72	.37	.43	.59	.18	.92	A1.65	.12	D .16	.18	.48	.37	.33	.43	.75	.40
MTOT	E 2.51	E 2.00	E 1.60	2.16	E 2.42	1.52	1.97	2.29	E 1.71	2.64	X 1.65	E 1.66	E 1.50	1.57	E 2.15	1.89	2.02	2.00	2.15	E 1.80

MTOT = Monthly totals.
A = Total rainfall and time distribution estiamted.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.
CTOT = Calendar year totals.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
Feb.																				
5	--	1.44	0.78	0.53	0.96	0.65	0.78	0.92	0.95	1.42	--	0.60	0.88	0.89	1.18	0.84	D2.18	0.82	1.28	0.75
8	--	.0	.0	.0	.0	.0	.0	.0	.06	.0	--	.0	.0	.0	.02	.0	.0	.06	.0	.0
9	A2.20	1.01	.74	.94	1.32	1.16	1.22	1.61	2.48	1.20	--	1.32	.96	1.15	1.50	1.32	2.05	1.22	.77	.70
15	--	.66	.67	.79	.84	.74	.78	.85	.56	.77	--	.84	.40	.60	--	.68	.30	.55	.53 A	.70
16	D1.26	.0	.03	.05	.12	.01	.0	.0	.0	.0	--	.0	.0	.02 D	.55	.0	.0	.01	.03	.0
20	1.07	1.53	1.19	.92	1.32	.90	.98	1.46	.88	1.25	--	--	.92	1.45	--	1.18	1.80	1.10	.83	.75
21	.02	.34	.06	.12	.0	.04	.05	.04	.02	.04	--	A1.20	.16	.10 D	.97	.0	.08	.18	.14	.05
27	.04	.02	.0	.0	.0	.0	.0	.0	.0	.0	A3.30	.0	.0	.0	.01	.0	.0	.03	.0	.05
MTOT	E 4.59	5.00	3.47	3.35	4.56	3.50	3.81	4.88	4.95	4.68	X 3.30	E 3.96	3.32	4.21	E 4.23	4.02	E 6.41	3.97	3.58	3.00
Mar.																				
4	.52	.53	0.15	.30	--	.48	.47	.38	.32	.30	--	--	.40	.56	--	--	.35	.40	.28	.50
5	.01	.11	.12	.20 D	.48	.07	.08	.08	.06	.09	-- A	.50	.08	.06 D	.03 D	.50	.01	.06	.04	.05
8	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	--	.0	.0	.0	.0	.0	.0	.01	.0	.0
9	.04	.05	.0	.0	.0	.0	.0	.0	A .03	.0	--	.12	.04	.0	.05	.0	.03	.05	.0	.05
15		.0	.0	.0	.0	.0	.0	.0	.01	.0	--	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	D .32	.41	.16	.18	.24	--	.30	.23	.22	.27	--	.12	.02	.08	.23	.23	.0	.13	.49	.50
20	.32	.35	.27	.22	.24	--	.23	.24	.40	.22	--	.24	.36	.28	--	.22	.30	.46	.36	.35
23	2.37	2.71	2.00	2.06	2.28	--	2.00	2.74	2.32	2.26	--	2.16	2.08	2.28	A3.00	2.05	3.42	2.27	1.95	2.25
24	.01	.0	.0	.0	.0	--	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	.31	.59	.45	.20	.24	A2.50	.27	.24	.46	.22	--	.24	.44	.23	.23	.25	.21	.32	.25	.55
30	.51	1.16	.40	.64	1.44	1.50	1.32	1.61	1.10	1.17	A4.50	1.08	.76	.21	.40	.58	.0	.15	.60	1.30
MTOT	E 4.41	5.91	3.55	3.80	E 4.92	E 4.55	4.67	5.52	E 4.92	4.53	X 4.50	E 4.46	4.18	3.70	E 3.94	E 3.83	4.32	3.85	3.97	5.55

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
Apr.																				
4	0.0	0.04	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	D.0	0.0	0.11	0.02	0.0
6	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.01	.0	.0	.0	--	.0	.0	.0	.0	.0	--	.0	.0	.0	--	.0	.0	.02	.0	.0
13	.01	.0	.0	.0	--	.0	.0	.0	.0	.0	--	.0	.0	.0	--	.0	.0	.0	.0	.0
20	--	.0	.0	.0	--	.0	.0	.0	.05	.0	--	.0	.0	.0	--	.0	.0	.0	.0	.0
21	--	.01	.01	.04	--	--	.04	.05	.0	.05	--	.0	.0	.0	--	--	--	.05	.0	.0
22	D .29	.27	.17	.23	--	A .15	.13	.13	.23	.24	--	.0	.56	.0	--	D .30	D .08	.17	.18	.25
27	.05	.04	.0	.0	--	.0	.0	.07	.0	.0	--	.0	.0	.05	--	.0	.0	.0	.0	.0
29	.01	.02	.0	.0	--	.0	.07	.0	.0	.0	--	.0	.0	.0	--	.0	.0	.06	.0	.05
30	.07	.03	.01	.05	A .25	.0	.0	.0	.0	.0	A0.40	.0	.0	.0	A .20	.0	.0	.02	.0	.05
	E				X	X					X				X	E	E			
MTOT	0.44	.42	.19	.36	.25	.15	.24	.25	.28	.29	.40	.0	.56	.05	.20	.30	.08	.43	.20	.35

