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WATER BULLETIN NUMBER 44

Flow of the Rio Grande and Related Data

From Elephant Butte Dam, New Mexico to the Gulf of Mexico

1974

STORAGE IN MAJOR RESERVOIRS
SOURCES OF RIVER FLOW
DIVERSIONS
SUSPENDED SILT
CHEMICAL ANALYSES
SANITARY ASPECTS OF WATER QUALITY
CLIMATOLOGICAL DATA
DRAINAGE BASIN AND IRRIGATED AREAS

CONTENTS

	Page
Foreword and Acknowledgments	4
General Hydrologic Conditions for 1974	6
Isohyetal Map for September 14-25, 1974	91
Isohyetal Map for Year 1974	141
Map - Rio Grande Drainage Basin	Following Page 160

Quantity of Water

Stream-Flow Records	
Rio Grande below Elephant Butte Dam	7
below Caballo Dam.	8
at El Paso	9
Diversions from the Rio Grande - American Canal at El Paso	10
Rio Grande below American Dam at El Paso	11
Diversions from the Rio Grande - Acequia Madre at Juarez	12
Rio Grande - Island Station near Clint	13
- County Line Station near Acala	14
at Fort Quitman	15
above Rio Conchos near Presidio	16
Tributary - Rio Conchos near Ojinaga	17
Alamito Creek near Presidio	18
Rio Grande below Rio Conchos near Presidio	19
Tributary - Terlingua Creek near Terlingua	20
Rio Grande at Johnson Ranch near Castolon	21
at Foster Ranch near Langtry	22
Tributary - Pecos River near Langtry.	23
Dead Mans Canyon near Comstock	24
Dolan Springs near Loma Alta	25
Devils River at Pafford Crossing near Comstock	26
Big Satan Creek near Comstock	27
Rough Canyon near Del Rio	28
North Fork San Pedro Creek near Del Rio	29
Middle Fork San Pedro Creek near Del Rio	30
Evans Creek near Comstock	31
Carmina Springs at Amistad Dam near Cd. Acuna	32
Lourdes, Hilda, Ernestina, and Rosita Springs near Cd. Acuna	33
Rio Grande below Amistad Dam near Del Rio	34
Tributary - Springs M-15 and M-5 near Cd. Acuna	35
Arroyo Jaboncillos near Cd. Acuna	36
Arroyo del Buey and Arroyo de la Treinta y Una near Cd. Acuna	37
Maris Spring near Cd. Acuna	38
Eight Mile Creek near Del Rio	39
McKee Spring near Del Rio	40
Cantu Spring on Cienegas Creek near Del Rio	41
Cienegas Creek near Del Rio	42
Rio Grande at Del Rio	43
Tributary - Arroyo Las Vacas at Cd. Acuna	44
San Felipe Springs at Del Rio	45
San Felipe Creek near Del Rio	46
Diversions from the Rio Grande - Maverick Canal at Mile 13 near Quemado	47
Tributary - Pinto Creek near Del Rio	48
Rio San Diego at Jimenez	49
Rio Grande below Maverick Dam near Quemado	50
Tributary - Rio San Rodrigo near Mouth at El Moral	51
Return Flow at Maverick Power Plant near Eagle Pass	52
Diversions from the Rio Grande - Maverick Canal Extension near Eagle Pass	53
Tributary - Return Flows - Maverick Dam to Eagle Pass	54
Rio Grande at Eagle Pass	55
Tributary - Rio Escondido at Villa de Fuente	56
Return Flows - Eagle Pass to San Antonio Crossing	57
Rio Grande at San Antonio Crossing near El Indio	58
at Palafox near Laredo	59
at Laredo	60
Tributary - Rio Salado at Las Tortillas	61
Rio Grande below Falcon Dam	62
Tributary - Rio Alamo at Cd. Mier	63
Contributions from Rio San Juan - Falcon Dam to Fort Ringgold	64
Rio San Juan at Camargo	65
Diversions from the Rio Grande - Falcon Dam to Fort Ringgold	66
Rio Grande at Fort Ringgold, Rio Grande City	67
Tributary - Contributions from Rio San Juan - Fort Ringgold to Anzalduas Dam	68
Diversions from the Rio Grande - Fort Ringgold to Anzalduas Dam	69
Diversions from the Rio Grande - Anzalduas Canal near Reynosa	70
Rio Grande below Anzalduas Dam	71
Floodways - United States and Mexico	72
Diversions from the Rio Grande - Anzalduas Dam to Progreso	73
Rio Grande near Progreso	74
Diversions from the Rio Grande - Progreso to San Benito	75
Rio Grande near San Benito	76
Diversions from the Rio Grande - San Benito to Brownsville	77

CONTENTS

Quantity of Water

Page

Rio Grande near Brownsville 78
Diversions from the Rio Grande - Brownsville to the Gulf 79
U. S. Side below Falcon Dam 80
Tributary - Outfalls from Sewers 81
Diversions from the Rio Grande - Municipal and Industrial Water Uses - United States and Mexico . . 82
Stored Water in Large Reservoirs of the Rio Grande Basin - United States and Mexico 85
Floods of 1974 90
Rainfall on and Adjacent to the Rio Grande Watershed (September 14-25) 93
Sources of River Flow 97

Quality of Water

Suspended Silt in the Rio Grande and Tributaries 98
Chemical Analyses of Water Samples from the Rio Grande and Tributaries 102
Electrical Conductivity of Water Samples 107
Rio Grande Salt Burden 118
Sanitary Aspects of Water Quality 119

Climatological Data and Drainage Basin and Irrigated Areas

Rainfall on the Rio Grande Watershed - United States and Mexico 120
Average Rainfall on Subdivisions of the Rio Grande Watershed 143
Location of Rainfall Stations on the Rio Grande Watershed - United States and Mexico 144
Evaporation in the Rio Grande Basin - United States and Mexico 151
Temperature, Humidity, and Wind - United States and Mexico 153
Drainage Basin Area above Each Gaging Station and Corresponding Irrigated Areas 156

Supplementary Data–International Falcon Reservoir

Deduced Inflows 159

Corrections to Previous Water Bulletins

Corrections to Previous Water Bulletins 160

FOREWORD

This bulletin presents the forty-fourth compilation of the stream discharges and related data concerning the international portion of the Rio Grande, prepared jointly by the United States and Mexican Sections of the International Boundary and Water Commission. The stream flow data and kindred subjects pertain to the Rio Grande and its important tributaries near their confluence with the main stream from Elephant Butte, New Mexico to the Gulf of Mexico. The first publication in the series was Water Bulletin No. 1 for the year 1931. The present volume contains the information for the year 1974.

International stream gaging on the Rio Grande was initiated in 1889, when the station at El Paso, Texas was established. Several stations on the Rio Grande and its tributaries downstream from El Paso were established in 1900 and operated until 1914. Between 1914 and 1923, except for a few months in 1919 and 1920, all stream-gaging work on the international reach of the river was suspended. In 1923, the work was resumed and carried on independently by the two countries until 1931 when the present joint program of stream measurements was adopted.

During 1974 the United States Section of the Commission operated the stream-gaging stations on the Rio Grande at El Paso, American Dam, Island, County Line, Fort Quitman, Above Rio Conchos, Below Rio Conchos, Johnson Ranch, Foster Ranch, Del Rio, San Antonio Crossing, Fort Ringgold, San Benito, and Brownsville. The Mexican Section operated the stream-gaging stations on the Rio Grande at Below Amistad Dam, Below Maverick Dam, Eagle Pass, Palafox, Laredo, Below Anzalduas Dam, and Progreso. The station at Falcon Dam was operated jointly by the two Sections. Each Section operated the gaging stations on tributary streams, floodways, and diversions within its own country.

The total drainage area within the outer rim of the Rio Grande Basin is 335,500 square miles. However, about half of this area yields no runoff to the river, the estimated productive area of the watershed being 176,333 square miles. Reservoirs in the basin have a total storage capacity of approximately 11,487,100 acre-feet, in addition to the International Amistad and Falcon Reservoirs, which have a combined conservation capacity of 6,165,000 acre-feet. In the Rio Grande Basin, a rounded total of 2,293,000 acres is irrigated below Elephant Butte Dam on the Rio Grande and below Girvin on the Pecos River. The flow of the Rio Grande to the Gulf of Mexico below Brownsville prior to construction of Falcon Dam averaged 2,600,000 acre-feet per year for the period 1934-1952. For the period 1954-1974, this flow has averaged 719,400 acre-feet per year.

Acknowledgments

Other agencies which have contributed to some part of the data published herein include: The Agricultural Research Service and the Soil Conservation Service of the U. S. Department of Agriculture; the Bureau of Reclamation and the Geological Survey of the U.S. Department of the Interior; the National Weather Service of the U.S. Department of Commerce; the Texas Board of Health; the Texas Water Development Board; the Sanchez Ditch and Reservoir Company; the Middle Rio Grande Conservancy District; the Red Bluff Water Power Control District; State of Colorado, Division of Water Resources; the New Mexico State Engineer Office; the Rio Grande Compact Commission; the Willacy County Water Control and Improvement District No. 1, the Del Rio City Water Department; the Eagle Pass City Water Department; the Laredo City Water Department; the Del Mar Conservation District; Central Power and Light Company; the El Paso Department of Water and Sewerage; the Maverick County Water Control and Improvement District No. 1; the Ministry of Hydraulic Resources of Mexico; the Ministry of Agriculture and Livestock of Mexico; the Meteorological Service of Mexico; Meteorological Service of the State of Chihuahua, Mexico; Federal Power Commission of Mexico; Potable Water Board of Piedras Negras, Coahuila; the Federal Board of Public Improvement Works of Nuevo Laredo, Tamaulipas; and the Water and Drainage Board of Cd. Acuna, Coahuila.

Additional contributions have been made by individuals and corporations and specific notation is made for such, as well as for those of the above-named agencies, where the data appear. The courtesy and cooperation of those who made these contributions are acknowledged with appreciation.

Period Averages

In Water Bulletins Nos. 1 through 29, normal or average discharge volumes shown for the various gaging stations were based on a period beginning in 1924, or thereafter when records became available.

Beginning with Water Bulletin No. 30, the periods have been revised to include only the years following completion of major projects below which the flow of the Rio Grande or a major tributary was modified, or later when records became available. The revised periods are based on the completion of Caballo Dam in 1938, irrigation projects on the Rio Conchos and its tributaries in 1947, International Falcon Dam in 1953, and Amistad Dam and Luis L. Leon Dam in 1968.

For purposes of comparison with the average flows in the Rio Grande below Caballo Dam, records of average discharge in the Rio Grande below Elephant Butte Dam have also been revised to include the same period.

The period of record used to determine the average diversions from the Rio Grande to the United States below Falcon Dam published herein was restricted to begin in 1957, the first complete year of record after United States' waters in Falcon Reservoir were placed under the jurisdiction of the 93rd District Court of Texas.

FOREWORD

Units of Measure

Data collected by the Mexican Section are computed and published in a Spanish version of the water bulletin in metric units. The Mexican data are converted and reported in this bulletin in English units. Conversion factors conform generally to those in the National Bureau of Standards Miscellaneous Publication 286 "Units of Weight and Measure (United States Customary and Metric) - Definitions and Tables of Equivalents". However, for convenience some of the factors have been shortened and modified to facilitate conversion, reconversion to the original units when necessary, and checking of data. Conversion of the mean daily discharges, the monthly average discharge and the monthly volumes from metric to English units is direct. For this reason the monthly average discharge in cubic feet per second and monthly volumes in acre-feet shown for gaging stations operated by the Mexican Section cannot necessarily be obtained in the usual manner from the total monthly flow in second-foot days. For the same reason, evaporation and rainfall data, when totaled, may not be equivalent to the direct conversion from metric to English units. The following factors have been used for data in this bulletin:

METRIC UNITS		ENGLISH UNITS
	LENGTHS	
1 Centimeter		0.393701 Inches
1 Meter		3.28084 Feet
1 Kilometer		0.621371 Miles
	AREAS	
1 Square Meter		10.76391 Square Feet
1 Hectare		2.471054 Acres
1 Square Kilometer		0.386102 Square Miles
	VOLUMES	
1 Cubic Meter		61023.74 Cubic Inches
1 Cubic Meter		35.31467 Cubic Feet
1 Cubic Meter		1.30795 Cubic Yards
1000 Cubic Meters		0.81071 Acre-Foot
1 Liter		0.264172 U. S. Gallon
	WEIGHTS	
1 Kilogram		2.204623 Pounds
1 Metric Ton		2204.623 Pounds
1 Metric Ton		1.102311 Short Tons (2,000 lbs.)

GENERAL HYDROLOGIC CONDITIONS FOR 1974

Along and Adjacent to the International Portion of the Rio Grande

During the year 1974, temperatures were normal on the watershed of the Rio Grande below El Paso, Texas. Evaporation averaged 101% of normal. Precipitation was 135% of normal from El Paso to Amistad Dam, 78% of normal from Amistad Dam to Falcon Dam, 79% of normal from Falcon Dam to Rio Grande City, and 98% of normal in the Lower Rio Grande Valley on the United States side.

The yearly volume of flow of the Rio Grande was near normal from El Paso to the confluence of the Rio Conchos with the Rio Grande, much above normal from the confluence of the Rio Conchos to Falcon Reservoir, and above normal from Falcon Dam to the Gulf of Mexico. In the reach between El Paso and the confluence of the Rio Conchos the flow averaged 94% of normal, ranging from 124% of normal at Fort Quitman to 55% at County Line; in the reach between the confluence of the Rio Conchos and Amistad Reservoir, where flows were partly regulated by releases from Luis L. Leon Reservoir (El Granero) on the Rio Conchos, the flow averaged 153% of normal; and in the reach between Amistad Dam and Falcon Reservoir, where flows were partly regulated by releases from Amistad Reservoir, the flow averaged 229% of normal. Flows passing Rio Grande stations below Falcon Dam were partly regulated by releases from Falcon Reservoir. Such releases in 1974 amounted to 3,322,920 acre-feet, or 149% of the average for the twenty-one years of operation, 1954 to 1974. The volume of flow wasted to the Gulf of Mexico was 1,214,844 acre-feet, or 169% of the average for this twenty-one year period.

The total annual flow of all measured tributaries below Fort Quitman was 149% of normal. The total flow of these tributaries in the United States was 2,059,242 acre-feet, or 293% of normal. For Mexico, the measured tributary flow excluding Rio Alamo and Rio San Juan was 1,449,907 acre-feet, or 123% of normal. The flow of the Rio Alamo and Rio San Juan was 50% and 19% of their respective normals.

Return flow to the Rio Grande at Maverick Power Plant near Eagle Pass was 621,875 acre-feet, or 113% of the twenty-six year average. Return flow to the Rio Grande through various drains in the Maverick County irrigation district excluding storm inflow amounted to 150,936 acre-feet, or 77% of the sixteen-year average.

There was one noteworthy flood on the Rio Grande during 1974. Runoff resulting from heavy precipitation on large portions of the watershed from Fort Quitman to Amistad Dam, during the latter part of September, caused flooding in this river reach and required flood waters to be released from both Amistad and Falcon Reservoirs. For a detailed description of this flood, see page 90 in this bulletin.

For all reservoirs in the Rio Grande basin having capacity greater than 15,000 acre-feet, excepting Amistad and Falcon International Reservoirs, the average amount of water in storage in 1974 was 4,828,500 acre-feet, or 115% of the normal 4,213,200 acre-feet. In the United States, stored water in these reservoirs averaged 89% of normal, while in Mexico the average was 126% of normal. In International Amistad Reservoir there was a net increase in storage during the year of 182,800 acre-feet. Storage ranged from a low of 3,671,600 acre-feet on September 15 to a high of 4,856,700 acre-feet on September 22 and averaged 3,950,800 acre-feet during the year, or 173% of the average for the period of operation, June 1968 through 1974. In International Falcon Reservoir there was a net increase in storage during the year of 110,500 acre-feet. The storage varied from a low of 1,473,000 acre-feet on August 30 to a high of 2,906,900 acre-feet on December 15 and averaged 2,254,700 acre-feet during the year, or 118% of the average for the twenty-one years of operation, 1954 through 1974.

Diversions from the Rio Grande in the United States were, on the average, 115% of normal. Diversions into the American Canal were 112% of normal; into the Maverick Canal 108% of normal; and in the United States below Falcon Dam 122% of the average for the eighteen years, 1957-1974. In Mexico, diversions averaged 151% of normal. Diversions into the Acequia Madre were 127% of normal, while diversions through the Anzalduas Canal for irrigation in Mexico were 152% of the twenty-one year average.

In 1974, the total reported irrigated acreage from the Rio Grande and its tributaries below El Paso, Texas showed an increase of 2% from the previous year. On the United States side, there was an increase of 4% above and no change below Falcon Dam for an overall average increase of 1%. On the Mexican side, there was a decrease of 4% above and an increase of 7% below Falcon Dam for an overall average increase of 2%.

The 1974 investigation of the quality of Rio Grande water extended from El Paso to Brownsville. The annual tonnage of salts carried by the river above Falcon Dam was 142% of the 1935-74 normal. The volume of suspended silt transported by the Rio Grande in 1974 was 71% of average for sampling stations above Amistad Dam, 13% of average for sampling stations in the reach Amistad Dam to Falcon Reservoir, and 66% of average for sampling stations below Falcon Dam.

RIO GRANDE BELOW ELEPHANT BUTTE DAM, NEW MEXICO

DESCRIPTION: Concrete wall control, bubbler gage, and water-stage recorder located on the left bank 100 feet upstream from the cableway at latitude 33°08'45", longitude 107°12'20", and river mile 1,383.9; 0.7 river mile downstream from Elephant Butte Dam, 1.5 river miles upstream from Cuchillo Negro River, and 135.1 river miles upstream from the American Dam at El Paso, Texas. The zero of the gage is 4,242.09 feet above mean sea level, U.S.C. & G.S. datum.