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
May																				
1	0.0	0.01	0.0	0.0	--	0.0	0.0	0.0	0.03	0.0	--	0.0	0.0	0.0	--	0.0	0.0	0.01	0.0	0.0
2	.0	.02	.0	.0	--	.0	.0	.0	.07	.0	--	.0	.0	.0	--	.0	.0	.07	.0	.0
3	.05	.11	.02	.03	A .10	.07	.07	.13	.0	.05	--	.0	.02	.0	--	.07	.0	.10	.19	.30
7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.04	.02	--	--	.0	.10	.0	.0
8	.01	.0	.0	.02	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	--	D .12	.0	.0	.0	.0
9	.24	.66	--	.28	.12	.0	.06	.27	.12	.20	--	.12	.03	.02	--	.16	.12	.48	.48	.45
10	1.59	1.85	--	1.90	1.68	1.08	1.72	1.48	1.00	1.03	--	1.56	1.68	1.94	--	1.77	1.05	1.24	2.12	1.90
11	.0	.0	--	.0	.0	.0	.0	.0	.0	.0	A2.20	.0	.0	.0	--	.0	.0	.01	.0	.0
13	.0	.0	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.02	.0	.0
14	.07	.41	--	.03	.0	.0	.02	.06	.0	.05	.0	.0	.0	.0	--	.04	.0	.08	.02	.10
15	.72	.58	--	.67	.60	.41	.35	.47	.13	.25	.0	.36	.29	.16	--	.17	.0	.21	.39	.40
17	.03	.10	--	.05	.12	.08	.06	.06	.0	.0	.0	--	.0	.02	--	.0	.0	.07	.0	.10
18	.04	.02	--	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	--	.0	.0	.0	.0	.0
19	.0	.0	A3.00	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	--	.0	.0	.0	.0	.0
20	2.48	3.22	--	2.45	2.64	2.48	2.52	2.65	--	3.12	2.16	--	2.56	3.86	--	3.88	5.74	2.63	2.56	2.75
21	A1.50	1.18	A4.50	1.70	1.44	1.75	1.96	1.49	D4.96	2.22	1.32	--	1.91	2.86	--	2.50	1.60	1.82	1.23	.95
22	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	--	.0	.0	.0	.0	.0
30	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	A5.50	.19	.0	A7.50	.0	.0	.45	.0	.0
	E		E		E				E		E	E			X	E				
MTOT	6.73	8.17	7.52	7.13	6.70	5.87	6.76	6.61	6.31	6.92	5.68	7.54	6.72	8.88	7.50	8.71	8.51	7.29	6.99	6.95

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
Aug.																				
1	0.16	0.0	0.0	0.0	0.60	0.0	0.03	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.02	--	0.0	0.01	0.0	0.0
2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.01	--	.0	.0	.0	.0
3	.09	.0	.0	.0	.0	.0	.0	.0	.09	.0	.0	.0	.0	.0	.01	--	.0	.0	.0	.0
4	.0	.42	.0	.0	.36	.0	.0	.32	1.94	.39	.0	.12	.0	.0	.19	--	.0	.21	1.32	.70
5	.0	.01	.0	.0	.0	.0	.0	.0	.04	.0	.0	.72	.0	.0	.02	--	.16	.25	.30	.10
6	.0	.0	.0	.0	.0	.0	.0	.0	.10	.0	.0	.12	.0	.0	.0	--	.0	.0	.0	.0
7	1.57	.48	A .15	.40	1.68	.0	.24	1.39	.16	1.03	.0	.0	.0	.12	.76	D .50	.44	.01	.0	.25
8	.08	.01	.0	.0	.48	.0	.38	.24	1.78	.53	.0	.96	.07	.98	1.72	.29	.0	.0	.02	.0
9	1.32	1.07	1.28	.65	.12	.72	.93	.21	.0	.48	.24	.48	.0	.42	.21	.48	.0	.14	1.04	2.35
10	.83	.20	.60	1.23	.12	.27	.27	.31	.80	.38	.60	.0	.11	.58	.18	.11	.22	.30	.24	.25
11	.59	1.16	1.65	2.60	1.32	1.65	1.40	1.22	.58	.97	.36	1.68	.24	1.38	2.80	1.86	.88	.41	.36	.45
12	.58	.38	.38	.40	.36	.93	.94	.45	.63	.41	1.20	.24	.21	.32	.33	.20	.0	1.11	1.25	.80
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.24	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.01	.0	.0	--	.0	.39	.0	.31	.25	.0	.0	.0	.0	.14	.0	.37	.0	.0	.0
16	.0	.0	.0	.0	--	.0	.13	.12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.15	.0
17	.0	.01	.0	.0	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.02	.0	.0
18	A5.00	7.90	--	5.53	--	5.40	3.06	5.83	4.00	6.46	4.80	5.64	4.92	7.12	A6.00	6.05	7.68	6.69	8.08	7.20
19	.0	.01	--	.25	--	.06	.0	.05	.0	.03	.0	.0	.0	.0	.18	.05	.0	.0	.05	.05
20	.0	.0	A7.00	.0	--	.0	.0	.0	.53	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	.02	.0	.01	.0	A6.25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.46	.02	.11	.17	.48	.02	.44	.43	.0	.38	.0	.0	.0	.0	.0	.13	.12	.0	.0	.0
26	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	.0	.0	.0	.0	.0	.0	.0	.0	.0	.25	.0	.24	.0	.43	.0	.14	.0	.0	.0	.0
28	.07	.05	.44	.88	.0	.30	.56	.05	.19	.0	.24	.12	.18	.23	.02	.0	.20	.27	.0	.05
29	.74	.0	.06	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.01	.0	.0	.0	.0	.0
MTOT	E 11.52	11.73	E 11.68	12.11	E 11.77	9.35	8.77	11.22	11.15	11.56	7.68	10.32	5.73	11.58	E 12.60	E 9.81	10.07	9.42	12.81	12.20

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES NORTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 3630	4540	4400	4250	4200	4150	4145	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	20R	5770	5760
Sept																				
1	0.18	0.35	A0.10	0.10	0.12	0.05	0.23	0.17	0.22	0.15	0.36	0.36	0.50	0.0	0.17	0.28	0.10	0.37	0.44	0.30
2	.80	.0	.0	.05	.0	.40	.36	.0	.0	.34	.0	.0	.0	.22	.03	.0	.0	.12	.0	.0
6	.85	.77	1.03	1.14	.72	1.38	1.39	.65	.0	.15	1.80	1.92	1.38	.74	.79	.82	.0	.11	.11	.25
7	.0	.39	.10	.03	.0	.0	.02	.02	.0	.0	.0	.0	.0	.02	.08	.0	.0	.15	.0	.35
8	.52	.25	.08	.05	.24	.05	.16	.10	.26	.34	.48	.0	.08	.20	.07	.0	.0	.05	.09	.45
9	.20	.20	.88	.35	.24	.30	.29	.32	.0	.15	1.44	.36	.0	.04	.37	.30	.0	.04	.14	.15
10	1.18	1.28	1.97	.80	.12	.10	.14	.16	.0	.0	.60	.0	.15	.78	.0	.93	.0	.55	1.84	.95
11	.38	.06	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.02	.0	.0	.0	.57	.0	.0	.05
12	.05	.01	.0	.05	.36	.0	.0	.10	.0	.0	--	.0	.0	.18	.0	.0	.0	.22	.0	.10
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	.01	.0	.0	.0	--	.15
16	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.0	.0	--	.0
17	.0	.12	.0	.0	.0	.0	.0	.06	.10	.16	--	.0	.21	.0	.15	.0	.0	.54	--	.0
18	.52	.18	.40	.40	.48	.28	.41	.58	.41	.13	--	.36	.13	.19	.50	.37	.24	.36	--	.10
19	--	A5.50	--	4.58	3.00	3.59	3.06	3.21	2.60	2.77	--	3.24	3.78	2.79	1.60	2.86	1.18	3.39	D3.85	4.30
20	A5.00	A2.50	D7.10	2.00	A1.20	.90	.83	1.20	1.10	D1.38	--	1.44	2.15	1.38	1.64	.80	.96	1.31	2.38	2.15
21	.0	.0	.0	.0	.0	.0	.0	.01	.0	.0	--	.0	.0	.0	.0	.0	.0	.02	.0	.0
26	.0	.63	.63	.40	.0	.85	.20	.0	.0	.0	D8.28	.0	.0	.0	.0	.0	.0	.0	.0	.05
27	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MTOT	E 9.69	E 12.25	E 12.29	9.95	E 6.48	7.90	7.09	6.58	4.69	E 5.57	E 12.96	7.68	8.40	6.54	5.41	6.36	3.05	7.23	E 8.85	9.35
WTOT	E 62.71	E 74.99	E 61.07	63.09	E 62.96	E 53.02	E 56.27	E 63.86	E 63.62	E 66.14	E 58.36	E 60.12	E 54.61	E 60.15	E 68.21	E 59.36	E 65.92	65.25	E 64.14	E 62.55

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.
WTOT = Water year total.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
Oct.																	
5	0.0	0.0	0.0	0.0	0.0	--	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	.25	.31	--	.17	.08	--	.02	.02	.0	.0	.12	.12	.41	.0	.0	--	.03
7	.18	.23	--	.24	.10	--	.27	.03	.24	.12	.12	.12	.24	.0	.24	--	.16
8	.14	.0	--	.0	.01 D	.40	--	.01	.0	.0	.0	.0	.0	.0	.12	--	.09
9	.05	.0	--	.0	.0	.0	--	.01	--	.0	.0	.0	.05	.0	.0	--	.0
10	.06	.02	--	.04	.13	.0	--	.07	--	.12	.12	.12	.0	.0	.12	--	.12
11	.39	.36	--	.41	.30	.48	--	.39	--	.36	.48	.48	.34	.12	.24	--	.11
12	.33	.22	D1.50	.67	.38	.53	D1.36	.32	--	.12	.24	.12	.28	.0	.0	--	.05
13	.01	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.0	--	.0
15	.0	.0	.01	.0	.05 D	.07	.0	.0	--	.0	.0	.0	.0	.0	.0	--	.0
19	.0	.0	.0	.01	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.0	--	.0
22	.02	.0	.01	.04	.0	.0	.0	.0	--	.0	.0	.0	.0	.0	.0	--	.0
29	1.03	.48	1.15	--	.85	.87	.88	.76	--	.60	.48	--	.74	.36	.48	--	.30
30	.0	.0	.0	--	.01	.0	.78	.0	D .84	.0	.12 D	.72	.0	.0	1.32	D2.76	.27
31	.0	.0	.01 D	.77	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MTOT	2.46	1.62	E 2.68	E 2.35	1.91	E 2.35	E 3.31	1.62	E 1.08	1.32	1.68	E 1.68	2.06	.48	2.52	E 2.76	1.13