RECORDS: Based on 28 discharge measurements during the year and a continuous record of gage heights. Records were furnished by the United States Geological Survey. Records available: 1915 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. Beginning December 1940, hydroelectric power generation facilities for 27,000 kva were placed in operation at Elephant Butte Dam.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet			
Daily:	Max. 8,220	May 22, 1942	Min. 0	Occasionally
Monthly:	Max. 7,600	May 1942	Min. 1.2	Nov. 1971
Yearly:	Max. 2,510	1942	Min. 253	1964

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	11.0	16.0	2,160	1,810	1,040	2,290	2,150	‡ 1,420	675	9.3	11.0	5.0
2	11.0	16.0	2,140	1,810	‡ 1,030	2,280	‡ 2,150	1,400	671	‡ 8.7	11.0	5.0
3	215	16.0	2,150	‡ 1,820	1,040	2,250	2,170	1,400	666	8.1	10.0	5.0
4	‡ 19.0	16.0	2,130	1,850	1,050	‡ 2,250	2,200	1,390	652	8.1	10.0	5.0
5	15.0	16.0	2,130	1,880	1,060	2,240	2,240	1,360	‡ 646	8.1	9.9	‡ 4.7
6	15.0	16.0	2,130	1,880	1,080	2,250	2,250	1,330	643	8.3	10.0	4.7
7	15.0	16.0	2,120	1,890	1,090	2,250	2,290	682	640	15.0	10.0	4.9
8	15.0	16.0	2,120	1,900	‡ 1,110	2,280	2,270	691	640	10.0	9.2	4.5
9	15.0	16.0	2,110	1,920	1,120	2,290	1,980	689	640	12.0	8.7	5.0
10	15.0	16.0	2,090	1,910	1,120	2,310	2,240	680	496	16.0	8.7	19.0
11	15.0	16.0	1,780	1,900	1,120	2,340	2,230	680	356	18.0	8.7	11.0
12	15.0	16.0	1,670	1,890	1,130	2,330	2,220	679	353	20.0	8.7	16.0
13	15.0	16.0	‡2,090	1,910	1,140	2,350	2,200	679	353	18.0	8.7	11.0
14	14.0	18.0	2,070	1,930	1,200	‡ 2,350	2,200	675	353	11.0	‡ 9.0	9.9
15	10.0	20.0	2,080	1,960	‡ 2,120	2,320	2,180	‡ 673	58.0	11.0	9.3	11.0
16	9.9	20.0	2,090	1,070	2,160	2,310	2,140	684	‡ 17.0	13.0	9.3	‡ 9.5
17	9.3	20.0	2,080	‡ 1,030	2,120	2,270	2,110	687	15.0	‡ 15.0	9.3	8.7
18	9.9	20.0	2,090	1,030	2,120	2,260	‡ 2,080	683	15.0	15.0	8.7	8.7
19	9.9	20.0	2,110	1,030	2,130	2,220	1,550	683	16.0	15.0	8.7	8.7
20	9.9	20.0	2,110	1,030	2,060	‡ 2,190	1,560	686	15.0	15.0	8.1	8.7
21	9.9	953	2,110	1,020	2,170	2,170	1,570	734	39.0	14.0	8.1	8.1
22	9.9	2,050	2,080	1,030	‡ 2,190	2,110	1,570	678	14.0	16.0	8.1	8.1
23	11.0	2,150	2,130	1,030	2,210	2,190	1,560	690	‡ 13.0	21.0	8.1	8.1
24	14.0	2,160	2,130	1,040	2,180	2,170	1,560	685	13.0	16.0	8.1	8.1
25	16.0	2,160	2,130	1,040	2,160	2,160	1,570	679	14.0	11.0	7.0	8.1
26	16.0	2,180	2,140	1,050	2,240	2,160	1,560	675	14.0	10.0	6.0	7.5
27	16.0	2,180	2,150	1,050	2,220	2,150	1,540	676	14.0	9.9	5.5	7.5
28	16.0	2,180 ‡	2,160	1,040	2,240	2,140	1,520	679	14.0	11.0	5.5	7.5
29	16.0		2,190	1,050	2,140	2,130	1,490	681	15.0	10.0	5.5	7.5
30	‡ 16.0		2,170	1,040	2,280	2,140	1,570	‡ 683	14.0	11.0	5.0	7.0
31	16.0		2,160		2,290		1,430	679		‡ 11.0		7.0
Sum	620.7	16,359.0	65,000	43,840	52,360	67,150	59,350	25,390	8,084.0	395.5	253.9	250.5

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	∅ Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Maximum	Minimum
Jan.			3	215	17	9.3	20.0	1,231	25,575	86,500	200
Feb.			†26	2,180	† 1	16.0	584	32,448	40,628	88,861	188
Mar.			29	2,190	12	1,670	2,100	128,925	71,911	128,925	1,520
Apr.			15	1,960	21	1,020	1,460	86,955	77,465	162,000	24,000
May			31	2,290	2	1,030	1,690	103,855	78,746	467,000	512
June			†13	2,350	22	2,110	2,240	133,190	89,606	363,000	16,913
July			7	2,290	31	1,430	1,920	117,719	92,393	211,000	41,352
Aug.			1	1,420	15	673	819	50,360	75,215	134,000	9,530
Sept.			1	675	†23	13.0	269	16,034	33,932	129,000	163
Oct.			23	21.0	† 3	8.1	12.8	784	18,370	72,100	166
Nov.			† 1	11.0	30	5.0	8.5	504	18,137	158,000	74.2
Dec.			10	19.0	8	4.5	8.1	497	18,874	87,300	179
Yearly				2,350		4.5	929	672,502	640,852	1,818,800	183,415

‡ Discharge measurement made on this day ∅ Mean daily † And other days

RIO GRANDE BELOW CABALLO DAM, NEW MEXICO

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank at latitude 32°53'05", longitude 107°17'30", and river mile 1,355.6; 0.8 river mile downstream from Caballo Dam, about 3 miles northeast of Arrey, New Mexico, 5 miles south of Caballo, New Mexico, and 106.8 river miles upstream from the American Dam at El Paso, Texas. The zero of the gage is 4,140.90 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 20 discharge measurements during the year and a continuous record of gage heights. Records were furnished by the El Paso office of the United States Bureau of Reclamation. Records available: 1938 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. In addition to the outflow from Caballo Dam listed below, 1,087 acre-feet of water were diverted in 1974 into Bonita Lateral, a small irrigation canal just below Caballo Dam. Prior to 1938, discharge records were kept at Percha Dam, a low diversion dam about 1.5 miles downstream from this station. Small accretions to the river take place between the station and Percha Dam.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet			
Daily:	Max. 7,650	May 20, 1942	Min. 0.1	Several days 1954, 1955 and 1972
Monthly:	Max. 6,710	May 1942	Min. 0.1	Nov. & Dec. 1955
Yearly:	Max. 2,480	1942	Min. 284	1964

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.3	1.1	1.1	1,990	‡ 1,440	1,480	2,430	2,530	955	2.2	2.2	1.4
2	1.3	1.1	819	1,900	1,430	1,290	2,400	1,900	1,090	2.2	1.9	1.3
3	1.2	1.1	1,230	1,730	1,130	1,290	2,370	1,410	1,210	2.2	1.8	1.3
4	1.1	1.1	1,320	1,740	956	1,500	2,360	1,330	1,330	2.2	‡ 1.6	1.3
5	1.1	1.1	1,600	1,740	955	1,760	1,870	741	1,600	2.2	1.6	1.3
6	1.0	1.1	1,800	1,650	962	1,700	1,580	1,290	1,710	2.5	1.6	1.2
7	1.0	1.1	1,810 ‡	1,520	1,080	1,780	1,420	1,830	1,820	3.0	1.6	1.2
8	1.0	1.1	1,810	1,420	1,240	1,800	863	1,660	1,890	2.2	1.6	1.2
9	1.0	1.1	2,010	1,240	1,250	1,790	483	1,460	1,950	2.2	1.6	1.2
10	1.0	1.1	2,150	‡ 1,060	1,240	1,800	973	1,490	1,960	2.2	1.6	1.1
11	1.0	1.1	2,130	1,050	1,230	1,920	1,390	1,610	2,110	5.0	1.6	1.1
12	1.0	1.1	2,080	‡ 984	1,230	‡ 2,010	1,200	1,590	2,070	4.0	1.6	1.1
13	1.0	1.1	2,090 ‡	866	1,230	2,020	830	1,960	1,990	2.5	1.6	1.1
14	1.0	1.1	2,230	836	1,350	2,210	236	2,130	1,770	2.2	1.6	1.0
15	1.0	1.1	2,220	832	‡ 1,450	2,320	74.0	2,140	1,160	2.2	1.6	1.0
16	1.0	1.1	2,190	834	1,460	2,140	898	2,300	538	2.2	1.5	1.0
17	1.0	1.1	2,230	‡ 983	1,570	2,120	‡ 1,090	2,430	7.0	2.2	1.5	1.0
18	1.0	1.1	2,250	1,060	1,550	‡ 2,340	971	2,420	4.0	2.2	1.5	.9
19	1.0	1.1	2,410	1,130	1,520	1,770	771	2,340	3.0	2.2	1.5	.9
20	1.0	1.1	2,680 ‡	1,190	1,470	2,320	646	2,390	3.0	2.2	1.5	‡ .9
21	1.0	1.1	2,600	1,180	1,460	2,360	839	2,100	2.8	2.2	1.5	.9
22	1.0	1.1	2,580	1,110	‡ 1,490	2,340	1,160	1,540	2.6	2.2	1.5	.9
23	1.0	1.1	2,440	973	1,500	2,230	1,640	1,040	2.4	4.0	1.5	.9
24	‡ 1.0	1.1	2,280	1,050	1,420	2,230	1,960	1,420	2.3	2.5	1.5	.9
25	1.0	1.1	2,180	1,120	1,260	2,400	‡ 2,150	1,010	2.2	2.2	‡ 1.5	.9
26	1.0	1.1	2,160	1,190	1,180	2,380	2,390	781	2.2	2.2	1.5	.9
27	1.0	1.1	2,190 ‡	1,260	1,170	2,390	2,220	866	‡ 2.2	2.2	1.5	.9
28	1.0	1.1	2,200	1,260	1,470	2,540	2,430	877	2.2	2.2	1.4	.9
29	1.0		2,060	1,260	‡ 1,700	2,510	2,370	810	2.2	2.2	1.4	.9
30	1.0		1,990	1,300	1,690	2,430	2,240	734	2.2	2.2	1.4	.9
31	1.0		1,990		1,620		2,450	852		2.2		.9
Sum	32.0	30.8	61,730.1	37,468	41,703	61,170	46,704.0	48,981	25,193.3	76.3	47.3	32.4

Month	Current Year 1974: Extreme Gage Feet High	Low	∅ Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Maximum	Minimum
Jan.			† 1	1.3	† 6	1.0	1.0	63.5	473	4,850	19.2
Feb.			† 1	1.1	† 1	1.1	1.1	61.1	7,412	64,300	11.7
Mar.			20	2,680	1	1.1	1,990	122,440	85,104	135,000	24,900
Apr.			1	1,990	15	832	1,250	74,317	80,657	212,000	25,470
May			29	1,700	5	955	1,350	82,717	74,543	412,000	75.2
June			28	2,540	† 2	1,290	2,040	121,329	104,339	354,000	25,289
July			31	2,450	15	74.0	1,510	92,636	111,387	234,000	28,200
Aug.			1	2,530	30	734	1,580	97,152	106,575	179,000	20,500
Sept.			11	2,110	†25	2.2	840	49,970	48,788	181,000	6,757
Oct.			11	5.0	† 1	2.2	2.5	151	4,538	35,400	15.5
Nov.			1	2.2	†28	1.4	1.6	93.8	2,428	14,400	7.0
Dec.			1	1.4	†19	.9	1.1	64.3	2,517	19,100	6.0
Yearly				2,680		0.9	885	640,994.7	628,761	1,795,670	206,084.6

‡ Discharge measurement made on this day ∅ Mean daily † And other days

RIO GRANDE AT EL PASO, TEXAS

DESCRIPTION: Gravity well and water-stage recorder located on the downstream side of the first pier from the left abutment of the Courchesne Bridge at latitude 31°48' 10", longitude 106°32' 25", and river mile 1,250.5; 5.6 river miles upstream from the Santa Fe Street-Juarez Avenue Bridge between El Paso, Texas and Cd. Juarez, Chihuahua and 1.7 miles upstream from the American Dam at El Paso, Texas. The zero of the gage is 3,722.30 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Mean daily discharges in 1974 were computed by adding the flows in the American Canal and the flows at the river station below the American Dam. Because the mean daily discharges are rounded, the monthly sum for this station may not equal the sum of the monthly sums of the other two stations. Extreme discharges are those passing the El Paso station, where measurements are made only during high flows. Records available: 1889 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 24,000 second-feet on June 12, 1905. Min. occasionally no flow. Since Elephant Butte Dam was closed in 1915, the largest peak flow to pass this station was 13,500 second-feet on September 3, 1925.

	Average Flow in Second-Feet				
Daily:	Max. 23,680	June 12, 1905	Min. 0		Occasionally
Monthly:	Max. 14,300	June 1905	Min. 0		Occasionally
Yearly:	Max. 2,780	1905	Min. 70.1		1902

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	72.6	62.0	64.4	808	659	692	1,050	1,040	552	320	232	158
2	72.1	71.0	57.2	907	618	754	1,080	1,440	492	329	224	117
3	69.5	74.1	52.8	807	627	781	1,030	1,620	534	303	215	124
4	67.2	71.0	42.0	612	596	695	929	1,310	503	308	200	119
5	71.3	72.0	609	551	530	664	1,430	1,100	538	310	210	123
6	71.6	70.9	879	552	419	707	1,460	1,380	516	296	204	132
7	70.1	66.3	1,040	681	411	750	1,290	707	662	279	194	111
8	71.8	63.3	926	740	376	711	1,430	655	676	261	191	111
9	82.1	61.6	787	806	409	379	1,500	1,160	776	258	194	104
10	84.6	63.8	877	676	530	988	1,360	1,000	901	290	192	107
11	78.1	65.4	1,150	676	564	1,040	893	776	815	447	309	123
12	74.8	66.4	1,130	578	598	961	821	786	693	462	350	122
13	73.9	68.5	980	576	659	958	1,100	853	678	730	212	119
14	72.5	68.4	858	584	690	933	998	696	658	825	202	118
15	69.3	64.0	927	624	615	929	1,050	729	705	628	199	117
16	69.0	67.9	914	542	597	1,130	1,110	793	898	366	198	110
17	69.4	69.2	886	494	620	1,160	743	860	751	300	198	110
18	69.7	68.3	945	467	607	1,050	602	959	710	275	198	108
19	66.0	66.6	940	432	659	1,040	871	1,180	635	260	196	104
20	67.2	66.2	964	452	665	1,110	749	1,120	526	256	196	113
21	64.7	64.3	1,030	426	676	828	703	1,090	553	247	197	113
22	64.7	67.2	1,030	499	626	854	544	1,010	722	311	194	112
23	63.8	70.6	1,010	527	598	1,160	498	848	632	432	192	110
24	64.9	70.7	1,010	575	617	1,100	609	1,200	536	419	191	104
25	64.1	64.0	948	476	647	1,110	708	830	461	499	179	108
26	64.8	65.9	879	473	659	1,030	750	1,170	439	369	179	114
27	65.6	67.4	801	596	687	978	838	1,050	413	325	169	121
28	65.7	65.8	745	605	590	895	993	813	382	277	170	128
29	64.2		771	654	556	851	966	722	363	258	169	131
30	64.3		800	671	564	1,020	1,490	663	348	262	168	131
31	62.3		744		711		1,310	578		256		123
Sum	1,883.3		18,067			27,758		30,138		11,158		3,645
	2,151.9		24,796.4		18,380		30,905		18,068		6,122	

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	2.33	2.13	10	91.3	31	61.2	69.4	4,268	6,066	15,100	220
Feb.	2.25	2.03	3	77.1	7	47.7	67.2	3,735	7,229	52,200	136
Mar.	5.30	2.07	7	1,390	5	33.9	800	49,183	34,409	62,500	1,790
Apr.	4.98	3.82	2	995	21	400	602	35,835	42,163	139,000	6,820
May	4.76	3.74	31	795	8	∅376	593	36,456	45,050	357,000	522
June	5.51	3.74	30	1,340	21	502	926	55,057	52,993	304,000	6,020
July	6.07	3.50	10	1,870	23	438	997	61,299	59,286	198,000	9,652
Aug.	6.09	3.68	3	1,910	3	415	972	59,778	57,101	158,000	4,870
Sept.	4.98	3.51	16	972	30	338	602	35,837	39,302	171,000	2,430
Oct.	4.45	3.36	14	∅ 825	21	∅247	360	22,132	14,208	57,900	151
Nov.	3.28	2.92	12	∅ 350	30	∅168	204	12,143	8,394	21,300	229
Dec.	3.00	2.62	1	∅ 158	† 9	∅104	118	7,230	7,986	25,600	206
Yearly	6.09	2.03		1,910		33.9	529	382,953	374,187	1,559,200	57,481

∅ Mean daily † And other days

DIVERSIONS FROM THE RIO GRANDE AMERICAN CANAL AT EL PASO, TEXAS

DESCRIPTION: Concrete control consisting of two triangular-shaped wingwalls extending toward the center of the canal about one-fourth of the canal width and downstream at a 30° angle with the canal side walls, bubbler gage, water-stage recorders (graphic and digital), and binary decimal transmitter located on the right bank of the concrete-lined canal at El Paso, Texas, latitude 31°46'40", longitude 106°31'25", and about 2,400 feet downstream from the headgates of the American Dam which are located at river mile 1,248.8. The zero of the gage is 3,712.09 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 28 discharge measurements during the year, a stable rating curve at medium and high flows, and a continuous record of gage heights. Records available: June 2, 1938 through 1974.

REMARKS: This canal diverts water from the Rio Grande at the American Dam at El Paso, Texas, 2.1 river miles upstream from the International Dam at Juarez, Chihuahua. Water from this canal discharges into the Franklin Canal from which water is frequently returned to the Rio Grande at spillways 2.2, 2.7, and 3.6 river miles downstream from the American Dam. The transmitter relays gage height data upon interrogation by telephone via commercial circuits.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 1,840 second-feet on March 27, 1944. Min. frequently no flow.