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
Nov. 1	0.0	0.0	0.0	--	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1.44	1.32	1.78	--	1.71	.94	1.41	1.12	--	1.68	1.56	--	1.21	1.68	1.80	--	2.11
3	.16	.21	.16	--	.12	.11	.13	.10	D2.04	.12	.12	D1.92	.17	.0	.12	D2.16	.16
11	.02	.0	--	--	.06	.0	.0	.09	.0	.12	.0	.0	.0	--	.12	--	.0
12	.02	.0	--	--	.03	.0	.0	.01	.0	.0	.0	.0	.0	--	.0	--	.0
16	.74	.78	--	--	.64	1.14	1.70	.93	.48	.48	.48	.48	.83	--	.36	--	.32
17	.25	.38	--	--	.16	.38	--	.10	.24	.24	.24	.12	.40	--	.12	--	.15
19	1.71	1.68	--	--	1.28	1.77	--	1.14	--	1.56	1.68	1.80	1.68	--	1.44	--	1.23
20	.01	.0	--	--	.0	.0	--	.0	--	.12	.0	.0	.0	--	.0	--	.0
21	.03	.0	--	--	.01	.0	--	.01	--	.0	.0	.0	.0	--	.36	--	.07
22	.0	.0	--	--	.0	.0	D1.54	.02	--	.0	.0	.0	.0	--	.0	--	.0
23	.06	.0	D1.10	D3.90	.0	.0	.25	.0	--	.36	.12	.24	.0	--	.0	--	.08
25	.03	.0	.02	.02	.07	.0	.0	.03	--	.0	.0	.12	.0	--	.0	--	.0
26	1.19	1.16	1.40	1.26	1.39	1.08	--	1.47	--	1.68	1.32	1.68	1.20	--	2.52	--	2.21
27	.54	.51	.66	.86	.69	.77	--	.64	--	.84	.60	.84	.54	--	.84	--	.54
29	.0	.0	.0	.0	.0	.0	D2.56	.0	--	.0	.0	.0	.0	--	.0	--	.0
30	.27	.16	.05	.07	.20	.16	.72	.28	D1.68	.12	.12	.12	.14	D6.00	.48	A6.00	.50
MTOT	6.47	6.20	E 5.17	E 6.11	6.36	6.35	E 8.31	5.95	E 4.44	7.32	6.24	E 7.32	6.17	E 7.68	8.16	E 8.16	7.37

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
Dec.																	
1	0.09	0.0	0.0	0.04	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	--	0.12	--	0.0
2	--	.06	.08	.15	.04	.10	.19	.04	--	.0	.0	.0	.09	--	.0	--	.0
3	--	.20	.12	.08	.39	.08	.18	.41	D .12	.60	.36	.36	.05	--	.36	--	.20
10	--	.27	.23	.26	.52	.18	.20	.53	.60	.60	.48	.48	.56	--	.60	--	.62
11	--	.09	.18	.23	.21	.22	.24	.12	.24	.24	.12	--	.17	--	.12	--	.10
12	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	--	.0	--	.0
13	--	.0	.0	.0	.16	.0	.0	.0	.0	.0	.0	--	.0	--	.0	--	.0
14	--	.19	.22	.24	.0	.22	.76	.11	.36	.36	.12	--	.20	--	--	--	.37
15	D1.17	.0	.01	.01	.0	.0	.02	.0	.0	.0	.0	--	.0	--	--	--	.0
16	.0	.0	.0	.0	.0	.0	.0	.0	.12	.0	.0	--	.0	--	--	--	.0
22	.0	.0	.0	.0	.01	.0	.12	.0	.0	.0	.0	--	.0	--	--	--	.0
23	.0	.0	.22	.55	.0	.64	.0	.0	.0	.0	.0	--	.0	--	--	--	.0
24	.0	.0	.0	.01	.02	.0	.0	.0	.0	.0	.0	--	.0	--	--	--	.0
25	2.07	1.24	.97	.96	1.20	.63	.34	1.04	1.92	--	1.56	--	1.37	--	--	--	.37
26	.24	.03	.07	.09	.43	.05	--	.35	.36	--	.36	--	.20	--	--	--	.67
27	.30	.12	.13	.14	.31	.15	--	.28	.36	--	.48	--	.12	--	--	--	.27
31	.10	.25	.42	.28	.07	.16	A .95	.13	.12	D2.64	.12	D2.40	.13	D5.52	D4.20	A6.00	.12
MTOT	E 3.97	2.45	2.65	3.04	3.36	2.43	E 3.00	3.01	E 4.20	E 4.44	3.60	E 3.24	2.89	E 5.52	E 5.40	X 6.00	4.72
CTOT	E 38.93	35.54	E 34.28	E 39.44	41.73	E 38.58	E 34.86	34.70	E 45.18	E 42.25	32.77	E 41.04	34.29	E 40.40	E 44.16	E 47.44	38.66

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.
CTOT = Calendar year totals.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALU BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
Jan.																	
1	0.22	0.10	0.17	0.21	0.19	0.16	A0.15	0.14	0.24	D0.24	0.12	D0.12	0.15	D0.36	D0.24	A0.30	0.28
7	.0	.0	.0	.0	.0	.0	.0	.04	.0	.0	.0	.0	.0	--	.36	.0	.0
8	.02	.03	.04	.02	.0	.0	.0	.02	.0	.0	.0	.0	.0	A .12	.0	.12	.12
17	.01	.0	.01	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	.45	.40	.46	--	.33	.51	.0	.35	.24	--	.24	.24	.44	--	--	.12	.18
19	.85	.82	.83	--	.73	.82	.60	.67	.96	--	.96	.72	.93	--	--	1.08	.87
20	.02	.02	.05	--	.01	.06	.0	.03	.0	--	.0	.0	.02	--	--	.0	.02
21	.06	.0	.06	--	.04	.0	.07	.0	.12	--	.0	.0	.07	--	--	.12	.03
22	.0	.0	.0	--	.0	.0	.0	.0	.0	A1.20	.0	.0	.0	A1.32	--	.0	.0
31	.35	.12	.44	D2.10	.27	.57	.76	.31	.60	A .60	.24	.60	.23	.36	A1.80	.48	.43
MTOT	1.98	1.49	2.06 E	2.33	1.57	2.12	1.58 E	1.56	2.16	2.04 E	1.56	1.68 E	1.84	2.16 E	2.40 E	2.22 E	1.93
Feb.																	
5	1.37	0.96	1.00	0.89	1.22	0.64	D1.03	1.11	2.04	--	1.44	1.68	1.24	2.04	--	1.92	1.57
8	.0	.0	.0	.0	.0	.0	.02	.0	.0	--	.0	.0	.0	.0	--	.0	.02
9	1.25	1.14	.96	1.26	1.01	1.19	1.17	.81	1.08	--	.96	1.20	1.19	.84	--	.84	.84
10	.0	.0	.01	.01	.0	.0	.0	.0	.0	--	.0	.0	.0	.0	--	.0	.0
15	1.33	1.15	1.37	1.23	1.00	--	.86	.75	--	--	1.08	1.08	1.15	.48	--	.84	.82
16	.05	.07	.03	.04	.0	D1.05	.0	.02	--	--	.0	.0	.04	.0	--	.12	.02
20	1.02	.55	--	.82	.88	.68	--	.81	--	--	1.20	.84	.76	.60	--	.48	.85
21	.16	.04	--	.05	.11	.03	D .84	.14	D2.28	A5.20	.12	.12	.03	.24	A4.40	.24	.29
27	.0	.02	A .75	.04	.03	.0	.0	.0	.0	.0	.0	.0	.0	.0	.12	.0	.0
28	.0	.0	.0	.0	.0	.0	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0
MTOT	5.18	3.93	E 4.12	4.34	4.25	E 3.59	E 3.92	3.65	E 5.40	X 5.20	4.80	4.92	4.41	4.20	E 4.52	4.44	4.41

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
Mar.																	
4	--	0.17	--	0.18	0.40	0.14	0.27	0.37	0.12	0.12	0.12	0.0	0.35	0.12	0.24	0.24	0.20
5	D .39	.06	--	.19	.06	.04	.07	.05	.12	.12	.12	.0	.09	.0	.12	.12	.05
9	.05	.02	--	.05	.06	.0	.08	.02	.0	.0	.0	.0	.17	.0	.0	.0	.03
13	--	.0	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.36	.0	.0
16	D .40	.38	A .70	.35	.23	.29	.31	.38	.60	.12	.36	.12	.55	--	.24	.24	.28
20	.27	.14	.21	.30	.25	D .29	.32	.34	.36	.72	.36	.36	.36	--	.36	.36	.28
23	--	1.92	2.18	2.01	2.20	1.43	--	1.73	2.28	2.16	2.04	1.92	1.78	D3.00	1.80	2.28	2.12
24	--	.0	.0	.0	.0	.0	D1.99	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	--	.43	.35	.25	.28	.18	.32	.37	.36	.24	.24	.24	.28	--	.36	.36	.41
30	A2.50	.15	.19	.07	.19	.06	.34	.25	.12	.24	.24	.36	.41	D .48	.12	.12	.12
MTOT	E 3.61	3.27	E 3.63	3.40	3.67	E 2.43	E 3.70	3.51	3.96	3.72	3.48	3.00	3.99	E 3.60	3.60	3.72	3.49
Apr.																	
1	--	.0	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	--	.0	.0	.0	.04	.0	.04	.0	.12	.0	.12	.0	.0	.0	.0	.0	.0
6	--	.0	.0	.0	.03	.0	.0	.02	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	--	.0	.02	.01	.0	.02	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.05	.0	.0	.0	.0
19	--	.0	.0	.0	.0	.0	.0	.19	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	--	--	.07	.09	.01	.11	.05	.0	.0	.0	.0	.0	.0	.0	.0	.0	.02
22	--	--	.22	.31	.11	.31	.29	.0	.0	.12	.0	.0	.25	.12	.12	.0	.15
27	--	--	--	.0	.0	.0	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	--	--	--	.02	.01	.04	.0	.02	.0	.0	.0	.0	.05	.0	.0	.0	.0
30	A .25	D .26	D .04	.02	.04	.02	.0	.02	.0	.0	.0	.0	.0	.0	.12	.0	.04
MTOT	X .25	E .26	E .35	.46	.24	.50	.38	.26	.12	.12	.12	.0	.35	.12	.24	.0	.21

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
May																	
1	--	0.0	--	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0
2	--	.0	--	.03	.0	--	.07	.02	.0	.0	.0	.0	.0	--	.0	.0	.0
3	A .10	.0	--	.02	.31	D .05	.03	.21	.12	.0	.12	.0	.24	--	.0	.0	.0
8	.0	.0	--	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0
9	.20	.08	--	.56	.20	.42	.50	.73	.12	.12	.0	.12	.15	--	.12	.12	.11
10	1.93	1.33	--	1.62	2.15	1.35	1.78	1.50	1.68	1.32	1.20	1.32	1.88	D .96	.96	1.08	.91
13	.0	.0	--	.0	.0	.0	.0	.02	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.05	.0	--	.05	.08	.05	.06	.06	.0	.0	.0	.0	.08	.0	.12	.0	.0
15	.80	.67	D2.55	.58	.49	.73	.07	.41	.72	.72	1.32	.84	.72	.0	.36	.60	.45
17	.05	.0	.03	.03	.17	.0	.0	.08	.12	.12	.0	.0	.05	.12	.0	.0	.07
18	.0	.0	.01	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	.24	.12	.0
19	.04	.0	.0	.0	.01	.0	.0	.01	.0	.0	.0	.12	.0	.0	.0	.0	.0
20	2.30	1.98	2.33	2.58	2.29	2.49	2.46	2.18	2.64	2.40	2.04	2.40	1.88	2.28	2.28	2.64	2.28
21	.76	.58	.97	1.40	.92	1.38	1.93	.82	.72	.48	.84	.96	.60	.60	.36	.60	.35
22	.01	.0	.01	.01	.01	.02	.0	.0	.0	.0	.0	.0	.0	.0	.12	.0	.02
25	.0	.0	.0	.40	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MTOT	E 6.24	4.64	E 5.90	7.29	6.65	E 6.49	6.90	6.04	6.12	5.16	5.52	5.76	5.60	E 3.96	4.56	5.16	4.19