	Average Flow in Second-Feet				
Daily:	Max. 1,510	Aug. 13, 1945	Min. 0	Frequently	
Monthly:	Max. 1,210	Aug. 1943	Min. 0	Frequently since 1952	
Yearly:	Max. 748	1943	Min. 65.6	1956	

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	72.6	62.0	62.0	617	472	516	859	‡ 862	444	306	222	8.4
2	72.1	71.0	53.6	701	436	561	884	1,100	436	315	214	60.5
3	69.5	74.1	50.0	606	‡ 477	589	830	1,110	453	289	205	116
4	67.2	‡ 71.0	39.9	416	451	494	729	1,080	‡ 387	294	190	111
5	71.3	72.0	‡597	‡ 354	383	461	‡1,110	913	422	288	200	116
6	71.6	70.9	‡863	358	273	505	1,050	1,020	393	278	194	125
7	70.1	66.3	914	484	258	‡ 550	1,060	512	534	265	184	105
8	‡71.8	63.8	877	544	222	512	1,060	453	551	250	181	105
9	82.1	61.6	759	603	256	678	1,060	957	651	248	184	99.0
10	84.6	63.8	851	478	‡ 381	787	950	797	767	279	182	102
11	78.1	65.4	1,020‡	482	416	818	686	571	675	354	186	119
12	74.8	66.4	1,060	‡ 382	449	753	615	582	551	348	170	118
13	73.9	68.5	952	377	507	761	896	651	540	358	31.5	116
14	72.5	68.4	839	384	535	‡ 735	800	495	520	376	21.7	115
15	‡59.3	64.0	912	427	464	732	844	529	569	366	18.8	114
16	69.0	67.9	899	351	‡ 449	929	‡ 912	599	850	342	18.3	107
17	69.4	69.2	873	294	471	967	547	669	747	286	17.9	107
18	69.7	68.3	933	‡ 260	462	853	397	764	706	262	17.9	105
19	66.0	66.6	‡927	233	511	840	676	982	631	249	16.1	101
20	67.2	‡ 66.2	951	257	516	‡ 917	555	928	522	246	16.1	110
21	64.7	64.3	1,020	236	531	639	509	‡ 894	549	238	17.0	110
22	‡64.7	67.2	1,020	311	‡ 481	658	351	809	689	284	13.5	109
23	63.8	70.6	994	338	453	962	295	645	612	335	11.9	107
24	64.9	70.7	935	383	465	903	411	966	524	308	11.0	101
25	64.1	64.0	922	278	495	810	‡ 513	643	457	395	9.1	105
26	64.8	‡ 65.9	771	276	506	823	556	945	‡ 435	347	9.1	111
27	65.6	67.4	627	393	536	776	634	839	409	307	9.3	118
28	65.7	65.8	564	407	441	694	784	613	378	261	9.6	125
29	‡64.2		586	455	407	651	761	521	359	244	9.3	128
30	64.3		610	475	414	821	1,100	469	344	250	8.6	128
31	62.3		561		560		1,090	386		246		120
Sum	2,151.9	1,883.3	23,092.5	12,165	13,678	21,695	23,524	23,304	16,105	9,214	2,578.7	3,321.9

Month	Current Year 1974								Period 1939-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
	High	Low	Day	High	Day	Low			Average	Maximum	Minimum
Jan.	3.78	3.37	10	91.3	31	61.2	69.4	4,268	1,577	8,110	0
Feb.	3.60	3.17	† 3	77.1	17	47.7	67.2	3,735	4,546	19,500	0
Mar.	9.42	3.04	21	1,140	5	32.6	745	45,803	30,659	50,100	1,700
Apr.	8.09	4.83	2	784	21	210	406	24,129	31,339	70,900	4,560
May	7.33	4.87	31	610	8	208	441	27,130	27,038	69,000	392
June	9.30	5.62	23	1,130	†21	318	723	43,031	36,178	65,700	5,990
July	9.83	5.04	5	1,310	23	239	759	46,657	43,601	70,700	8,673
Aug.	9.46	4.98	3	1,180	8	224	752	46,223	42,755	74,600	4,840
Sept.	8.73	5.76	16	964	1	328	537	31,944	28,146	63,100	2,230
Oct.	7.05		23	565	1	0	297	18,275	11,785	39,000	0
Nov.	4.97	2.35	1	234	30	8.6	86.0	5,115	6,855	21,000	0
Dec.		2.34	29	∅ 128	1	8.4	107	6,589	6,818	25,500	0
Yearly	9.83			1,310		0	418	302,899	271,297	541,610	47,397.4

‡ Discharge measurement made on this day † And other days ∅ Mean daily

RIO GRANDE BELOW AMERICAN DAM AT EL PASO, TEXAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the retaining wall of the Smelter Pump on the left bank of the river at latitude 31°46' 35", longitude 106°31' 20", and river mile 1,248.2; 1.5 river miles upstream from the International Dam, 3.3 river miles upstream from the Santa Fe Street-Juarez Avenue Bridge between El Paso, Texas, and Cd. Juarez, Chihuahua, and 0.6 river mile downstream from the American Dam. The zero of the gage is 3,712.30 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 73 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: June 1938 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. The operation of the American Dam began June 2, 1938. At this dam, part of the flow passing the El Paso Gaging Station is diverted into the American Canal and the remainder, including excess flood flows, passes this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 11,300 second-feet on September 14, 1958 with a gage height of 14.50 feet. Min. occasionally no flow.

Average Flow in Second-Feet

Daily:	Max. 6,040	May 20, 1942	Min. 0	Occasionally
Monthly:	Max. 4,880	May 1942	Min. 0	Occasionally
Yearly:	Max. 1,510	1942	Min. 13.8	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	0	2.4	‡ 191	187	176	191	204	108	14.2	10.0	150
2	0	0	3.6	‡ 206	‡ 182	193	‡ 196	341	55.7	14.2	10.0	56.5
3	0	0	2.8	201	‡ 150	‡ 192	201	515	‡ 81.0	14.2	10.0	8.0
4	‡ 0	0	2.1	‡ 196	145	201	200	226	116	14.2	10.0	8.0
5	0	‡ 0	‡ 11.7	197	147	203	315	‡ 191	116	22.0	10.0	7.0
6	0	0	16.0	194	‡ 146	‡ 202	413	358	‡ 123	18.1	10.0	7.0
7	0	0	129	197	‡ 153	200	229	195	128	14.2	10.0	6.0
8	‡ 0	0	48.6	‡ 196	154	199	372	202	125	10.7	10.0	6.0
9	0	0	27.7	‡ 203	‡ 153	201	437	204	125	10.1	10.0	5.0
10	0	0	25.8	198	‡ 149	‡ 201	406	203	‡ 134	10.7	10.0	5.0
11	0	0	133	‡ 194	148	‡ 219	‡ 207	205	140	93.4	123	4.0
12	0	‡ 0	67.6	‡ 196	149	208	206	204	142	114	180	4.0
13	0	0	28.1	199	‡ 152	‡ 197	199	‡ 202	‡ 138	372	180	3.0
14	0	0	19.2	200	‡ 155	‡ 193	198	201	138	449	180	3.0
15	‡ 0	0	15.4	‡ 197	151	197	201	200	136	262	180	3.0
16	0	0	14.8	‡ 191	‡ 148	201	197	194	47.8	23.7	180	3.0
17	0	0	12.5	200	‡ 149	196	196	191	‡ 4.2	13.6	180	3.0
18	0	0	12.0	‡ 207	145	198	205	195	3.9	12.5	180	3.0
19	0	‡ 0	‡ 12.7	‡ 199	148	195	‡ 195	203	4.2	10.7	180	3.0
20	0	0	12.6	195	‡ 149	195	194	‡ 193	3.6	9.6	180	3.0
21	0	0	13.6	190	‡ 145	‡ 189	194	197	3.9	9.0	180	3.0
22	‡ 0	0	14.7	‡ 188	145	196	193	201	33.2	27.0	180	3.0
23	0	0	15.3	‡ 189	‡ 145	201	‡ 203	203	20.5	96.8	180	3.0
24	0	0	28.8	192	‡ 152	200	198	232	11.9	111	180	3.0
25	0	0	26.2	‡ 193	152	‡ 204	195	187	4.2	104	170	3.0
26	0	‡ 0	‡103	‡ 197	153	203	‡ 194	225	4.2	22.0	170	3.0
27	0	0	‡174	198	151	202	204	209	4.2	18.0	160	3.0
28	0	0	‡181	198	‡ 149	201	209	‡ 200	3.9	16.0	160	3.0
29	‡ 0		185	‡ 199	149	200	205	201	3.9	14.0	160	3.0
30	0		190	‡ 196	‡ 150	194	387	194	3.9	12.0	160	3.0
31	0		183		151		218	192		10.0		3.0
Sum	0	0	1,717.2	5,902	4,702	5,962	7,358	6,868	1,963.2	1,942.9	3,543.0	323.5

Month	Current Year 1974 Extreme Gage Feet High	Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1939-1974 Acre-Feet Average	Maximum	Minimum
Jan.				0		0	0	0	4,359	12,000	0
Feb.				0		0	0	0	2,411	32,800	0
Mar.	5.71	3.73	7	312	1	1.0	55.4	3,406	3,486	22,801	81.9
Apr.	5.49	5.26	3	230	2	180	197	11,706	10,158	74,500	2,230
May	5.37	5.09	13	195	28	141	152	9,326	17,285	300,000	25.2
June	5.56	5.13	29	244	1	149	199	11,825	16,098	250,000	0
July	7.06	5.22	10	766	16	175	237	14,594	15,150	155,000	967
Aug.	6.93	5.20	3	730	25	159	222	13,622	14,009	114,000	37.5
Sept.	5.63	3.68	16	269	†28	3.9	65.4	3,894	10,573	124,000	53.8
Oct.	7.93		13	1,320	21	∅ 9.0	62.7	3,854	2,059	19,000	18.0
Nov.			†13	∅ 180	† 1	∅ 10.0	118	7,027	1,306	8,700	11.9
Dec.			1	∅ 150	†13	∅ 3.0	10.4	637	958	7,760	0
Yearly	7.93			1,320		0	110	79,891	97,852	1,093,553	10,001.1

‡ Discharge measurement made on this day † And other days ∅ Mean daily

DIVERSIONS FROM THE RIO GRANDE
ACEQUIA MADRE AT JUAREZ, CHIHUAHUA

DESCRIPTION: Bridge for making discharge measurements, gravity well, and water-stage recorder located on the right bank of the canal at Juarez, Chihuahua, latitude 31°45'40", longitude 106°30'30", about 260 feet downstream from the canal intake at the International Dam at Juarez, Chihuahua, which is located at river mile 1,246.7 and 2.1 river miles downstream from the American Dam at El Paso, Texas.

RECORDS: Based on 54 discharge measurements during the year, 39 by the Mexican Section and 15 by the United States Section of the Commission, and a continuous record of gage heights. Computations by shifting control methods. Records available: 1938 through 1974. These records, showing the water actually diverted by Mexico, do not necessarily reflect the quantities of water made available to Mexico in the bed of the river by the United States under terms of the Convention of 1906. Such quantities of water are included in the record of "Rio Grande below American Dam at El Paso, Texas." See page 11 in this Water Bulletin.

REMARKS: In 1974 all of the 60,050 acre-feet tabulated below were distributed to land irrigated in the first unit under the canal.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 480 second-feet on July 21, 1944 with a gage height of 6.00 feet. Min. no flow during several months throughout the year.

Average Flow in Second-Feet

Daily:	Max.	339	May 10, 1942	Min.	0	Several months each year
Monthly:	Max.	283	May 1938	Min.	0	Several months each year
Yearly:	Max.	116	1942	Min.	9.2	1964

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	0	0	‡ 166	176	175	‡ 196	‡ 194	101	0	0	0
2	0	0	0	163	178	196	198	194	‡ 57.9	0	0	0
3	0	0	0	‡ 176	‡ 158	‡ 186	199	194	60.0	0	0	0
4	0	0	0	170	148	195	‡ 198	194	79.1	0	0	0
5	0	0	0	‡ 168	148	195	199	‡ 194	‡ 109	0	0	0
6	0	0	0	168	‡ 142	‡ 195	198	194	120	0	0	0
7	0	0	0	179	147	195	196	194	127	0	0	0
8	0	0	0	‡ 175	147	197	‡ 191	‡ 194	122	0	0	0
9	0	0	0	172	‡ 147	164	190	194	‡ 124	0	0	0
10	0	0	0	‡ 173	143	‡ 171	184	194	131	0	0	0
11	0	0	0	182	142	196	‡ 181	194	136	0	0	0
12	0	0	0	175	142	197	192	‡ 184	‡ 137	0	0	0
13	0	0	0	173	‡ 145	‡ 196	199	183	130	0	0	0
14	0	0	0	173	145	194	199	181	127	0	0	0
15	0	0	0	‡ 175	145	192	‡ 198	‡ 180	121	0	0	0
16	0	0	0	177	‡ 147	194	192	173	56.5	0	0	0
17	0	0	0	179	147	‡ 194	189	172	0	0	0	0
18	0	0	0	180	145	193	‡ 196	171	0	0	0	0
19	0	0	0	180	147	193	197	‡ 196	0	0	0	0
20	0	0	0	‡ 180	‡ 150	‡ 193	196	195	0	0	0	0
21	0	0	0	173	149	190	197	194	0	0	0	0
22	0	0	0	‡ 175	146	190	‡ 194	‡ 204	0	0	0	0
23	0	0	0	175	‡ 148	197	204	204	0	0	0	0
24	0	0	0	‡ 177	149	‡ 195	197	199	0	0	0	0
25	0	0	0	‡ 178	149	195	‡ 191	185	0	0	0	0
26	0	0	‡ 78.0	‡ 182	150	198	186	‡ 212	0	0	0	0
27	0	0	‡133	183	‡ 154	‡ 199	201	197	0	0	0	0
28	0	0	144	177	154	200	201	198	0	0	0	0
29	0		‡156	‡ 184	154	202	‡ 194	‡ 205	0	0	0	0
30	0		161	177	‡ 154	202	194	203	0	0	0	0
31	0		160		154		194	198		0		0
Sum	0	0	832.0	5,265	4,650	5,779	6,041	5,968	1,738.5	0	0	0

Month	Current Year 1974: Average Rainfall Inches** 1938-1974	1974	Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Maximum	Minimum
Jan.	0.39	0.16		0		0	0	0	0	0	0
Feb.	.35	0		0		0	0	0	0	0	0
Mar.	.27	.10	30	177	† 1	0	26.8	1,651	1,278	6,482	0
Apr.	.17	.04	27	188	2	152	175	10,442	7,640	12,383	2,020
May	.32	.08	3	180	3	137	150	9,222	9,255	17,380	0
June	.70	.11	†29	203	9	141	192	11,458	8,237	15,700	0
July	1.64	1.31	23	209	25	159	195	11,935	8,359	15,170	0
Aug.	1.35	1.70	26	219	18	158	193	11,846	8,006	12,620	0
Sept.	1.17	7.11	1	197	†16	0	58.3	3,446	4,603	12,380	0
Oct.	.74	1.52		0		0	0	0	42.2	328	0
Nov.	.33	.40		0		0	0	0	0	0	0
Dec.	.47	.79		0		0	0	0	0	0	0
Yearly	7.90	13.32		219		0	83.0	60,050	47,420.2	83,930	6,653

‡ Discharge measurement made on this day † And other days

** Average for valley floor in United States and Mexico from El Paso to Island Station

RIO GRANDE – ISLAND STATION NEAR CLINT, TEXAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank of the rectified channel of the Rio Grande at latitude 31°32'00", longitude 106°14'35", and river mile 1,221.1; 0.6 river mile downstream from the Riverside Canal Wasteway No. 2, about 4 miles south southwest of Clint, Texas, and 27.7 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 3,608.99 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 18 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: August 17, 1938 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 7,050 second-feet on September 14, 1958 with a gage height of 15.80 feet. Min. frequently no flow.

		Average Flow in Second-Feet			
Daily:	Max. 6,140	May 19, 1942	Min. 0	Frequently
Monthly:	Max. 4,880	May 1942	Min. 0	Frequently
Yearly:	Max. 1,490	1942	Min. 0.3	1956

Mean Daily Discharge in Second-Feet 1974 —— Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.5	‡ 2.4	‡ 2.1	14.5	‡ 3.7	0.2	2.6	31.9	12.4	137	110	8.1
2	‡ 2.5	2.5	2.3	15.2	3.6	.2	3.1	30.1	7.9	124	97.0	7.1
3	2.5	2.3	1.8	‡ 45.5	3.5	1.3	‡ 5.5	184	5.0	103	85.2	6.2
4	3.2	2.3	1.6	5.8	18.4	3.2	2.9	208	‡ 4.0	120	72.7	5.2
5	2.5	2.2	35.8	5.3	29.0	‡ 1.9	23.8	102	3.5	134	62.8	4.7
6	2.5	2.1	106	5.0	8.2	.9	552	186	3.5	159	40.9	4.3
7	2.5	2.1	82.8	4.8	3.4	3.0	312	87.8	3.4	144	30.1	4.0
8	2.5	2.2	83.0	4.6	3.1	2.8	314	24.0	4.0	146	28.2	3.8
9	2.5	2.1	34.4	23.8	3.1	1.2	338	6.6	3.9	159	54.9	3.6
10	2.5	2.1	24.2	19.3	3.0	.7	621	14.3	4.3	174	79.8	3.0
11	2.5	2.1	44.7	4.5	2.9	.5	115	3.2	5.5	260	71.3	2.0
12	2.5	2.0	61.8	4.1	2.8	.4	24.7	2.9	3.6	421	55.6	2.0
13	2.5	‡ 2.1	‡ 30.3	3.9	2.8	.3	92.0	2.9	3.4	434	39.6	2.0
14	2.5	2.0	20.2	3.8	2.7	.3	188	3.0	3.4	448	38.8	2.0
15	2.5	2.1	15.7	3.5	‡ 2.6	.3	205	3.3	10.0	353	38.0	2.0
16	2.5	2.1	13.5	3.3	2.4	.3	264	‡ 3.5	100	‡ 336	37.2	2.0
17	‡ 2.5	2.1	10.5	‡ 3.1	2.6	18.4	170	3.0	105	286	37.2	2.0
18	2.5	2.2	10.5	3.1	2.5	9.9	41.8	2.8	‡ 103	263	36.4	1.0
19	2.5	2.3	10.6	3.2	2.6	‡ 2.0	49.3	4.5	179	248	35.3	1.0
20	2.5	3.0	10.8	3.2	2.7	1.1	78.0	60.5	114	234	34.5	1.0
21	2.5	2.6	10.9	3.3	2.6	2.0	33.4	78.1	91.6	224	33.0	1.0
22	2.5	2.4	37.1	3.2	2.6	1.4	23.2	69.5	932	220	28.6	1.0
23	2.5	2.3	20.0	3.2	2.7	.8	17.3	55.7	‡1,060	484	27.9	1.0
24	2.5	2.2	16.3	3.4	2.8	3.6	10.9	128	511	238	23.9	1.0
25	2.5	2.3	33.9	3.3	2.8	2.3	7.1	125	288	387	21.4	1.0
26	2.5	2.3	28.6	3.4	2.7	1.0	5.1	123	239	237	20.0	1.0
27	2.5	2.3	20.8	3.5	2.6	.5	4.0	248	197	195	19.2	1.0
28	2.5	2.0	16.2	3.6	2.9	.3	3.5	101	173	168	15.5	1.0
29	2.5		12.7	3.6	2.8	.2	4.3	48.6	157	145	11.8	1.0
30	2.5		13.2	3.7	2.7	.3	104	26.0	146	131	9.5	1.0
31	2.5		13.3		2.6		156	20.4		124		1.0
Sum	78.2	62.7	825.6	213.7	135.4	61.3	3,771.5	1,987.6	4,473.4	7,236	1,296.3	78.0

Month	Current Year 1974								Period 1939-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	9.39	9.04	4	9.5	† 1	2.5	2.5	155	4,285	11,900	0
Feb.	9.26	8.58	20	4.2	28	1.9	2.2	124	2,801	37,000	0
Mar.	11.80	8.32	6	188	5	1.2	26.6	1,638	2,117	21,000	0
Apr.	10.46	8.08	3	77.2	†17	3.1	7.1	424	3,340	70,500	0
May	9.84	7.77	4	32.4	16	2.4	4.4	269	9,531	299,800	0
June	9.40	7.72	17	30.1	† 1	.2	2.0	122	8,307	241,000	0
July	14.34	7.87	10	833	1	.4	122	7,481	8,446	118,500	0
Aug.	13.02	8.62	6	416	18	2.8	64.1	3,942	7,549	99,400	0
Sept.	13.93	9.03	23	2,100	15	3.3	149	8,872	8,077	119,200	0
Oct.	13.66	10.12	12	1,850	3	40.6	233	14,352	4,036	42,800	0
Nov.	10.82	9.38	1	116	30	9.0	43.2	2,571	1,151	7,270	0
Dec.	9.36		1	8.1	†18	∅ 1.0	2.5	155	2,017	12,900	0
Yearly	14.34			2,100		0.2	55.4	40,105	61,657	1,079,340	238.1

‡ Discharge measurement made on this day † And other days ∅ Mean daily

RIO GRANDE - COUNTY LINE STATION NEAR ACALA, TEXAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank of the rectified channel of the Rio Grande at latitude 31°22'50", longitude 105°59'10", and river mile 1,200.9; 0.8 river mile downstream from the El Paso-Hudspeth County Line, 5.5 miles northwest of Acala, Texas, about 8 miles southeast of Tornillo, Texas, and 47.9 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 3,547.59 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 18 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1938 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 6,340 second-feet on May 19, 1942 with a gage height of 8.66 feet. Min. frequently no flow.