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
May																	
1	--	0.0	--	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0
2	--	.0	--	.03	.0	--	.07	.02	.0	.0	.0	.0	.0	--	.0	.0	.0
3	A .10	.0	--	.02	.31	D .05	.03	.21	.12	.0	.12	.0	.24	--	.0	.0	.0
8	.0	.0	--	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	.0	.0
9	.20	.08	--	.56	.20	.42	.50	.73	.12	.12	.0	.12	.15	--	.12	.12	.11
10	1.93	1.33	--	1.62	2.15	1.35	1.78	1.50	1.68	1.32	1.20	1.32	1.88	D .96	.96	1.08	.91
13	.0	.0	--	.0	.0	.0	.0	.02	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.05	.0	--	.05	.08	.05	.06	.06	.0	.0	.0	.0	.08	.0	.12	.0	.0
15	.80	.67	D2.55	.58	.49	.73	.07	.41	.72	.72	1.32	.84	.72	.0	.36	.60	.45
17	.05	.0	.03	.03	.17	.0	.0	.08	.12	.12	.0	.0	.05	.12	.0	.0	.07
18	.0	.0	.01	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	.24	.12	.0
19	.04	.0	.0	.0	.01	.0	.0	.01	.0	.0	.0	.12	.0	.0	.0	.0	.0
20	2.30	1.98	2.33	2.58	2.29	2.49	2.46	2.18	2.64	2.40	2.04	2.40	1.88	2.28	2.28	2.64	2.28
21	.76	.58	.97	1.40	.92	1.38	1.93	.82	.72	.48	.84	.96	.60	.60	.36	.60	.35
22	.01	.0	.01	.01	.01	.02	.0	.0	.0	.0	.0	.0	.0	.0	.12	.0	.02
25	.0	.0	.0	.40	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	E		E			E								E			
MTOT	6.24	4.64	5.90	7.29	6.65	6.49	6.90	6.04	6.12	5.16	5.52	5.76	5.60	3.96	4.56	5.16	4.19

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
June																	
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27	0.0	--	0.0	0.0	0.07	0.0	0.48	0.12	0.13
5	.0	.0	.01	.0	.15	.0	.0	.01	.24	--	.0	.0	.0	.60	.24	.36	.37
6	.02	.10	.01	.04	.01	--	.0	.05	.0	D .36	.0	.0	.32	.0	.0	.0	.0
9	.0	.0	.0	.0	.03	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.0	.11	.0	.08	--	--	.84	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	1.78	1.45	.68	1.02	2.38	--	--	.98	4.44	2.76	3.36	3.84	1.09	2.04	.96	.96	1.24
17	.76	2.98	1.89	2.40	1.02	--	--	.83	2.16	.96	.36	1.20	.54	1.80	4.08	4.20	2.06
18	.0	.0	.0	.01	.0	--	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.02
20	.03	.0	.05	.32	.13	--	D2.42	.25	.12	.0	.0	.0	.0	.0	.0	.12	.0
21	.27	.0	.0	.01	1.00	--	.0	.01	.0	.0	.24	.0	.0	.12	.12	.12	.0
22	.03	.08	.02	.0	.02	--	.26	.0	.0	.12	.0	.12	.07	.12	.12	.0	.0
23	.04	.20	.49	.64	.0	--	.0	.01	.12	.0	.0	.0	.0	.12	.0	.0	.0
24	.37	.0	.17	.17	.14	--	.0	.0	.0	.12	.12	.0	.94	.0	.0	.0	.0
25	.49	1.30	1.33	.21	1.01	--	--	.40	1.20	.24	.12	.12	.19	1.20	.24	.36	.27
26	.15	.0	.09	.07	1.15	A5.00	D .55	1.25	.48	.36	.0	.12	.0	.12	.12	.12	.75
28	.07	.15	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MTOT	4.01	6.26	4.86	4.89	7.12	X 5.00	E 3.23	4.90	8.76	E 4.92	4.20	5.40	3.22	6.12	6.36	6.36	4.84

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
July																	
2	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.36	0.24	0.37
5	.12	.0	.0	.0	.0	--	.0	.0	.0	.48	.0	.0	.0	.36	.12	.12	.0
9	.49	.0	.01	.0	.0	--	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.0	.0	.0	--	.04	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.28	.08	.09	.16	.24	--	.09	.12	.12	.36	.24	.36	.24	.24	.36	.36	.30
13	1.56	2.20	2.42	1.99	2.19	--	1.74	1.73	1.80	3.84	1.56	1.80	1.94	1.56	1.80	2.04	2.00
14	.90	.38	.16	.28	.77	--	--	.48	.84	1.08	.84	1.08	.42	.72	.84	.96	.84
15	2.31	3.16	3.40	3.15	.77	--	D3.64	.62	.48	.84	1.20	1.80	3.85	1.56	--	1.44	.65
16	A1.50	--	1.86	1.77	1.18	--	.19	.77	1.80	.72	.84	.96	1.87	2.04	A3.50	2.40	1.90
17	.0	D1.95	.0	.01	.0	--	.15	.0	.12	.0	.0	.0	.0	.0	.12	.0	.0
18	.0	.06	.0	.0	.0	--	.17	.0	.24	.0	.0	.12	.0	.72	.72	.84	.85
19	.01	.0	.0	.0	.0	A7.35	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.16	.40	.19	.25	.11	.28	.45	.44	.60	.24	.0	.0	.20	.72	.0	.0	.0
22	.01	.0	.0	.01	.0	.0	.28	.0	.12	.0	.24	.0	.10	.0	.0	.0	.0
29	.0	.0	.01	.0	.0	.0	.0	.13	.0	--	.0	.0	.0	.0	.0	.0	.0
30	.0	.0	.0	.0	1.46	.10	.10	.67	.12	--	.0	.12	.0	.12	.0	.0	.0
31	.48	.38	.12	.17	.0	.06	.24	.0	.0	D .12	.24	.12	.20	.0	.12	.0	.0
	E	E				E	E			E					E		
MTOT	7.82	8.61	8.26	7.79	6.72	7.79	7.09	4.96	6.24	7.68	5.16	6.36	8.82	8.04	7.94	8.40	6.91