		Average Flow in Second-Feet		
Daily:	Max. 6,180	May 18, 1942	Min. 0	Frequently
Monthly:	Max. 4,920	May 1942	Min. 0	Frequently
Yearly:	Max. 1,720	1942	Min. 0	1956 & 1964

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	‡ 0	‡ 0	0	‡ 0	0	0	‡ 31.4	0	233	126	13.3
2	‡ 0	0	0	0	0	0	0	5.0	0	196	100	13.0
3	0	0	0	‡ 56.0	0	0	‡ 0	72.5	0	181	72.8	13.0
4	0	0	0	44.3	0	0	0	282	‡ 0	126	52.4	12.5
5	0	0	0	.4	0	‡ 0	0	192	0	129	39.0	12.5
6	0	0	94.4	0	43.7	0	172	189	0	156	28.4	12.0
7	0	0	27.1	0	51.4	0	265	180	0	115	20.0	12.0
8	0	0	64.6	0	2.3	0	182	11.8	0	110	16.8	12.0
9	0	0	6.8	0	0	0	306	5.0	0	107	16.0	11.5
10	0	0	0	41.0	0	0	466	9.9	0	105	16.0	11.5
11	0	0	0	.5	0	0	179	14.2	0	191	16.0	‡ 11.5
12	0	0	28.2	0	0	0	41.4	4.0	0	275	15.7	11.5
13	0	‡ 0	‡11.9	0	0	0	13.3	2.0	0	610	15.7	11.5
14	0	0	2.4	0	0	0	178	‡ 0	0	668	15.4	11.5
15	0	0	0	0	‡ 0	0	232	0	0	315	15.4	11.5
16	0	0	0	0	0	0	265	0	110	242	15.1	11.5
17	‡ 0	0	0	‡ 0	0	0	264	0	315	229	15.1	11.5
18	0	0	0	0	0	0	81.8	0	362	211	15.1	10.0
19	0	0	0	0	0	‡ 0	18.0	0	633	211	14.8	10.0
20	0	0	0	0	0	0	117	17.8	699	211	14.8	9.0
21	0	0	0	0	0	0	91 2	85.9	483	203	14.8	9.0
22	0	0	4.6	0	0	0	60.8	70.4	1,130	196	14.8	8.0
23	0	0	8.9	0	0	0	17.3	78.9	2,680	* 727	14.5	8.0
24	0	0	0	0	0	0	9.1	116	‡ 1,540	308	14.2	7.0
25	0	0	1.3	0	0	0	8.1	264	1,020	* 612	13.9	7.0
26	0	0	9.3	0	0	0	7.8	200	757	393	13.9	6.0
27	0	0	4.2	0	0	0	7.1	337	615	284	13.9	6.0
28	0	0	0	0	0	0	5.7	212	468	211	13.6	5.0
29	0		0	0	0	0	4.6	102	315	173	13.6	5.0
30	0		0	0	0	0	12.3	70.4	255	134	13.3	5.0
31	0		0		0		176	71.3		140		4.0
Sum	0	0	263.7	142.2	97.4	0	3,180.5	2,624.5	11,382	8,002	781.0	302.8

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.				0		0	0	0	5,565	20,000	0
Feb.				0		0	0	0	4,667	47,900	0
Mar.	3.50		6	211	† 1	0	8.5	523	4,101	38,900	0
Apr.	2.59		3	119	† 1	0	4.7	280	6,215	84,200	0
May	2.21		5	85.8	† 1	0	3.1	193	11,836	303,000	0
June				0		0	0	0	10,622	239,000	0
July	5.31		10	574	† 1	0	103	6,308	11,229	140,000	0
Aug.	4.79		27	450	†14	0	84.7	5,206	10,358	123,000	0
Sept.	7.48		23	3,480	† 1	0	379	22,576	12,985	140,000	0
Oct.	5.38	2.56	13	1,660	11	103	258	15,872	8,122	61,400	0
Nov.		1.81	1	∅ 126	30	13.3	26.0	1,549	5,039	20,400	0
Dec.	1.81		1	13.3	31	∅ 4.0	9.8	601	5,618	29,700	0
Yearly	7.48			3,480		0	73.4	53,108	96,357	1,247,500	0

‡ Discharge measurements made on this day * Partly estimated ∅ Mean daily
† And other days

RIO GRANDE AT FORT QUITMAN, TEXAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank of the rectified channel of the Rio Grande at latitude 31°05'05", longitude 105°36'25", and river mile 1,167.1; 1.5 river miles downstream from Old Fort Quitman, 9 miles southeast of Esperanza, Texas, 17.5 miles southeast of McNary, Texas, and 81.7 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 3,450.57 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 17 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1889 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station.

EXTREME FLOWS FROM RECORDS**: Momentary: Max. 10,600 second-feet October 5, 1946 with a gage height of 10.00 feet. Min. frequently no flow.

Average Flow in Second-Feet**

Daily:	Max. 5,890	May 19, 1942	Min. 0		Frequently
Monthly:	Max. 5,030	May 1942	Min. 0		Several months since 1951
Yearly:	Max. 1,750	1942	Min. 2.3		1965

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	55.7	‡ 17.1	‡ 16.3	15.7	‡ 9.1	10.6	2.5	‡ 62.2	148	679	364	319
2	‡ 52.0	16.0	15.7	14.2	11.2	12.5	3.5	23.7	120	623	361	358
3	44.8	15.4	15.0	‡ 33.6	12.9	9.6	‡ 3.1	19.8	92.0	582	355	361
4	41.4	14.0	15.1	71.5	16.4	7.8	1.4	312	‡ 77.7	527	349	367
5	42.6	14.8	15.1	77.6	17.8	‡ 4.3	1.7	392	67.7	554	326	352
6	36.5	13.4	15.2	56.0	17.9	4.3	2.7	280	49.1	570	277	326
7	31.5	7.6	15.2	42.3	26.9	4.0	219	415	34.1	500	218	305
8	34.9	8.4	" 70.6	24.9	30.3	4.9	162	118	27.3	427	235	352
9	27.4	8.4	37.1	18.5	17.3	4.9	184	57.7	23.8	448	364	355
10	22.8	9.4	" 48.9	32.2	16.6	3.3	333	76.3	20.7	424	461	349
11	24.3	9.4	35.5	23.2	16.0	2.7	550	56.0	19.5	468	386	376
12	28.2	8.6	32.0	36.9	13.9	2.7	154	51.6	17.5	590	312	367
13	36.9	‡ 14.4	‡ 39.1	19.5	33.9	3.0	95.3	47.2	16.8	882	326	360
14	37.8	10.9	85.0	36.4	11.7	2.6	83.0	‡ 36.0	15.4	944	291	246
15	25.8	12.4	54.7	38.8	‡ 7.5	4.3	320	22.5	14.8	715	333	256
16	18.3	11.0	49.5	71.6	10.9	6.2	360	19.8	16.6	578	312	256
17	‡ 16.7	11.0	39.4	‡ 89.8	13.9	4.0	469	19.8	32.9	504	291	267
18	15.3	11.1	39.0	61.7	17.4	3.1	247	18.0	512	424	291	274
19	16.0	8.8	39.5	34.8	14.5	‡ 3.2	125	15.3	421	411	319	254
20	15.5	10.4	31.0	32.9	14.5	2.4	118	13.3	490	392	305	225
21	17.7	8.9	23.2	23.4	13.0	2.8	193	12.4	461	395	298	236
22	16.0	8.9	17.4	18.4	12.3	2.9	187	16.1	991	386	270	248
23	18.6	10.5	13.1	11.4	11.0	2.3	170	54.0	‡3,090	630	305	218
24	20.2	11.2	27.8	11.8	11.0	2.5	233	92.3	3,860	1,020	291	223
25	22.6	12.7	53.5	8.1	11.3	2.1	167	373	2,680	643	361	277
26	27.8	14.1	51.8	9.0	11.7	1.9	117	527	1,770	615	364	312
27	20.2	14.8	45.2	12.4	11.7	1.8	119	760	1,350	490	355	304
28	19.0	15.6	35.1	16.3	11.1	1.6	116	1,300	966	424	361	347
29	17.3		19.0	11.9	11.1	1.4	135	363	839	376	355	340
30	17.0		11.0	10.2	10.3	1.3	47.3	260	747	355	343	296
31	16.3		32.0		9.3		30.6	186		373		281
Sum	837.1	329.2	1,038.0	965.0	454.4	121.5	4,949.1	6,000.0	18,970.9	16,949	9,779	9,407

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Maximum	Minimum
Jan.	5.25	4.58	1	55.7	18	13.3	27.0	1,660	6,105	20,900	0
Feb.	4.72	4.55	13	18.7	7	7.2	11.8	653	5,248	50,100	0
Mar.	5.44	4.59	8	131	23	6.4	33.5	2,059	4,150	38,900	0
Apr.	5.45	4.50	4	126	29	6.9	32.2	1,914	5,203	77,000	0
May	4.97	4.35	12	51.4	15	4.9	14.7	901	12,183	309,000	0
June	4.64	4.01	2	14.6	30	1.2	4.0	241	11,104	240,000	0
July	7.18	4.01	7	1,460	1	1.1	160	9,816	12,642	140,000	3.8
Aug.	7.63	4.76	27	1,760	22	10.6	194	11,901	12,033	127,000	16.7
Sept.	11.55	4.89	23	4,390	15	14.8	632	37,628	16,163	147,000	0
Oct.	9.67	6.04	24	2,630	†30	352	547	33,618	12,190	66,500	0
Nov.	6.50	5.63	10	504	†12	139	326	19,396	7,462	24,500	0
Dec.	6.53	5.72	12	515	19	171	303	18,659	7,611	31,000	0
Yearly	11.55	4.01		4,390		1.1	191	138,446	112,099	1,270,400	1,662.3

** Period 1924-1974 ‡ Discharge measurement made on this day " Estimated
† And other days

RIO GRANDE ABOVE RIO CONCHOS NEAR PRESIDIO, TEXAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank at latitude 29°37' 15", longitude 104°28' 50", and river mile 982.5; 6.5 miles northwest of the international highway bridge between Presidio, Texas and Ojinaga, Chihuahua, 7.8 river miles upstream from the Rio Conchos, and 286.3 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 2,576.66 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 73 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1889 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 14,000 second-feet on June 14, 1905. Highest flow recorded since 1924 was 5,160 second-feet, with a gage height of 10.57 feet, on May 26, 1942. Min. frequently no flow.

Average Flow in Second-Feet**

Daily:	Max. 13,700	June 13 & 14, 1905	Min. 0	Frequently
Monthly:	Max. 10,150	June 1905	Min. 0	Frequently
Yearly:	Max. 1,970	1907	Min. 1.3	1964

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.3	‡ 0.3	‡ 0	‡ 0	‡ 0	0	‡ 0	‡ 0	33.2	651	423	196
2	‡ 6.0	0	0	0	0	0	0	0	33.3	664	459	‡ 192
3	6.7	0	0	0	0	‡ 0	0	0	‡ 34.5	704	491	193
4	7.5	‡ 0	‡ 0	0	0	0	0	0	31.0	764	‡ 534	193
5	5.0	0	0	0	0	0	‡ 0	‡ 0	28.9	813	552	195
6	4.3	0	0	0	‡ 1.7	0	0	28.9	33.8	858	555	193
7	‡ 6.0	0	0	0	0	0	0	5.5	30.7	‡ 923	543	194
8	5.1	0	0	‡ 0	0	0	‡ 0	0	31.5	1,010	495	190
9	4.6	0	0	0	0	0	0	0	‡ 23.8	1,090	436	‡ 187
10	9.2	0	0	0	0	0	‡ 0	0	9.7	1,110	417	180
11	9.2	‡ 0	‡ 0	0	0	‡ 0	0	0	7.8	1,040	‡ 416	178
12	10.2	0	5.3	0	0	0	0	‡ 0	3.6	921	400	176
13	15.9	0	‡ 14.2	0	‡ 0	0	0	0	2.3	858	386	172
14	‡ 12.3	0	‡ 38.9	0	0	0	0	0	1.9	761	432	170
15	11.4	0	‡ 3.4	‡ 0	0	0	‡ 0	‡ 0	.6	‡ 655	‡ 385	165
16	9.8	0	.5	0	‡ 0	0	0	0	‡ 74.0	524	320	‡ 159
17	9.4	0	.3	0	0	‡ 0	0	0	151	631	294	158
18	8.8	0	‡ .1	0	0	0	0	0	‡ 104	712	‡ 291	158
19	9.5	‡ 0	0	0	0	0	0	‡ 0	22.3	720	301	160
20	7.9	0	0	0	‡ 0	0	0	0	160	633	308	162
21	‡ 2.9	0	53.1	0	0	0	0	0	929	‡ 568	290	166
22	1.9	0	.3	‡ 0	0	0	‡ 0	‡ 0	1,640	602	268	171
23	1.8	0	0	0	0	0	0	‡ 0	1,080	709	253	‡ 173
24	5.7	0	0	0	‡ 0	‡ 0	0	50.2	‡1,090	796	250	163
25	6.9	‡ 0	0	0	0	0	0	116	1,170	807	‡ 244	152
26	5.4	0	0	0	0	0	0	‡ 93.5	1,050	818	233	155
27	3.3	0	0	‡ 0	0	0	0	‡ 42.3	891	793	223	160
28	‡ 2.3	0	0	0	‡ 0	0	0	28.3	758	675	219	159
29	2.4		‡ 0	‡ 0	0	0	‡ 0	31.9	693	563	212	158
30	2.2		0	0	0	0	0	‡ 32.0	‡ 659	474	203	‡ 159
31	1.8		0		‡ 0		0	32.1		‡ 430		157
Sum	193.5	0.3	117.6	0	1.7	0	0	460.7	10,777.9	23,377	10,833	5,344

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	11.18	10.71	13	16.7	22	1.1	6.4	394	5,479	24,400	0
Feb.	10.72		1	.9	† 2	0	0	.6	4,524	40,800	0
Mar.	12.00		13	152	† 1	0	3.8	233	3,348	39,100	0
Apr.				0		0	0	0	2,480	41,600	0
May	11.27		6	37.3	† 1	0	.1	3.4	8,823	240,000	0
June				0		0	0	0	9,427	216,000	0
July				0		0	0	0	12,389	156,000	0
Aug.	12.68		6	314	† 1	0	14.9	914	12,120	133,000	0
Sept.	15.26	10.17	22	2,340	13	0	359	21,378	16,896	151,000	0
Oct.	13.97	12.34	10	1,120	31	417	754	46,363	14,543	105,000	0
Nov.	13.16	12.21	6	565	30	200	361	21,487	5,393	34,600	0
Dec.	12.21	11.93	1	199	25	152	172	10,600	5,868	30,900	0
Yearly	15.26			2,340		0	140	101,378.0	101,790	1,176,700	951.3

** Period June 1900-March 1914; September 1919-March 1920; and 1924-1974

‡ Discharge measurement made on this day † And other days

RIO CONCHOS NEAR OJINAGA, CHIHUAHUA

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the right bank at latitude 29°34'00", longitude 104°27'10", 1.5 river miles from the confluence with the Rio Grande, 1.9 miles west of Ojinaga, Chihuahua, and 3.7 miles west of Presidio, Texas. This stream enters the Rio Grande at river mile 954.7, 13.8 river miles upstream from the "Rio Grande below Rio Conchos" Gaging Station, and 294.1 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 2,568.04 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 158 discharge measurements during the year, 157 by the Mexican Section and 1 by the United States Section of the Commission, a continuous record of gage heights, and a rating curve which, above 15,000 second-feet, was defined previously by related gage heights and records of discharge at the "Rio Grande below Rio Conchos" Gaging Station. Computations by shifting control methods. Records available: 1896 through 1974. Records of stage and measured discharge at this station began April 4, 1954. Prior to this date, flow records were determined from records of the Rio Grande at stations located upstream and downstream from the Rio Conchos confluence.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. La Boquilla Reservoir, La Colina Reservoir, La Rosetilla Reservoir, and Luis L. Leon Reservoir are located 250, 242, 186, and 112 river miles, respectively, upstream from this station. Francisco I. Madero Reservoir is located on the Rio San Pedro, a tributary which enters the Rio Conchos 174 river miles upstream from this station. Power generation facilities: La Boquilla 14,647 kw., La Colina 3,620 kw., La Rosetilla 5,150 kw, Francisco I. Madero and Luis L. Leon, none.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 162,000 second-feet on September 11, 1904.

Average Flow in Second-Feet**

Daily:	Max. 148,900	Sept. 11, 1904	Min. 0	Several days 1953 & 1955
Monthly:	Max. 24,540	Sept. 1904	Min. 4.7	April 1955
Yearly:	Max. 3,710	1906	Min. 155	1953

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	406	‡ 357	‡ 335	‡ 179	1,130	3,850	‡ 217	275	516	10,100	‡ 978	540
2	‡ 410	360	339	175	1,120	3,850	216	‡ 276	‡ 463	8,550	957	‡ 540
3	417	367	343	‡ 170	‡ 1,110	‡ 3,710	‡ 222	280	309	‡ 8,230	972	547
4	‡ 417	‡ 360	‡ 344	170	1,090	3,600	491	321	‡ 314	‡ 7,950	‡ 946	‡ 533
5	413	357	344	‡ 171	1,090	‡ 3,570	‡ 505	‡ 367	317	7,800	1,050	530
6	424	‡ 353	‡ 344	183	‡ 1,250	3,340	505	459	‡ 410	6,500	‡1,370	‡ 526
7	‡ 434	352	340	236	‡ 1,900	‡ 3,170	512	‡ 569	487	‡ 5,830	1,740	526
8	417	‡ 350	‡ 339	‡ 320	‡ 1,290	2,920	‡ 1,610	629	494	5,540	‡1,770	523
9	‡ 410	352	339	316	1,230	2,720	1,410	‡ 583	‡ 491	‡ 5,080	1,800	‡ 516
10	399	353	340	‡ 302	‡ 1,190	‡ 2,560	‡ 1,230	‡ 385	473	5,010	1,800	516
11	‡ 392	‡ 351	‡ 338	291	1,230	2,330	1,080	392	‡ 392	‡ 5,120	‡1,770	‡ 516
12	388	350	337	‡ 301	1,290	‡ 1,900	‡ 953	‡ 509	466	4,060	1,770	516
13	385	‡ 341	‡ 470	378	‡ 1,350	1,110	802	597	‡ 1,770	3,430	‡1,760	‡ 512
14	‡ 364	341	1,180	466	1,380	‡ 1,070	749	‡ 547	964	‡ 2,700	1,760	512
15	374	‡ 341	‡1,140	‡ 501	‡ 1,380	936	‡ 593	459	876	2,310	‡1,730	512
16	‡ 378	344	943	837	1,390	773	558	‡ 329	‡ 3,310	‡ 2,100	1,740	‡ 512
17	374	347	706	‡ 1,290	‡ 2,130	‡ 604	‡ 558	304	‡ 6,250	1,990	1,240	509
18	‡ 378	‡ 350	‡ 530	1,170	2,500	290	576	307	‡ 2,800	‡ 1,910	‡ 826	‡ 505
19	371	347	445	‡ 1,170	2,860	‡ 165	‡ 643	‡ 305	‡ 2,100	1,830	724	505
20	371	‡ 345	‡ 396	1,120	‡ 3,230	459	696	298	‡ 7,350	1,770	‡ 678	‡ 505
21	‡ 364	338	374	‡ 1,110	3,390	‡ 505	607	‡ 410	18,800	‡ 1,730	653	505
22	367	‡ 336	‡ 337	‡ 1,090	‡ 3,570	441	‡ 600	622	24,500	1,710	‡ 558	501
23	‡ 364	338	297	1,070	3,780	385	590	‡ 434	‡ 7,350	‡ 1,690	286	‡ 498
24	364	337	286	‡ 265	‡ 3,810	‡ 347	‡ 579	833	6,070	2,130	183	494
25	‡ 364	‡ 338	‡ 291	646	3,040	313	445	2,550	‡ 3,670	‡ 2,050	‡ 406	494
26	357	337	304	‡ 2,480	2,150	‡ 294	‡ 324	‡ 802	2,090	1,730	540	‡ 491
27	357	‡ 331	‡ 300	1,770	‡ 1,840	281	292	766	‡ 3,570	1,390	‡ 537	‡ 487
28	‡ 357	325	297	1,390	1,660	‡ 267	257	‡ 763	15,800	‡ 1,130	593	487
29	357		‡ 294	‡ 1,230	‡ 1,620	255	‡ 248	639	22,300	1,050	‡ 576	487
30	‡ 364		265	1,150	2,630	250	250	‡ 597	20,300	‡ 992	586	‡ 484
31	353		187		‡ 3,780		255	537		971		484
Sum	11,890	9,698	13,124	21,947	62,410	46,265	18,573	17,144	155,002	114,383	32,299	15,813

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1968-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	6.73	6.56	† 7	441	31	343	385	23,577	49,317	131,293	19,879
Feb.	6.59	6.46	† 3	367	28	311	346	19,238	34,596	124,386	3,336
Mar.	9.51	6.07	13	1,970	31	177	424	26,038	37,523	130,298	4,171
Apr.	12.40	5.71	26	4,980	24	88.3	731	43,521	29,640	76,357	6,922
May	11.45	8.00	24	3,880	† 4	1,080	2,010	123,749	37,081	123,749	10,932
June	11.55	5.77	2	4,100	19	108	1,540	91,767	42,625	91,767	6,008
July	8.27	6.10	8	2,230	1	205	600	36,831	64,266	115,253	23,833
Aug.	13.02	6.20	25	5,970	1	268	554	34,008	95,128	243,660	31,728
Sept.	18.60	6.36	22	27,600	† 3	305	5,160	307,460	206,262	468,680	46,959
Oct.	17.45	8.56	1	11,900	31	961	3,670	226,877	109,843	226,877	24,954
Nov.	9.48	5.77	† 9	1,800	†23	177	1,080	64,078	51,966	125,311	7,484
Dec.	7.28	6.96	1	600	†30	484	509	31,366	34,014	51,114	18,408
Yearly	18.60	5.71		27,600		88.3	1,420	1,028,510	792,261	1,082,065	463,767

** Period June 1900 - March 1914; September 1914 - March 1920; and 1924-1974

‡ Discharge measurement made on this day † And other days

ALAMITO CREEK NEAR PRESIDIO, TEXAS

DESCRIPTION: Gravity well and water-stage recorder located on the left bank 300 feet upstream from the highway bridge on Farm-to-Market Road 170 at latitude 29°31'15", longitude 104°17'40", about 2,000 feet from the confluence with the Rio Grande, and about 6 miles southeast of Presidio, Texas. This stream enters the Rio Grande near the lower end of the Presidio Valley at river mile 941.3, 9.7 river miles downstream from the international highway bridge between Presidio, Texas and Ojinaga, Chihuahua, and 307.5 river miles downstream from the American Dam at El Paso, Texas. Measurements of high flows are made from the highway bridge. The zero of the gage is 2,541.61 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 77 discharge measurements during the year at low and medium flows, a high flow rating curve determined by slope-area calculations, and a continuous record of gage heights. Computations by shifting control methods. Records available: 1932 through 1974.

REMARKS: A small irrigation reservoir (San Esteban) 10.5 miles south of Marfa, Texas and irrigation diversions below the reservoir modify the flow of this spring-fed creek. Backwater from the Rio Grande begins to affect the station record when the flow at the station on the Rio Grande below Rio Conchos reaches about 35,000 second-feet.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 56,400 second-feet, determined by slope-area calculations, on September 2, 1962, with a gage height of 13.54 feet. Min. Ø0.1 second-foot on July 25, 1953 and several days in August 1958.

	Average Flow in Second-Feet						
Daily:	Max. 12,400	Sept. 21, 1974	Min. 0.1	July 25, 1953 & several days in August 1958
Monthly:	Max. 998	Sept. 1974	Min. 0.4	June 1974
Yearly:	Max. 97.1	1974	Min. 4.3	1951

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.4	‡ 1.3	‡ 1.2	‡ 1.1	‡ 0.7	0.6	‡ 0.3	‡ 0.4	1.8	6.9	1.6	2.2
2	‡ 1.4	1.3	1.1	1.1	.7	.6	.3	.4	1.5	5.5	1.5	‡ 2.2
3	1.4	1.3	.9	1.0	.7	‡ .6	.3	.5	‡ 1.2	4.6	1.5	2.2
4	1.4	‡ 1.3	‡ .8	1.0	.7	.6	48.4	.6	1.2	4.0	‡ 1.5	2.2
5	1.4	1.3	.8	.9	.7	.6	‡ .4	‡ .6	1.2	3.7	1.5	2.2
6	1.4	1.3	.8	.9	‡ .7	.6	.4	.6	1.2	3.2	2.0	2.2
7	1.4	1.3	.8	.8	.7	.5	24.9	.6	1.1	‡ 2.5	1.6	2.2
8	‡ 1.4	1.2	.8	‡ .8	.7	.5	‡ 18.7	.6	1.1	2.0	1.8	2.2
9	1.4	1.2	.8	.8	.7	.5	116	45.7	‡ 1.1	2.0	3.5	‡ 2.2
10	1.4	1.2	.8	.8	1.3	‡ .5	.6	88.4	1.1	2.0	23.0	2.2
11	1.4	‡ 1.2	‡ .8	.8	.7	.5	‡ .6	151	1.1	2.0	‡ 10.7	2.3
12	1.3	1.2	4.4	.9	.7	.4	.6	‡ 20.0	1.1	2.0	5.7	2.3
13	1.3	1.2	‡482	.9	‡ .7	.4	.6	‡ 1.5	1.1	2.0	3.5	2.3
14	‡ 1.3	1.2	2.1	.9	.7	.4	.6	8.2	1.1	137	1.5	2.3
15	1.3	1.2	‡ 1.1	‡ .9	.7	.4	‡ .6	‡ .7	17.3	‡ 30.0	‡ 2.4	2.4
16	1.3	1.2	1.0	.9	.7	.3	.6	70.0	‡ 753	8.0	2.4	‡ 2.4
17	1.3	1.2	.8	.9	.6	‡ .3	.6	2.2	‡1,090	3.7	2.4	2.3
18	1.2	1.2	‡ .7	.9	.6	.3	41.1	.8	‡ 225	2.6	‡ 2.4	2.2
19	1.2	‡ 1.2	.7	1.0	.6	.3	.6	‡ .8	140	2.1	2.4	2.1
20	1.2	1.2	1.1	1.0	‡ .6	.3	52.9	.8	‡8,410	2.0	2.3	2.0
21	‡ 1.2	1.2	1.0	1.0	.6	.3	1.1	228	12,400‡	‡ 2.0	2.3	1.9
22	1.2	1.2	1.0	‡ 1.0	.6	.3	‡ 1.1	‡2,650	1,330	2.0	2.3	1.8
23	1.3	1.2	.9	1.0	.6	.3	1.0	‡ 29.4	1,920	1.6	2.3	‡ 1.7
24	1.3	1.2	.7	1.0	‡ .6	‡ .3	.9	22.8	‡3,130	110	2.2	1.8
25	1.3	‡ 1.2	.8	2.7	.6	.3	.8	19.0	291	3.7	‡ 2.2	1.8
26	1.3	1.2	‡ .8	500	.6	.3	.7	‡ 5.4	‡ 101	1.8	2.2	1.9
27	1.4	1.2	.8	‡ 45.0	.5	.3	.6	‡ 1.5	67.1	1.6	2.2	2.0
28	‡ 1.4	1.2	.8	2.8	‡ .5	.3	.5	56.8	17.7	1.7	2.2	2.1
29	1.4		‡ .8	‡ 1.0	.5	.3	‡ .4	46.9	14.3	‡ 1.6	2.2	2.1
30	1.4		.9	.8	.6	.3	.4	‡ 2.4	‡ 14.3	1.6	2.2	‡ 2.2
31	1.3		1.0		‡ .6		.4	2.1		1.6		2.1
Sum	41.3	34.3	513.0	574.6	20.5	12.2	317.0	3,458.7	29,937.6	357.0	97.5	66.0

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1932-1974: Acre-Feet Average	Maximum	Minimum
Jan.	7.15	7.02	† 1	Ø 1.4	†18	Ø 1.2	1.3	81.9	144	273	46.4
Feb.			† 1	Ø 1.3	† 8	Ø 1.2	1.2	68.0	201	3,120	41.5
Mar.	7.82		13	4,800	†18	.7	16.5	1,018	168	1,018	46.4
Apr.	7.76		26	4,570	† 7	Ø .8	19.2	1,140	225	1,140	56.1
May	7.17		10	24.3	†27	Ø .5	.7	40.7	1,011	8,520	34.7
June			† 1	Ø .6	†16	Ø .3	.4	24.2	2,003	12,653	24.2
July	7.59		9	674	† 1	Ø .3	10.2	629	3,421	18,500	46.8
Aug.	10.21		21	19,400	† 1	Ø .4	112	6,860	3,493	16,330	56.9
Sept.	10.70		21	22,600	† 7	Ø 1.1	998	59,380	5,124	59,380	128
Oct.	9.44		24	641	†23	Ø 1.6	11.5	708	1,945	19,200	36.9
Nov.	9.00		10	144	† 2	Ø 1.5	3.2	193	217	2,554	35.7
Dec.			†15	Ø 2.4	23	Ø 1.7	2.1	131	151	408	39.3
Yearly	10.70			22,600		Ø 0.3	97.1	70,273.8	18,103	70,273.8	3,109.2

‡ Discharge measurement made on this day Ø Mean daily † And other days

RIO GRANDE BELOW RIO CONCHOS NEAR PRESIDIO, TEXAS

DESCRIPTION: Cableway, bubbler gage, concrete control weir, water-stage recorders (graphic and digital), and binary decimal transmitter located on the left bank at latitude 29°31'05", longitude 104°17'35", and river mile 940.9; 0.4 river mile downstream from Alamito Creek, 10.1 river miles downstream from the international highway bridge between Presidio, Texas and Ojinaga, Chihuahua and 307.9 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 2,536.00 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 76 discharge measurements during the year and a continuous record of gage heights. Computations for high flows by shifting control methods. Low and medium flow computations based on a stable control weir rating curve defined by meter measurements. Records available: 1955 through 1974. Records are also available from 1896 through June 13, 1932 for a station located about 12.1 river miles downstream from the Rio Conchos and 1.3 miles upstream from Alamito Creek; and from June 14, 1932 through 1954 for a station about 2.0 river miles downstream from the Rio Conchos and 11.4 river miles upstream from Alamito Creek.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. The elevation of the zero of the gage prior to placing the weir, May 1, 1968, was 2,527.99 feet above mean sea level, U. S. C. & G. S. datum. The transmitter, operated in cooperation with the National Weather Service, relays gage height data upon interrogation by telephone via commercial circuits.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 54,300 second-feet on October 1, 1958 with a gage height of 20.37 feet. Min. 0.2 second-foot several days in July 1955, and on June 30, 1958.

		Average Flow in Second-Feet		
Daily:	Max. 52,200	Oct. 1, 1958	Min. 0.2	Several days July 1955; and June 30, 1958
Monthly:	Max. 17,100	Oct. 1958	Min. 3.6	May 1955
Yearly:	Max. 2,590	1958	Min. 283	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	424	‡ 352	‡ 317	‡ 170	‡ 1,050	3,830	‡ 223	‡ 242	558	20,200	1,690	781
2	‡ 427	351	316	172	1,050	3,820	198	242	532	13,100	1,600	‡ 775
3	422	375	329	160	1,040	‡ 3,670	204	256	‡ 379	11,100	1,570	805
4	427	‡ 384	‡ 318	153	1,010	3,430	732	278	363	10,400	‡1,540	786
5	424	371	313	149	1,030	3,400	‡ 523	‡ 380	352	9,950	1,550	785
6	421	366	310	152	‡ 1,030	3,190	475	428	371	9,210	1,800	768
7	425	366	298	192	2,000	2,960	517	634	596	‡ 7,510	2,350	757
8	‡ 403	366	299	‡ 294	1,310	2,760	‡ 2,160	608	522	7,170	2,450	741
9	402	368	303	297	1,200	2,560	1,720	603	‡ 526	6,670	2,510	‡ 728
10	398	375	321	271	1,160	‡ 2,400	1,550	434	522	6,620	2,500	716
11	393	‡ 372	‡ 326	282	1,150	2,230	‡ 1,110	604	461	6,770	‡2,380	707
12	399	360	315	318	1,270	1,980	1,160	525	440	6,120	2,350	707
13	404	352	385	351	‡ 1,340	1,070	844	‡ 629	1,750	4,890	2,350	714
14	‡ 412	335	1,490	390	1,370	992	751	598	1,060	4,100	2,330	711
15	364	327	‡1,200	‡ 484	1,330	869	‡ 685	‡ 527	985	‡ 3,470	2,310	695
16	383	331	968	693	‡ 1,340	759	569	310	‡ 4,050	3,080	2,280	‡ 692
17	384	345	745	1,500	2,050	‡ 641	540	281	‡ 7,660	2,830	1,890	696
18	382	348	‡ 549	1,290	2,610	527	541	286	‡ 3,610	2,600	‡1,310	699
19	376	‡ 339	446	1,220	2,990	208	544	‡ 306	2,170	2,700	1,140	699
20	386	333	404	1,150	‡ 3,390	342	694	288	9,830	2,700	1,080	696
21	‡ 383	338	391	1,070	3,620	482	571	390	13,500	‡ 2,700	1,030	698
22	382	348	372	‡ 1,020	3,640	455	‡ 562	2,360	‡ 22,500	2,630	904	689
23	365	348	316	966	3,690	396	531	‡ 499	‡ 24,400	2,570	515	696
24	366	350	293	512	‡ 3,970	‡ 374	529	682	‡ 14,400	3,390	447	690
25	374	‡ 352	291	477	3,580	321	497	2,620	10,600	3,320	‡ 598	685
26	385	343	276	2,620	2,260	306	308	‡ 1,080	‡ 5,120	2,920	805	678
27	390	333	271	2,020	1,840	276	282	977	4,080	2,440	813	678
28	‡ 385	330	274	1,390	‡ 1,590	249	264	944	‡ 8,250	2,210	820	690
29	376		‡ 272	‡ 1,260	1,480	246	‡ 255	781	‡ 17,100	‡ 2,060	859	690
30	372		221	1,150	2,370	234	235	‡ 681	‡ 24,800	1,910	781	‡ 686
31	360		179		‡ 3,780		235	646		1,760		679
Sum	12,194	9,857	13,113	22,173	62,540	44,977	20,009	20,119	181,487	169,100	46,552	22,217

Month	Current Year 1974: Extreme Gage Feet High	Low	Extreme Second-Feet High: Day	High	Low: Day	Low	Average Second-Feet	Total Acre-Feet	Period 1968-1974: Acre-Feet Average	Maximum	Minimum
Jan.	2.23	2.16	2	433	31	353	393	24,186	47,388	116,947	20,968
Feb.	2.20	2.00	4	387	10	279	352	19,551	32,538	110,937	4,745
Mar.	4.36	1.75	14	3,990	31	171	423	26,009	34,179	116,352	4,583
Apr.	4.52	1.51	26	4,840	† 4	124	739	43,980	28,313	72,088	7,244
May	4.53	3.03	24	4,030	† 1	978	2,020	124,046	37,203	124,046	12,147
June	4.51	1.70	2	4,020	†19	155	1,500	89,211	40,989	89,211	5,927
July	4.51	1.80	3	4,020	† 1	191	645	39,687	69,200	124,713	24,764
Aug.	5.73	1.38	22	8,940	1	231	649	39,905	100,247	270,367	30,365
Sept.	10.58	2.09	23	30,700	† 5	346	6,050	359,974	225,367	469,832	46,085
Oct.	9.30	3.47	1	23,800	31	1,630	5,460	335,405	131,492	335,405	24,823
Nov.	3.95	2.27	10	2,570	†24	423	1,550	92,335	55,627	113,407	8,741
Dec.	2.84	2.64	2	812	†15	663	717	44,067	36,199	52,176	19,890
Yearly	10.58	1.61		30,700		124	1,710	1,238,356	838,747	1,238,356	495,643

‡ Discharge measurement made on this day † And other days

TERLINGUA CREEK NEAR TERLINGUA, TEXAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank at latitude 29°12'00", longitude 103°36'15", 2.6 creek miles from the confluence with the Rio Grande, and about 8.5 miles south of Terlingua, Brewster County, Texas. This creek enters the Rio Grande at river mile 876.6, the lower end of Santa Helena Canyon, and 372.2 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 2,200.64 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 68 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1932 through 1974.