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
Aug.																	
1	0.0	0.0	0.17	0.33	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	.0	.0	.0	.01	.0	.0	.0	.0	.12	--	.0	.0	.0	.0	.0	.0	.03
3	.01	.10	.10	.01	.02	--	.10	.01	.0	--	.12	.48	.34	.0	.0	.0	.03
4	.01	.0	.0	.0	.05	D1.05	.0	.18	.24	D .36	.0	.0	.0	.48	.60	.72	.07
5	.0	.0	.0	.81	.0	.0	.47	.0	.0	.0	.0	.0	.0	.12	.36	.36	.0
6	.29	.45	.67	.07	.0	.0	.0	.0	.0	.0	.0	.0	.88	.0	.0	.0	D .29
7	.30	.95	1.45	1.08	.0	.0	1.09	.17	.72	.0	.36	.0	2.10	.12	.12	.0	D .10
8	.01	.07	.09	.22	.33	.0	2.38	.01	.48	.60	.60	.12	.57	2.04	1.08	1.44	D .88
9	.52	1.77	2.13	.88	2.26	2.01	.13	1.14	1.08	2.76	1.68	2.88	2.32	.0	.12	.12	D .37
10	--	3.36	--	1.31	.67	1.47	1.84	.57	.12	.48	.84	.24	1.92	.24	.12	.12	D .38
11	--	.93	--	.35	1.72	.52	2.26	1.07	2.28	3.24	1.32	2.16	.80	1.44	.96	1.20	D1.28
12	D4.26	1.00	--	.50	1.29	.54	.15	1.56	.48	1.32	.72	.60	.46	.84	.84	1.32	D .45
13	.0	.0	--	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.24	.12	.0
15	.0	1.60	A4.50	.92	.0	.94	.25	.0	.0	.0	.0	.24	1.05	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.0	.0	.01	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.03	.04	.01	.0	.0	.02	.0	.0	.12	.0	.02	.12	--	.48	.40
18	6.19	3.45	4.86	3.86	5.60	3.02	5.66	4.46	7.80	10.68	7.20	7.08	4.83	9.36	--	9.84	--
19	1.70	.0	.01	.10	.0	.0	D .21	.0	.0	.0	.0	.12	.0	.12	--	.0	D7.78
20	.01	.0	.0	.0	.0	.0	.0	.0	.12	.0	.0	.0	.0	.0	--	.0	.0
23	.01	.0	.0	.0	.0	.03	.0	.06	.0	.0	.0	.0	.10	.0	--	.0	.0
24	.0	.0	.0	.01	.0	.14	.07	.0	.0	.0	.0	.0	.0	.0	--	.0	.0
25	.16	.0	.0	.0	.29	--	.45	.0	.0	.24	.48	.0	.0	--	--	.0	.0
26	.0	.0	.0	.0	.0	--	.0	.0	.12	.0	.0	.0	.36	--	--	1.08	.0
27	.0	.0	.0	.16	.05	--	.03	.0	.0	.36	.0	.36	.0	--	--	.0	.08
28	.04	.0	.01	.40	1.04	--	.09	.11	.12	.24	.0	.24	.0	--	--	.0	.19
29	.0	.0	.0	.08	.01	--	.0	.58	.0	.48	.0	.0	.03	D1.08	--	.0	D .78
30	.0	.0	.0	.01	.0	D .59	.0	.0	.0	.0	.0	.0	.0	.0	A11.40	.0	.0
MTOT	E 13.51	13.68	E 14.02	11.16	13.34	E 10.31	E 15.18	9.95	13.68	E 20.76	13.44	14.52	15.78	E 15.96	E 15.84	16.80	E 13.11

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.