REMARKS: Irrigation diversions modify the flow of this spring-fed creek at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 34,900 second-feet on May 24, 1935 with a gage height of 17.59 feet on a gage 0.3 mile downstream. Min. 0.1 several days in June and July 1950.

Average Flow in Second-Feet

Daily:	Max. 17,200	June 1, 1937	Min. 0.1	Several days in June & July 1950
Monthly:	Max. 1,150	Sept. 1974	Min. 0.8	October 1934
Yearly:	Max. 146	1937	Min. 5.5	1943

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.7	‡ 2.7	‡ 2.7	‡ 2.4	‡ 2.2	1.7	‡ 1.9	‡ 74.2	26.6	31.5	‡ 4.4	3.5
2	2.8	2.7	2.6	2.4	2.2	1.6	1.9	2.4	14.5	‡ 9.0	4.3	‡ 3.5
3	‡ 2.8	2.8	2.5	2.4	2.2	1.6	12.8	1.7	‡ 8.2	8.5	4.2	3.4
4	2.8	2.8	2.4	2.3	2.2	‡ 1.6	122	1.5	5.4	8.0	4.0	3.4
5	2.7	‡ 2.8	‡ 2.3	2.3	2.2	1.6	40.7	1.2	4.4	7.4	‡ 3.9	3.4
6	2.7	2.8	2.3	2.3	288	1.6	1.9	‡ 74.8	4.0	6.9	3.9	3.3
7	2.6	2.7	2.3	2.2	‡ 181	1.6	1.6	67.7	3.5	6.4	3.9	3.2
8	‡ 2.6	2.7	2.3	2.2	8.9	1.5	77.1	23.4	3.3	‡ 5.9	3.9	3.2
9	2.7	2.7	2.4	‡ 2.2	5.6	1.5	‡ 144	1.7	‡ 2.9	6.1	3.9	3.2
10	2.7	2.7	2.4	2.2	2.9	1.5	46.1	29.6	2.3	8.3	8.1	‡ 3.1
11	2.8	2.6	2.4	2.2	2.0	‡ 1.5	9.0	112	2.9	8.5	29.5	3.1
12	2.9	‡ 2.6	‡ 2.4	2.2	1.7	452	168	‡ 110	3.5	8.8	‡ 18.4	3.1
13	3.0	2.6	2.4	2.3	‡ 1.6	59.2	39.2	251	400	9.0	13.2	3.1
14	3.0	2.6	934	2.3	1.7	16.0	12.4	60.2	62.9	18.1	6.7	3.1
15	‡ 3.1	2.6	‡ 13.8	2.3	1.8	3.5	‡ 2.8	‡ 15.0	12.9	15.8	‡ 5.1	3.1
16	3.1	2.7	4.8	‡ 2.3	‡ 1.9	2.8	2.8	11.3	‡4,460	‡ 7.1	5.0	‡ 3.1
17	3.1	2.7	3.8	2.3	1.9	‡ 2.3	28.3	8.8	10,300	6.5	4.9	3.0
18	3.0	2.7	3.4	2.3	3.5	2.2	6.7	6.4	2,990	5.9	4.9	3.0
19	3.0	‡ 2.7	‡ 3.0	2.3	2.6	2.1	122	4.2	‡ 607	5.3	‡ 4.8	2.9
20	3.0	2.6	3.0	2.2	‡ 1.8	2.0	14.5	‡ 31.3	7,900	4.7	4.6	2.8
21	‡ 3.0	2.6	2.9	2.2	1.8	2.0	2.4	931	3,600	4.1	4.4	2.7
22	3.0	2.5	2.9	2.2	1.8	1.9	2.0	‡7,530	477	‡ 3.5	4.2	2.7
23	3.0	2.4	2.9	‡ 2.2	1.8	1.8	‡ 1.9	‡ 520	265	11.2	4.1	‡ 2.6
24	3.0	2.3	2.8	2.2	1.8	‡ 1.7	1.9	692	1,410	10.3	3.9	2.8
25	3.0	2.3	2.8	2.2	1.7	1.7	1.9	224	‡1,260	653	3.7	6.9
26	2.9	‡ 2.2	2.8	22.9	1.7	1.8	2.0	‡ 886	260	85.3	‡ 3.5	30.9
27	2.9	2.4	2.7	98.0	1.7	1.8	2.0	199	143	35.1	3.5	36.0
28	2.9	2.5	‡ 2.7	2.6	‡ 1.7	1.8	2.0	57.7	113	22.2	3.5	16.2
29	‡ 2.9		2.6	‡ 2.2	1.7	1.8	‡ 2.0	27.8	78.4	‡ 8.4	3.5	12.6
30	2.8		2.5	2.2	1.7	1.9	476	‡ 91.6	51.8	7.1	3.5	6.6
31	2.8		2.4		‡ 1.7		555	63.6		5.8		‡ 4.1
Sum	89.3	73.0	1,077.2	184.5	537.0	577.6	1,904.8	12,111.1	34,472.5	1,033.7	179.4	187.6

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1932-1974: Acre-Feet Average	Maximum	Minimum
Jan.			†15	∅ 3.1	† 7	∅ 2.6	2.9	177	193	875	82.7
Feb.			† 3	∅ 2.8	26	∅ 2.2	2.6	145	246	4,400	73.4
Mar.	6.25		14	7,090	† 5	∅ 2.3	34.7	2,137	277	2,410	72.4
Apr.	3.64		27	784	† 7	∅ 2.2	6.2	366	973	15,500	55.1
May	5.91	2.15	6	6,110	13	∅ 1.6	17.3	1,065	3,613	26,000	81.3
June	8.59	2.15	12	8,140	† 8	∅ 1.5	19.3	1,146	6,561	54,800	59.5
July	5.89	2.11	30	6,050	7	∅ 1.6	61.4	3,778	8,458	28,700	518
Aug.	7.65	1.87	22	13,100	6	1.2	391	24,022	6,304	33,617	123
Sept.	10.46		20	24,300	10	∅ 2.3	1,150	68,375	8,830	68,375	123
Oct.	3.29		25	1,610	22	∅ 3.5	33.3	2,050	3,361	27,900	50.8
Nov.	1.71		11	46.6	†26	∅ 3.5	6.0	356	359	2,980	64.9
Dec.	1.80		26	84.4	23	∅ 2.6	6.1	372	282	3,030	90.0
Yearly	10.46			24,300		1.2	144	103,989	39,457	105,807	3,958

‡ Discharge measurement made on this day ∅ Mean daily † And other days

RIO GRANDE AT JOHNSON RANCH NEAR CASTOLON, TEXAS

DESCRIPTION: Cableway, gravity well, and digital water-stage recorder located on the left bank at latitude 29°02'05", longitude 103°23'30", and river mile 855.3; two miles west-northwest of old Johnson Ranch headquarters, 5.5 river miles downstream from Smoky Creek, 13.0 river miles upstream from Chisos Crossing and the Chihuahua-Coahuila state line, 14.0 river miles downstream from Castolon, Brewster County, Texas and Santa Helena Ranch, Chihuahua, and 393.5 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 2,045.30 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 67 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: April 1936 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 61,900 second-feet on September 27, 1958 with a gage height of 24.70 feet. A flow estimated at 97,000 second-feet with a stage of 24.6 feet occurred at this station site on October 3, 1932. Min. no flow several days in 1953, 1955, 1957 and 1958.

		Average Flow in Second-Feet		
Daily:	Max. 56,900	Sept. 10, 1942	Min. 0	Several days 1953 1955, 1957 & 1958
Monthly:	Max. 23,600	Sept. 1942	Min. 0	May 1953
Yearly:	Max. 4,780	1942	Min. 167	1953

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	432	‡ 376	‡ 356	‡ 218	‡ 1,190	3,600	‡ 222	‡ 400	763	21,400	‡1,890	919
2	427	364	344	186	1,090	3,620	260	285	847	‡20,300	1,800	‡ 894
3	‡ 424	362	330	158	1,030	3,670	288	273	‡ 714	13,100	1,700	892
4	423	360	321	134	1,000	‡ 3,410	364	254	567	10,600	1,650	912
5	430	‡ 377	‡ 325	124	987	3,240	402	238	479	9,990	‡1,650	898
6	431	367	317	125	1,300	3,210	755	‡ 315	450	9,480	1,670	879
7	426	364	301	122	‡ 2,440	3,010	624	452	414	8,660	1,950	863
8	‡ 436	375	298	111	2,320	2,820	741	651	464	‡ 7,210	2,470	849
9	429	380	282	‡ 134	1,260	2,620	‡ 2,360	709	‡ 587	7,020	2,590	830
10	420	382	276	224	1,130	2,450	1,770	759	517	6,510	2,610	‡ 809
11	414	384	286	240	1,050	‡ 2,300	1,690	1,120	488	6,370	2,590	797
12	408	‡ 387	‡ 310	222	1,030	2,300	1,310	‡ 1,650	443	6,370	‡2,490	789
13	415	380	298	220	‡ 1,140	2,260	1,710	1,220	1,450	5,210	2,420	786
14	426	369	1,570	228	1,250	1,330	1,060	735	1,430	4,780	2,380	780
15	‡ 433	358	‡1,450	262	1,300	1,270	‡ * 753	‡ 571	1,020	4,020	‡2,330	776
16	416	346	1,090	‡ 340	‡ 1,300	1,270	" 688	525	‡ 2,140	‡ 3,530	2,350	‡ 769
17	399	344	962	347	1,260	‡ 1,020	" 597	409	15,600	3,250	2,400	763
18	401	346	788	772	2,000	720	" 547	306	14,400	3,060	2,000	753
19	402	‡ 350	‡ 639	904	2,760	622	" 663	270	‡ 5,280	2,940	‡1,540	757
20	404	350	522	884	‡ 2,820	478	" 558	‡ 274	8,550	2,890	1,370	748
21	‡ 403	337	442	915	3,130	325	" 696	342	31,000	2,860	1,290	752
22	408	337	401	904	3,290	423	" 573	‡ 11,700	16,100	‡ 2,810	1,240	754
23	392	346	392	‡ 910	3,340	459	‡ * 564	3,940	18,900	2,750	1,180	‡ 764
24	383	352	344	904	3,470	‡ 415	537	4,480	22,300	3,180	843	761
25	376	353	304	759	3,530	383	497	1,130	‡ 14,900	3,900	690	789
26	389	‡ 360	273	361	3,060	342	470	‡ 3,520	9,980	3,310	‡ 669	830
27	378	364	252	2,320	2,120	308	395	1,990	5,450	2,950	932	793
28	381	363	‡ 241	1,680	‡ 1,770	283	316	1,860	5,870	2,570	955	764
29	‡ 395		225	‡ 1,350	1,560	253	‡ 278	1,250	8,670	‡ 2,340	943	760
30	377		225	1,330	1,460	228	251	‡ 915	14,500	2,170	1,010	748
31	377		226		‡ 2,500		1,040	850		2,020		‡ 732
Sum	12,655	10,133	14,390	17,388	58,887	48,639	22,979	43,393	204,273	187,550	51,602	24,910

Month	Current Year 1974								Period 1968-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	2.07	1.87	8	443	†30	369	408	25,101	48,016	118,276	23,830
Feb.	1.96	1.81	8	391	†21	331	362	20,099	34,370	111,869	7,743
Mar.	5.64	1.50	14	3,760	29	206	464	28,542	34,498	115,717	6,067
Apr.	5.16	1.21	27	3,140	† 8	103	580	34,489	26,530	73,919	5,912
May	7.95	2.96	7	7,060	5	946	1,900	116,801	38,351	116,801	14,454
June	6.53	1.50	13	4,990	30	223	1,620	96,474	44,704	96,474	5,839
July	5.08	1.43	9	3,420	4	214	741	45,578	77,225	132,962	29,430
Aug.	14.00	1.55	22	17,000	† 6	236	1,400	86,069	111,172	242,539	30,689
Sept.	21.15	1.81	21	41,600	8	387	6,810	405,170	241,152	472,093	45,186
Oct.	17.42	4.49	1	23,500	31	1,960	6,050	372,000	150,718	372,000	23,013
Nov.	5.00	2.99	10	2,640	26	634	1,720	102,351	59,166	121,232	13,267
Dec.	3.42	3.17	1	950	31	725	804	49,408	37,975	54,064	20,509
Yearly	21.15	1.21		41,600		108	1,910	1,382,082	903,877	1,382,082	615,314

‡ Discharge measurement made on this day * Partly estimated " Estimated
† And other days

RIO GRANDE AT FOSTER RANCH NEAR LANGTRY, TEXAS
(ABOVE MAIN STEM HEAD OF AMISTAD RESERVOIR)

DESCRIPTION: Cableway, bubbler gage, concrete control weir, and water-stage recorders (graphic and digital) located on the left bank at latitude 29°46'50", longitude 101°45'20", and river mile 651.0; 500 feet downstream from the Terrell-Val Verde County Line, 16.9 river miles upstream from Langtry, Texas, and 597.8 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 1,157.17 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 27 discharge measurements during the year, 24 by the United States Section and 3 by the Mexican Section of the Commission, and a continuous record of gage heights. Computations for high flows by shifting control methods. Low and medium flow computations based on a stable control weir rating curve defined by meter measurements. Records available: September 1961 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. The concrete control weir was placed in operation on February 21, 1967.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 137,000 second-feet on September 20, 1974 with a gage height of 36.64 feet. Min. 188 second-feet on August 19, 1965.

Average Flow in Second-Feet

Daily:	Max. 81,600	Sept. 20, 1974	Min. 217	July 1, 1968
Monthly:	Max. 10,700	Sept. 1966	Min. 322	March 1968
Yearly:	Max. 2,480	1974	Min. 981	1963

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	640	635	590	‡ 512	3,220	1,540	‡ 536	508	1,310	8,990	2,560	1,190
2	‡ 637	636	598	502	1,640	2,400	510	685	1,220	11,800	2,410	‡1,210
3	635	627	598	491	1,570	3,020	492	909	‡ 3,950	14,600	2,310	1,230
4	646	‡ 618	‡ 596	482	1,430	3,160	472	665	1,520	16,500	2,180	1,180
5	658	618	592	467	1,260	3,110	451	‡ 594	1,390	10,900	2,070	1,160
6	669	611	579	442	‡ 1,230	2,930	443	650	1,040	9,140	2,000	1,160
7	681	607	561	430	1,230	2,850	439	570	875	8,550	1,980	1,160
8	686	614	554	418	1,730	2,790	467	550	748	8,180	1,960	1,150
9	686	618	554	396	2,280	2,610	674	602	717	7,460	2,100	1,140
10	686	618	544	387	2,070	‡ 2,470	656	793	695	6,960	2,590	1,130
11	690	622	540	386	1,530	2,360	1,340	2,440	686	6,630	2,720	1,120
12	677	632	525	376	1,390	2,240	1,590	12,700	826	6,470	2,710	1,100
13	675	634	4,850	370	1,310	2,250	1,560	3,000	778	6,440	2,670	1,100
14	‡ 671	629	4,120	417	1,270	2,470	1,270	1,510	752	6,370	2,590	1,090
15	672	638	2,540	‡ 454	1,240	1,970	1,580	1,580	1,230	5,760	2,540	1,070
16	663	637	1,290	444	1,310	1,520	1,300	1,060	1,580	5,210	2,510	‡1,070
17	663	614	1,610	436	1,360	‡ 1,260	1,050	925	3,360	4,490	2,470	1,060
18	663	606	‡1,230	‡ 458	1,390	1,180	‡ 975	858	17,100	3,920	‡2,460	1,060
19	661	‡ 596	1,190	503	1,550	1,100	968	801	‡ 19,100	3,620	2,470	1,060
20	643	588	1,080	570	2,680	1,020	1,010	721	‡ 81,600	3,380	2,240	‡1,070
21	635	573	995	823	2,420	941	893	626	25,200	3,250	1,840	1,060
22	640	574	892	1,020	2,680	855	‡ 948	571	19,000	3,180	1,650	1,060
23	640	574	805	1,030	2,890	764	810	1,750	17,800	4,310	1,570	1,050
24	640	578	732	1,050	2,940	642	826	8,080	‡ 23,000	6,400	1,520	1,050
25	629	570	686	1,060	2,950	593	762	4,760	15,900	5,590	1,480	1,050
26	629	564	654	1,070	3,140	671	759	3,590	‡ 17,800	4,010	1,340	1,070
27	629	574	645	1,050	3,110	658	747	2,650	17,000	4,230	1,150	1,060
28	627	576	605	976	2,560	618	698	3,730	8,110	3,510	1,060	1,060
29	624		576	1,420	2,060	593	678	3,670	6,030	3,200	1,060	1,070
30	625		555	‡21,300	1,810	564	648	2,240	7,160	3,000	1,180	1,060
31	619		529		1,620		554	1,650		2,930		1,040
Sum	20,239	16,981	32,415	39,740	60,870	51,154	26,106	65,438	297,477	199,980	61,390	34,140