DAILY AND MONTHLY RAINFALL SUMMARY, IN INCHES, FOR GAGES SOUTH OF BUFFALO BAYOU, 1983 WATER YEAR--Continued

Date	Gage number 4910	4800	4780	4760	308R	32R	33R	12R	5500	5470	5400	305R	31R	5650	5550	403R	402R
Sept.																	
1	0.07	0.22	0.09	0.04	0.08	0.05	0.15	0.30	0.72	0.24	0.12	0.0	0.22	0.48	--	0.60	0.14
2	.0	.65	.88	.54	.0	.46	.0	.0	1.08	.24	.24	.12	.33	.60	--	.24	.0
3	.0	.20	.13	--	.0	.0	.11	.0	.0	.0	.36	.0	.0	.0	--	.0	.0
4	.0	.0	.0	--	.0	.0	.05	.0	.0	.0	.0	.0	.0	.0	--	.0	.0
5	.0	.0	.0	--	.0	.09	.0	.0	.0	.0	.0	.0	.0	.0	--	.0	--
6	.40	.28	.73	--	.32	.11	.27	.26	1.08	1.80	.72	1.56	.45	.24	--	1.32 D	.79
7	.01	.08	.05	--	.01	.0	.0	.07	.24	.0	.0	.0	.02	.72	--	.36	.10
8	.62	.75	.57	--	.35	.79	.20	.07	.48	.48	.60	.60	.80	.24	--	.72	.57
9	.52	.0	.02	--	1.05	.0	.0	.44	.72	2.04	.84	1.08	.05	.60	--	.60	.90
10	.15	2.00	1.52	--	.93	2.22	2.03	.24	.48	.0	.0	.0	.53	1.08	--	1.80	1.42
11	.03	.0	.01	--	.0	.20	.55	.0	.0	.0	.0	.0	.0	.12	--	.0	.0
12	.57	.30	.0	D3.80	.05	.0	.11	.26	.0	.24	.0	.0	.22	.0	--	.0	.0
15	.0	.0	.0	--	.0	.16	.0	.0	.0	.0	.0	.0	.0	.12	--	.0	.28
16	.0	.0	.17	--	.0	.09	.0	.05	1.20	.0	.0	.0	.0	.0	--	.0	.34
17	.0	.0	.21	--	.01	.16	.80	.0	.0	.0	.0	.24	.0	.0	--	.0	.0
18	.39	.42	.27	--	.20	.17	.56	.30	.60	.36	.12	.72	.28	.12	--	.0	.12
19	6.85	6.15	9.01	--	3.97	6.53	3.60	3.79	3.36	3.60	6.72	4.32	5.66	3.84	--	3.96	3.42
20	.48	1.32	1.73	--	.28	2.68	1.12	1.41	.48	.36	.36	.36	.17	.48	-- A	.50	.48
21	.0	.0	.01	--	.0	.0	.0	.0	.12	.0	.0	.0	.0	.0	A10.00	.0	.0
26	.06	1.12	.80	--	.0	.04	.06	.60	.0	.0	.0	.0	.88	.0	.0	.0	.0
27	.0	.0	.01	A9.80	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MTOT	10.15 E	13.49 E	16.21 E	14.18 E	7.25	13.75 E	9.61 E	7.79	10.56 E	9.36 E	10.08	9.00 E	9.61	8.64 E	10.00 X E	10.10 E	8.56 E
WTOT	65.65	65.90	69.91	67.34	62.44	63.11	66.21	53.20	66.72	72.04	59.88	62.88	64.74	66.48	71.54	74.12	60.87

MTOT = Monthly totals.
A = Total rainfall and time distribution estimated.
D = Total rainfall known; time distribution estimated.
X = Monthly total rainfall estimated; all daily values missing or estimated.
E = Monthly or yearly totals contain estimated daily values.
WTOT = Water year total.

MONTHLY RAINFALL-DATA SUMMARY IN THE HOUSTON METROPOLITAN AREA,
NATIONAL WEATHER SERVICE STATIONS, 1982 WATER YEAR

	Rain-gage numbers referenced in table 19															
Month	10S	12R	13S	20R	22R	23S	24S	32R	33R	34S	35S	36S	42S	201S	202S	404S
1982																
Oct.	2.53	1.62	3.60	6.64	6.99	5.27	3.24	2.35	3.31	3.28	2.93	2.47	1.70	5.08	3.84	1.59
Nov.	6.58	5.95	6.48	8.91	11.60	7.26	5.73	6.35	8.31	7.97	6.94	7.26	7.16	10.59	9.09	8.02
Dec.	4.22	3.01	4.70	4.91	3.13	4.15	e/3.50	2.43	e/3.00	3.15	3.90	3.99	4.82	e/5.00	e/7.00	6.80
Annual	41.24	34.70	39.89	42.87	44.90	42.70	39.67	38.58	34.86	40.39	38.32	38.33	46.41	44.50	44.11	43.46
1983																
Jan.	1.79	1.56	1.50	2.00	1.71	2.23	1.98	2.12	e/1.58	2.76	1.77	2.19	2.59	1.73	2.73	1.83
Feb.	5.29	3.65	4.62	3.97	4.95	5.83	4.41	3.59	3.92	5.42	5.12	5.14	6.01	e/4.00	3.92	4.42
Mar.	4.83	3.51	4.95	3.85	e/4.92	4.37	4.30	2.43	3.70	4.08	3.56	4.77	3.89	4.05	4.50	3.34
April	.74	.26	.46	.43	.28	.45	.42	.50	.38	.48	.29	.70	.16	.69	.62	.37
May	6.10	6.04	7.62	7.29	6.31	7.72	7.27	e/6.49	6.90	7.51	6.29	6.39	5.50	8.20	8.22	6.00
June	7.40	4.90	6.51	5.37	2.17	5.69	7.39	e/5.00	3.23	4.07	3.75	5.60	4.26	4.29	7.14	8.56
July	5.30	4.96	7.09	5.23	5.72	7.08	6.92	e/7.79	7.09	7.27	5.98	8.96	7.37	5.82	8.24	6.69
Aug.	14.41	9.95	12.69	9.42	11.15	11.49	12.53	10.31	15.18	13.44	12.35	12.04	e/17.00	11.95	10.53	11.38
Sept.	13.39	7.79	8.83	7.23	4.69	5.72	11.06	13.75	9.61	9.76	8.18	17.45	8.72	11.95	6.48	10.45
Totals	72.58	53.20	69.05	65.25	63.62	67.26	68.75	63.11	66.21	69.19	61.06	76.96	69.18	73.35	72.31	69.45

e/ Incomplete, total estimated.