Month	Current Year 1974								Period 1968-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	2.11	2.04	†11	698	†28	618	653	40,143	61,048	122,034	40,143
Feb.	2.07	1.97	15	652	20	543	606	33,681	48,388	115,301	22,435
Mar.	6.42	1.94	13	9,800	†11	512	1,050	64,294	52,345	126,270	19,789
Apr.	20.20	1.78	30	43,400	†13	361	1,320	78,823	48,140	102,938	20,200
May	4.24	2.49	1	5,830	6	1,210	1,960	120,734	54,189	120,734	28,616
June	3.44	1.97	4	3,380	30	543	1,710	101,462	66,435	101,462	22,463
July	2.95	1.85	11	2,120	6	425	842	51,780	94,551	140,961	51,780
Aug.	16.33	1.88	12	28,500	8	453	2,110	129,794	132,257	212,846	45,474
Sept.	36.64	2.04	20	137,000	9	618	9,920	590,037	274,210	590,037	76,940
Oct.	10.40	3.16	4	17,100	31	2,620	6,450	396,655	179,740	396,655	53,887
Nov.	3.24	2.35	†11	2,830	29	1,000	2,050	121,765	75,663	129,741	37,160
Dec.	2.51	2.36	† 2	1,240	20	1,020	1,100	67,716	53,634	71,001	36,914
Yearly	36.64	1.78		137,000		361	2,480	1,796,884	1,140,600	1,796,884	903,650

‡ Discharge measurement made on this day † And other days

PECOS RIVER NEAR LANGTRY, TEXAS

DESCRIPTION: Cableway, concrete control weir, bubbler gage, and water-stage recorders (graphic and digital) located on the right bank at latitude 29°48'10", longitude 101°26'45", about 7.5 miles east of Langtry, Texas, 9.5 river miles upstream from the Pecos High Bridge, and 15.0 river miles from the confluence with the Rio Grande. This stream enters the Rio Grande at river mile 610.0, 24.1 river miles downstream from Langtry, Texas, and 638.8 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 1,133.08 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 23 discharge measurements during the year, 19 by the United States Section and 4 by the Mexican Section of the Commission, and a continuous record of gage heights. Computations for high flows by shifting control methods. Low and medium flow computations based on stable control weir rating curves defined by meter measurements. Records available: July 1967 through 1974. Records are also available for Pecos River near Comstock, 9.5 river miles downstream, from March 17 through December 3, 1898 and May 1900 through October 7, 1954; for Pecos River near Shumla, 3.5 river miles upstream, from October 8, 1954 through June 1967; and for Pecos River at Mouth near Comstock, from March 1961 through July 2, 1968.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. The flood of June 1954, which had a discharge of 948,000 second-feet at the gaging station near the railroad bridge 9.5 river miles downstream, exceeded a gage height of 100 feet at this station. This station was placed in operation June 30, 1967.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	144	154	144	‡ 112	490	94.3	‡ 73.8	68.3	200	2,020	1,530	709
2	‡ 143	154	142	109	437	93.5	73.0	68.7	206	2,030	1,450	‡ 697
3	146	151	142	113	330	‡ 89.3	71.7	70.5	‡ 1,100	2,080	1,360	686
4	147	‡ 151	‡ 140	115	261	86.9	72.0	70.9	199	2,320	1,300	680
5	148	152	141	115	215	92.9	70.9	‡ 71.7	168	2,490	1,230	675
6	149	153	139	111	‡ 206	98.7	70.9	132	154	2,610	1,210	668
7	151	153	138	111	188	91.9	70.9	93.5	145	2,650	1,200	653
8	151	151	136	113	179	87.5	70.4	91.8	137	2,560	1,170	641
9	151	152	138	111	256	85.9	68.8	146	134	2,160	1,130	630
10	151	152	141	106	179	83.0	69.7	146	131	1,720	1,110	622
11	153	154	140	107	162	79.0	70.4	126	131	1,490	1,070	621
12	153	153	138	108	154	77.6	70.0	392	128	1,350	1,050	620
13	153	153	697	109	145	142	73.7	663	125	1,270	1,020	623
14	‡ 155	154	173	104	142	130	78.4	327	125	1,230	985	622
15	154	153	158	‡ 104	137	119	‡ 77.6	215	122	1,120	946	611
16	154	150	142	104	134	102	77.0	231	400	1,040	933	‡ 602
17	155	147	136	103	129	‡ 99.4	74.8	234	11,500	1,060	920	592
18	155	147	‡ 132	102	126	92.9	‡ 71.9	201	45,400	1,010	910	587
19	156	‡ 147	131	‡ 101	122	90.8	70.1	‡ 172	20,200	1,020	901	581
20	155	148	130	100	‡ 119	94.2	70.7	153	153,000	1,010	884	581
21	156	144	127	103	120	92.9	68.8	146	106,000	1,170	857	574
22	157	143	127	105	120	88.3	68.5	145	29,400	1,310	839	571
23	153	144	128	106	116	86.9	67.1	140	10,800	1,240	834	566
24	‡ 151	143	122	102	108	86.3	62.8	132	7,110	3,050	808	566
25	157	142	121	99.4	107	84.0	62.4	128	5,170	3,030	785	591
26	157	141	124	102	107	80.8	62.0	125	3,620	1,870	766	649
27	157	142	128	102	106	78.3	62.3	126	2,870	1,670	758	607
28	155	143	126	98.9	101	75.4	65.8	129	2,480	1,610	745	580
29	151		124	98.2	99.1	75.2	63.3	‡ 145	2,300	2,340	732	569
30	151		123	3,930	99.1	72.6	63.0	314	2,130	3,370	683	561
31	151		112		98.9		69.5	179		2,530		552
Sum	4,720	4,171	4,740	7,004.5	5,293.1	2,751.5	2,162.2	5,382.4	405,585	57,430	30,116	19,087

Month	Current Year 1974 Extreme Gage Feet High	Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period July 1967-1974 Acre-Feet Average	Maximum	Minimum
Jan.	1.87	1.81	↑16	160	↑ 1	142	152	9,362	9,857	13,666	7,559
Feb.	1.86	1.79	↑ 1	157	19	136	149	8,273	8,834	11,804	7,012
Mar.	3.81	1.69	13	2,650	31	109	153	9,402	9,364	12,422	6,929
Apr.	10.04	1.64	30	13,300	↑28	96.7	233	13,893	13,131	26,406	8,156
May	2.98	1.64	1	999	31	96.7	171	10,499	13,340	28,767	7,207
June	1.94	1.53	↑13	182	30	70.9	91.7	5,458	8,259	11,375	5,458
July	1.57	1.47	14	79.9	27	58.3	69.7	4,289	12,422	27,884	4,289
Aug.	3.00	1.50	13	1,030	5	64.5	174	10,676	28,532	162,055	4,178
Sept.	75.30	1.73	20	577,000	↑13	120	13,500	804,466	115,329	804,466	7,674
Oct.	6.14	2.97	24	7,560	20	937	1,850	113,911	24,948	113,911	7,123
Nov.	3.36	2.39	1	1,630	30	372	1,000	59,734	16,039	59,734	6,589
Dec.	2.76	2.60	1	720	↑25	551	616	37,859	13,344	37,859	7,662
Yearly	75.30	1.47		577,000		58.3	1,500	1,087,822	273,399	1,087,822	94,683

‡ Discharge measurement made on this day ↑ And other days

DEAD MANS CANYON NEAR COMSTOCK, TEXAS

In order to determine storm runoff formerly included with measured flows at a gaging station on the Pecos River before its relocation upstream incident to the completion of Amistad Dam, a gaging station was established during 1968 on Dead Mans Canyon.

DESCRIPTION: Cableway, control weir, bubbler gage, and digital recorder located on the left bank of the canyon at latitude 29°47'05", longitude 101°19'25", 2.3 miles upstream from its confluence with the Pecos River which is 9.5 miles upstream from the Pecos River confluence with the Rio Grande. The zero of the gage is 1,178.00 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on current meter measurements, a continuous record of gage heights, and the weir discharge rating. Records available: March 1968 through 1974.

REMARKS: This stream is normally dry, its flow being confined to periods of storm runoff from its 88 square miles of watershed area. Only the days of flow are shown below.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 37,800 second-feet on September 17, 1974 with a gage height of 12.78 feet. Maximum volumes: Monthly, 29,164 acre-feet in September 1974; yearly, 30,527 acre-feet in 1974.

Mean Daily Discharge in Second-Feet / Annual Summary

Month and Day				Month	Maximum Gage and Discharge: Day	Feet	Second-Feet	Total Acre-Feet
1968								
July 3 524	Oct. 3 53.3			July	3	4.00	3,550	1,567
4 *266	4 1.0			Oct.	3	2.35	892	108
31 .2				Yearly		4.00	3,550	1,675
1969								
Apr. 17 159	Sept. 11 0.6	Oct. 12 2.4		Apr.	17	2.30	835	315
				Sep.	11	1.12	13.5	1.2
				Oct.	12	1.23	41.7	4.8
				Yearly		2.30	835	321.0
1970								
May 28 19.3	Sep. 23 3.4			May	28	1.81	368	38.3
				Sep.	23	1.30	66.1	6.7
				Yearly		1.81	368	45.0
1971								
June 11 22.8	July 25 129	Aug. 1 276	Aug. 14 0	June	15	4.48	4,590	2,857
12 569	26 174	2 1,060	15 4,070	July	26	2.91	1,620	775
13 0	27 69.5	3 7.7	16 15.6	Aug.	15	10.85	27,800	12,864
14 0	28 18.4	11 1,030	Sep. 24 36.7	Sep.	24	2.01	540	72.8
15 848		12 26.4		Yearly		10.85	27,800	16,568.8
16 .6		13 0						
1972								
May 7 57.1	Sep. 26 17.3			May	7	2.46	1,020	113
				Sep.	26	1.80	361	34.3
				Yearly		2.46	1,020	147.3
1973								
Oct. 5 12.4	Oct. 12 38.8			Oct.	13	2.51	1,080	276
	13 87.9			Yearly		2.51	1,080	276
1974								
Sep. 2 4.5	Sep. 17 5,590	Sep. 20 415	Oct. 24 546	Sep.	17	12.78	37,800	29,164
	18 5,850	21 2,770	25 141	Oct.	24	5.53	7,240	1,363
	19 10.1	22 62.5		Yearly		12.78	37,800	30,527

* Partly estimated

DOLAN SPRINGS NEAR LOMA ALTA, TEXAS

DESCRIPTION: Concrete wall control, bubbler gage, and water-stage recorder located on the left bank of Snake Creek near its mouth, latitude 29°53'40", longitude 100°59'00", and about 12 miles west of Loma Alta, Val Verde County, Texas. Snake Creek enters Dolan Creek from the left side, 0.9 creek mile from the confluence with Devils River. Dolan Creek enters Devils River from the left side, 16.8 river miles upstream from Pafford Crossing, and 42.3 river miles from the confluence with the Rio Grande. The elevation of the zero of the gage has not been determined.

RECORDS: Based on 12 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1966 through 1974.

REMARKS: The flow of these springs is very uniform during periods of dry weather and is not modified by diversions or storage. All storm flow passing this station is deducted and is not included in the tabulation below. This station was established for purposes of correlating the flow of these springs with precipitation data and the flow of other springs in the area. The previous 90° V-notch weir was destroyed by a flood in 1971.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.8	3.2	3.4	‡ 3.5	5.2	3.2	‡ 3.9	3.1	8.6	10.1	18.7	20.7
2	4.0	3.2	3.4	3.5	4.0	3.1	3.9	3.1	7.4	10.1	18.7	20.7
3	3.9	3.1	3.4	3.5	4.0	‡ 3.2	3.8	3.1	‡ 6.9	10.5	18.8	20.3
4	3.9	‡ 3.1	‡ 3.4	3.4	3.9	3.2	3.8	3.0	6.9	10.6	18.8	19.9
5	3.9	3.1	3.4	3.5	3.9	3.3	3.8	‡ 3.0	6.7	10.6	‡ 19.2	19.9
6	3.9	3.1	3.4	3.4	‡ 4.0	3.3	3.8	3.5	6.5	11.7	19.2	19.9
7	‡ 3.9	3.1	3.4	3.4	4.0	3.3	3.7	3.5	6.3	‡ 12.0	19.1	19.9
8	4.0	3.1	3.4	3.4	3.9	3.4	3.7	3.5	6.2	11.6	19.1	19.8
9	4.0	3.2	3.4	3.4	3.9	3.4	3.7	3.8	6.1	11.8	19.4	‡ 19.8
10	4.1	3.2	3.4	3.6	3.9	3.4	3.7	4.2	5.9	12.2	20.7	19.7
11	4.1	3.2	3.4	3.5	3.8	3.4	3.6	4.2	5.8	12.4	20.9	19.9
12	4.1	3.2	3.5	4.0	3.8	3.4	3.6	5.0	5.8	13.0	20.6	19.6
13	4.0	3.2	3.7	4.1	3.8	3.4	3.6	5.0	5.7	13.6	20.6	19.5
14	4.0	3.2	3.7	4.1	3.7	3.5	3.6	5.4	5.7	13.8	20.8	19.7
15	3.9	3.2	3.7	4.0	3.7	3.5	3.5	5.4	5.7	14.2	20.8	19.4
16	3.8	3.2	3.7	3.9	3.7	3.5	3.5	6.1	5.6	14.2	21.2	19.3
17	3.7	3.2	3.7	3.9	3.6	3.6	3.5	6.1	6.5	14.3	21.1	19.2
18	3.7	3.2	3.6	3.9	3.6	3.6	3.5	6.1	7.6	14.3	21.1	19.1
19	3.7	3.3	3.6	3.9	3.6	3.6	3.4	7.0	8.9	14.4	21.1	19.3
20	3.6	3.3	3.5	3.9	3.6	3.6	3.4	6.7	10.6	14.5	21.1	19.0
21	3.7	3.3	3.4	3.7	3.5	3.7	3.4	6.5	12.6	15.0	21.0	18.9
22	3.6	3.3	3.4	3.6	3.5	3.7	3.4	6.5	14.4	16.1	20.6	18.8
23	3.5	3.3	3.4	3.5	3.5	3.7	3.3	6.3	14.9	16.1	20.6	18.4
24	3.6	3.3	3.5	3.5	3.4	3.8	3.3	6.3	14.9	17.4	20.5	18.3
25	3.4	3.3	3.6	3.5	3.4	3.7	3.3	6.3	11.9	21.9	20.5	18.2
26	3.5	3.3	3.7	3.5	3.4	3.7	3.3	6.1	11.0	21.5	20.5	18.1
27	3.3	3.3	3.6	3.5	3.3	3.8	3.2	5.8	10.9	20.6	20.5	18.0
28	3.3	3.4	3.6	3.3	3.3	3.8	3.2	6.1	10.1	19.6	20.4	17.7
29	3.3		3.5	3.4	3.3	3.8	3.2	6.7	10.1	19.1	20.4	17.6
30	3.2		3.5	3.8	3.2	3.9	3.2	12.9	10.1	19.1	20.4	17.5
31	3.2		3.5		3.2		3.1	10.9		18.9		17.2
Sum	115.6	90.1	108.8	109.1	114.6	105.5	103.9	171.2	256.3	455.2	606.4	593.3

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1966-1974: Acre-Feet Average	Maximum	Minimum
Jan.	1.38	1.30	10	4.2	†30	3.2	3.7	229	330	887	77.2
Feb.	1.33	1.33	28	∅ 3.4	† 3	3.1	3.2	179	244	665	66.8
Mar.	1.36	1.32	†13	∅ 3.7	† 1	∅ 3.4	3.5	216	214	548	70.4
Apr.	1.41	1.31	†13	∅ 4.1	28	∅ 3.3	3.6	216	176	406	65.5
May	1.77		1	8.6	†30	∅ 3.2	3.7	227	214	415	66.2
June	1.32	1.30	30	∅ 3.9	† 2	∅ 3.1	3.5	209	205	372	87.9
July			† 1	∅ 3.9	31	∅ 3.1	3.5	216	196	369	80.9
Aug.	8.52	1.77	30	13.9	† 4	3.0	5.5	340	320	936	93.8
Sept.	2.07	1.58	†23	14.9	16	5.6	8.5	508	373	1,042	85.5
Oct.	3.25	1.87	25	22.2	† 1	10.1	14.7	903	474	1,134	87.9
Nov.	2.24	2.16	16	21.2	† 1	18.7	20.2	1,203	518	1,203	84.5
Dec.	2.24	2.19	† 1	20.7	31	17.2	19.1	1,177	502	1,177	83.9
Yearly	8.52			22.2		3.0	7.8	5,623	3,766	7,361	1,257.2

‡ Discharge measurement made on this day ∅ Mean daily † And other days

DEVILS RIVER AT PAFFORD CROSSING NEAR COMSTOCK, TEXAS
(ABOVE HEAD OF DEVILS BRANCH, AMISTAD RESERVOIR)

DESCRIPTION: Concrete control wall with rectangular notch opening of 900 second-foot capacity, cableway, bubbler gage, water-stage recorders (graphic & digital), and binary decimal transmitter located on the left bank at latitude 29°40'35", longitude 101°00'00", about 11.5 miles east of Comstock, Val Verde County, Texas, and 25.5 river miles from the confluence with the Rio Grande. The confluence is located at river mile 568.1, 0.6 river mile upstream from Amistad Dam, and 680.7 river miles downstream from American Dam at El Paso, Texas. The zero of the gage is 1,131.88 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 20 discharge measurements during the year, 16 by the United States Section and 4 by the Mexican Section of the Commission, a stable rating curve based on meter measurements, and a continuous record of gage heights. Records available: 1960 through 1974. Records are also available from May 1900 through March 1914 for a station 23.8 river miles downstream; from December 1923 through September 1932 for a station 22.8 river miles downstream; from September 2, 1932 through August 1957 for a station 21.0 river miles downstream; from August 7, 1954 through January 1958 for a station 5.4 river miles upstream; and from August 1954 through May 31, 1968 for a station at the mouth 24.7 river miles downstream. A graph of Devils River flow from 1871 through 1939 may be found in Water Bulletin No. 9.

REMARKS: At this station the flow of this spring-fed stream is very uniform during periods of dry weather and is not modified by diversions or storage. The transmitter relays gage height data upon interrogation from the Amistad Dam hydrographic office of the United States Section of the Commission and is also programmed to relay similar data to this same office at predetermined time intervals. Transmission is via radio. In December 1968, the control wall was raised one-half foot and a cable was installed 550 feet upstream.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 250,000 second-feet on September 18, 1974 with a gage height of 19.82 feet. Min. 48.6 second-feet on August 20, 1969.

	Average Flow in Second-Feet					
Daily:	Max. 123,000	Sept. 18, 1974	Min. 53.7	Aug. 20, 1969
Monthly:	Max. 8,460	Sept. 1974	Min. 64.3	August 1964
Yearly:	Max. 977	1974	Min. 99.9	1968

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	182	169	173	153	267	141	128	124	855	626	593	441
2	184	173	173	152	208	141	127	126	466	603	578	441
3	184	171	169	153	186	141	126	128	352	582	571	441
4	184	168	166	148	175	144	128	127	296	568	555	439
5	184	166	166	147	169	145	130	127	273	556	544	437
6	184	169	166	146	161	145	128	134	255	548	536	‡ 437
7	‡ 182	169	164	149	157	141	127	236	246	541	541	437
8	180	169	166	150	159	141	‡ 126	224	237	531	532	431
9	182	169	165	147	163	141	127	170	232	523	521	428
10	‡ 184	169	168	147	172	138	126	154	222	515	519	430
11	183	169	167	151	169	138	128	151	215	503	509	432
12	179	169	168	156	163	137	128	237	212	495	501	432
13	177	169	216	156	162	149	130	210	212	493	499	430
14	180	169	238	145	163	150	132	187	212	511	490	428
15	180	169	197	146	159	149	‡ 132	177	212	‡ 487	483	426
16	180	166	180	148	158	143	130	170	‡ 214	480	486	422
17	180	166	172	145	152	‡ 140	131	166	‡ 63,000	481	489	417
18	‡ 180	169	‡ 169	143	150	137	130	164	123,000	484	‡ 483	416
19	177	‡ 169	169	143	151	135	‡ 129	159	20,700	481	483	417
20	177	169	166	142	‡ 150	134	126	155	3,800	477	479	413
21	‡ 175	169	163	141	151	131	128	155	8,500	586	472	413
22	174	169	162	‡ 150	150	132	128	154	21,700	595	468	411
23	173	173	162	144	143	131	126	151	2,130	533	469	‡ 407
24	173	173	158	139	143	134	122	151	1,280	1,060	470	406
25	176	173	160	138	141	135	122	158	1,100	2,550	461	441
26	177	173	162	139	147	134	120	‡ 158	958	933	453	463
27	177	173	161	139	146	131	128	158	850	1,040	450	432
28	177	173	158	137	140	127	141	255	761	846	448	428
29	176		155	137	139	126	125	‡ 10,800	709	728	444	424
30	171		154	220	140	127	122	3,470	652	652	441	424
31	169		156		144		125	1,760		619		421
Sum	5,541	4,752	5,269	4,451	4,978	4,138	3,956	20,696	253,851	20,627	14,968	13,265

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1960-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	1.53	1.48	† 2	188	†30	169	179	10,990	11,571	20,737	4,647
Feb.	1.51	1.47	2	181	† 4	166	170	9,425	9,611	16,497	3,999
Mar.	1.71	1.43	14	265	†28	151	170	10,451	9,366	15,780	4,186
Apr.	2.22	1.36	30	518	27	128	148	8,828	10,393	38,777	4,520
May	2.20	1.39	1	509	†19	139	161	9,874	10,620	32,716	4,517
June	1.44	1.35	13	155	†28	125	138	8,208	16,095	54,328	4,259
July	1.43	1.32	†27	151	26	116	128	7,847	10,831	25,513	4,034
Aug.	6.75	1.33	29	34,300	1	119	668	41,050	56,393	408,908	3,955
Sept.	19.82	1.57	18	250,000	16	204	8,460	503,506	62,322	503,506	5,000
Oct.	4.29	2.12	24	6,840	21	472	665	40,913	19,524	50,845	5,004
Nov.	2.40	2.03	1	605	29	432	499	29,689	13,876	29,689	4,532
Dec.	2.14	1.96	†25	481	24	396	428	26,311	12,900	26,311	4,697
Yearly	19.82	1.32		250,000		116	977	707,092	243,502	707,092	72,494

‡ Discharge measurement made on this day † And other days

BIG SATAN CREEK NEAR COMSTOCK, TEXAS

In order to determine storm runoff formerly included with measured flows at a gaging station on the Devils River before its relocation upstream incident to the completion of Amistad Dam, a gaging station was established during 1968 on Big Satan Creek.

DESCRIPTION: Cableway, control weir, bubbler gage, and digital recorder located on the right bank of the creek at latitude 29°39'50", longitude 100°57'50", 1.1 miles upstream from its confluence with the Devils River, which is 21.2 river miles upstream from the Devils River confluence with the Rio Grande. The zero of the gage is 1,134.00 feet above mean sea level, U. S. C. & G. S. datum.
RECORDS: Based on current meter measurements, a continuous record of gage heights, and the weir discharge rating. Records available: May 1968 through 1974.
REMARKS: This creek is normally dry, its flow being confined to periods of storm runoff from its 42 square miles of watershed area. Only the days of flow are shown below.
EXTREME FLOWS FROM RECORDS: Momentary: Max. 56,100 second-feet on August 15, 1971 with a gage height of 12.31 feet. Maximum volumes: Monthly 12,204 acre-feet in August 1971; yearly, 12,525 acre-feet in 1971.

Mean Daily Discharge in Second-Feet / Annual Summary

Mean Daily Discharge in Second-Feet: Month and Day

Annual Summary:

Month	Maximum Gage and Discharge: Day	Feet	Second-Feet	Total Acre-Feet

1969

Month and Day		Month and Day		Month and Day		Month and Day	
Oct. 4	13.6	Oct. 27	1,170				
5	9.8	28	.1				

Month	Day	Feet	Second-Feet	Total Acre-Feet
Oct.	27	5.38	8,100	2,348
Yearly		5.38	8,100	2,348

1970

Month and Day		Month and Day		Month and Day		Month and Day	
May 27	0.8						

Month	Day	Feet	Second-Feet	Total Acre-Feet
May	27	1.29	31.8	1.6
Yearly		1.29	31.8	1.6

1971

Month and Day		Month and Day		Month and Day		Month and Day	
June 11	6.6	June 15	150	Aug. 11	872	Aug. 15	4,480
12	5.4	Aug. 2	71.8	12	153	16	18.5
13	0			13	2.7	17	1.1
14	0			14	554		

Month	Day	Feet	Second-Feet	Total Acre-Feet
June	15	2.99	1,620	321
Aug.	15	12.31	56,100	12,204
Yearly		12.31	56,100	12,525

1972

Month and Day		Month and Day		Month and Day		Month and Day	
Aug. 12	4,160	Aug. 14	0.2				
13	10.0						

Month	Day	Feet	Second-Feet	Total Acre-Feet
Aug.	12	10.25	36,600	8,271
Yearly		10.25	36,600	8,271

1974

Month and Day		Month and Day		Month and Day		Month and Day	
Sep. 18	156	Sep. 21	5.2	Sep. 24	10.7	Oct. 24	2.2
19	6.1	22	80.4	25	8.4	25	12.0
20	2.3	23	61.1	26	4.1	26	10.2
						27	4.5

Month	Day	Feet	Second-Feet	Total Acre-Feet
Sep.	18	2.78	1,290	663
Oct.	24	1.27	27.5	57.3
Yearly		2.78	1,290	720.3

ROUGH CANYON NEAR DEL RIO, TEXAS

In order to determine storm runoff formerly included with measured flows at a gaging station on the Devils River before its relocation upstream incident to the completion of Amistad Dam, a gaging station was established during 1968 on Rough Canyon.

DESCRIPTION: Cableway, control weir, bubbler gage, and digital recorder located on the right bank at latitude 29°34'40", longitude 100°56'00", 3.9 miles upstream from its confluence with the Devils River which is 11.1 river miles upstream from the Devils River confluence with the Rio Grande. The zero of the gage is 1,120.00 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on current meter measurements, a continuous record of gage heights, and the weir discharge rating. Records available: January 1968 through 1974.

REMARKS: This stream is normally dry, its flow being confined to periods of storm runoff from its 24 square miles of watershed area. Only the days of flow are shown below.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 7,040 second-feet on August 12, 1972 with a gage height of 6.80 feet. Maximum volumes: Monthly, 8,230 acre-feet in August 1971; yearly, 8,232.2 acre-feet in 1971.

Mean Daily Discharge in Second-Feet — **Annual Summary**

1968

Month and Day												Month	Maximum Gage and Discharge: Day	Feet	Second-Feet	Total Acre-Feet
Apr. 18	28.4	May 9	1.9	July 3	3.3	Oct. 3	3.6					Apr.	19	2.05	507	266
19	80.6	10	3.6			4	.5					May	11	2.70	1,060	388
20	.3	11	188									July	3	1.16	29.1	6.5
21	0	12	2.0									Oct.	3	1.20	39.4	8.1
22	0											Yearly		2.70	1,060	668.6
23	24.7															

1969

July 27	5.4	Sep. 14	5.4	Oct. 4	538	Nov. 26	1.6					July	27	1.55	179	10.7
Aug. 26	3.4	15	10.5	5	77.4	27	24.7					Aug.	26	1.21	33.8	6.7
		16	0	12	* 5.3							Sep.	18	1.98	486	86.3
		17	0									Oct.	4	3.66	2,120	1,231
		18	27.5									Nov.	27	1.33	85.2	52.2
		19	.1									Yearly		3.66	2,120	1,386.9

1970

May 28	6.6	Sep. 23	1.3	Sep. 26	12.5							May	28	1.31	77.4	13.1
		24	0	27	4.5							Sep.	25	1.21	42.5	48.6
		25	6.2									Yearly		1.31	77.4	61.7

1971

June 16	1.0	Aug. 3	1.5	Aug. 13	0.2	Aug. 16	2,140					June	16	1.07	7.8	2.2
17	.1			14	0	17	7.8					Aug.	16	4.33	3,000	8,230
				15	2,000							Yearly		4.33	3,000	8,232.2

1972

Aug. 12	1,010	Aug. 17	9.7									Aug.	12	6.80	7,040	2,023
		18	.2									Yearly		6.80	7,040	2,023

1973

Oct. 5	4.6											Oct.	5	1.12	17.9	9.1
												Yearly		1.12	17.9	9.1

1974

Apr. 30	13.4	May 1	38.4									Apr.	30	1.43	123	26.5
												May	1	1.45	137	76.2
												Yearly		1.45	137	102.8

* Partly estimated

NORTH FORK SAN PEDRO CREEK NEAR DEL RIO, TEXAS

In order to determine storm runoff formerly included with measured flows at a gaging station on the Devils River before its relocation upstream incident to the completion of Amistad Dam, a gaging station was established during 1968 on the north fork of San Pedro Creek.

DESCRIPTION: Cableway, control weir, bubbler gage, and digital recorder located on the left bank of the creek at latitude 29°31'20", longitude 100°53'00", 3 miles upstream from its confluence with the Middle Fork Branch, which is 6.3 miles upstream from its confluence with Devils River, which itself is 4.5 river miles above the Devils River confluence with the Rio Grande. The zero of the gage is 1,126.92 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on current meter measurements, a continuous record of gage heights, and the weir discharge rating. Records available: January 1968 through 1974.

REMARKS: This creek is normally dry, its flow being confined to periods of storm runoff from its 17 square miles of watershed area. Only the days of flow are shown below.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 4,710 second-feet on October 4, 1969 with a gage height of 8.04 feet. Maximum volumes: Monthly, 3,403 acre-feet in October 1969; yearly, 4,061.7 acre-feet in 1969.

Mean Daily Discharge in Second-Feet | **Annual Summary**

Month and Day				Month	Maximum Gage and Discharge: Day	Feet	Second-Feet	Total Acre-Feet
1968								
Apr. 18 1.2 19 5.9	May 11 148 12 .2			Apr. May	19 11	1.43 3.09	77.5 904	14.1 294
				Yearly		3.09	904	308.1
1969								
Feb. 13 8.9 14 34.8	Aug. 26 130 27 2.7 28 4.1	Oct. 4 1,240 5 105 12 119 13 4.9	Oct. 27 235 28 11.9 Nov. 27 134 28 17.7	Feb. Aug. Oct. Nov.	14 26 4 27	1.84 3.74 8.04 2.37	245 1,310 4,710 509	86.7 271 3,403 301
				Yearly		8.04	4,710	4,061.7
1970								
Sep. 26 9.6				Sep.	26	1.36	56.0	19.0
				Yearly		1.36	56.0	19.0
1971								
June 11 1.4 12 105	Aug. 11 161 12 1.3 13 0	Aug. 14 384 15 136		June Aug.	12 14	2.08 5.92	368 2,890	211 1,353
				Yearly		5.92	2,890	1,564
1972								
Aug. 12 550				Aug.	12	8.44	5,070	1,091
				Yearly		8.44	5,070	1,091
1974								
Apr. 30 2.2	May 1 13.1			Apr. May	30 1	1.56 1.56	121 121	4.4 26.0
				Yearly		1.56	121	30.4

MIDDLE FORK SAN PEDRO CREEK NEAR DEL RIO, TEXAS

In order to determine storm runoff formerly included with measured flows at a gaging station on the Devils River before its relocation upstream incident to the completion of Amistad Dam, a gaging station was established during 1968 on the middle fork of San Pedro Creek.

DESCRIPTION: Cableway, control weir, bubbler gage, and digital recorder located on the right bank of the creek at latitude 29°29'30", longitude 100°52'50", 3.2 miles upstream from its confluence with the North Fork Branch which is 6.3 miles above the confluence with Devils River which itself is 4.5 river miles above the Devils River confluence with the Rio Grande. The zero of the gage is 1,132.02 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on current meter measurements, a continuous record of gage heights, and the weir discharge rating. Records available: December 1967 through 1974.

REMARKS: This creek is normally dry, its flow being confined to periods of storm runoff from its 12 square miles of watershed area. Only the days of flow are shown below.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 2,640 second-feet on October 4, 1969 with a gage height of 3.60 feet. Maximum volumes: Monthly, 1,709 acre-feet in October 1969; yearly, 2,115.2 acre-feet in 1969.

Mean Daily Discharge in Second-Feet

Annual Summary

1968

Month and Day								Month	Maximum Gage and Discharge: Day	Feet	Second-Feet	Total Acre-Feet
Jan. 8	1.3							Jan.	8	1.47	87.1	2.6
								Yearly		1.47	87.1	2.6

1969

Month and Day										Month	Day	Feet	Second-Feet	Total Acre-Feet
Apr. 12	7.8	Oct. 14	1.4	Nov. 8	0.9	Dec. 9	1.0	Apr.	12	1.34	41.0	15.5
Aug. 26	146	15	1.0	9	1.0	10	1.0	Aug.	26	2.54	864	306
27	3.4	16	.8	10	.9	11	1.0	Sep.	2	1.03	3.4	19.6
28	1.7	17	.7	11	.7	12	1.0	Oct.	4	3.60	2,640	1,709
29	1.1	18	.7	12	.7	13	1.0	Nov.	† 2	.98	1.0	26.4
30	1.1	19	.5	13	.7	14	1.0	Dec.	† 1	.98	1.0	38.7
31	.8	20	.5	14	.1	15	1.0					
Sep. 1	2.2	21	.5	15	.1	16	1.0					
2	2.8	22	.2	16	.2	17	.8					
3	1.6	23	.2	17	.2	18	.7					
4	1.0	24	.3	18	.1	19	.5					
5	.6	25	.2	25	.1	20	.4					
6	.6	26	.1	26	.2	21	.3					
7	.6	27	51.2	27	.2	22	.2					
8	.5	28	2.2	28	.3	23	.2					
Oct. 4	665	29	.9	29	.5	24	.1					
5	47.6	30	.7	30	1.0	25	.1					
6	1.8	31	.7	Dec. 1	1.0	26	.1					
7	.8	Nov. 1	.7	2	1.0	27	0					
8	.9	2	.8	3	1.0	28	0					
9	1.0	3	1.0	4	.8	29	.1					
10	1.4	4	1.0	5	1.0	30	.1					
11	2.2	5	.9	6	1.0	31	.1					
12	74.3	6	.5	7	1.0			Yearly		3.60	2,640	2,115.2
13	3.7	7	.5	8	1.0							

1970

Month and Day								Month	Day	Feet	Second-Feet	Total Acre-Feet
Jan. 1	2.8	Jan. 6	0.9	Sep. 30	0.1	Oct. 5	0.1	Jan.	† 4	1.04	3.5	26.0
2	2.3	Sep. 26	3.4	Oct. 1	.1	6	.1	Sep.	26	1.20	19.2	9.3
3	2.6	27	.9	2	.1	7	.1	Oct.	6	.94	.2	1.4
4	2.4	28	.2	3	.1							
5	2.1	29	.1	4	.1			Yearly		1.20	19.2	36.7

1971

Month and Day										Month	Day	Feet	Second-Feet	Total Acre-Feet
June 12	4.0	Aug. 14	8.0	Aug. 22	0.2	Aug. 30	0.4	June	12	1.20	19.2	9.7
13	.2	15	217	23	.2	31	.5	Aug.	15	2.77	1,160	543
14	.5	16	1.6	24	.3	Sep. 1	.3	Sep.	† 1	.95	.3	1.9
15	.1	17	.1	25	.3	2	.3					
16	.1	18	0	26	.3	3	.1					
Aug. 11	40.1	19	0	27	.3	4	.1					
12	2.9	20	.5	28	.3			Yearly		2.77	1,160	554.6
13	.1	21	.4	29	.2							

1972

Month and Day						Month	Day	Feet	Second-Feet	Total Acre-Feet
Aug. 12	90.5	Aug. 14	2.2			Aug.	12	2.36	665	202
13	8.9					Yearly		2.36	665	202

1974

No flow during 1974

† And other days

EVANS CREEK NEAR COMSTOCK, TEXAS

In order to determine storm runoff formerly included with measured flows at a gaging station on the Devils River before its relocation upstream incident to the completion of Amistad Dam, a gaging station was established during 1968 on Evans Creek.

DESCRIPTION: Cableway, control weir, bubbler gage, and digital recorder located on the left bank of the creek at latitude 29°32'15", longitude 101°06'10", 11.0 miles upstream from its confluence with Devils River which is 3.2 miles upstream from the Devils River confluence with the Rio Grande. The zero of the gage is 1,162.54 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on current meter measurements, a continuous record of gage heights, and the weir discharge rating. Records available: December 1967 through 1974.

REMARKS: This creek is normally dry, its flow being confined to periods of storm runoff from its 74 square miles of watershed area. Only the days of flow are shown below.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 17,400 second-feet on June 12, 1971 with a gage height of 5.99 feet. Maximum volumes: Monthly, 9,281 acre-feet in August 1971; yearly, 14,404 acre-feet in 1971.

Mean Daily Discharge in Second-Feet / Annual Summary

Month and Day				Month	Maximum Gage and Discharge			Total Acre-Feet
					Day	Feet	Second-Feet	

1968

Oct. 3 28.9				Oct.	3	1.65	423	57.3
				Yearly		1.65	423	57.3

1969

May 3 9.4	Sep. 15 46.2	Oct. 12 206	Oct. 27 64.6	May	3	1.35	154	18.6
		13 .1		Sep.	15	1.34	147	91.6
				Oct.	12	1.92	746	537
				Yearly		1.92	746	647.2

1970

Sep. 23 7.4	Sep. 25 0			Sep.	26	1.42	206	88.5
24 0	26 37.2			Yearly		1.42	206	88.5

1971

June 11 85.0	June 15 172	Aug. 11 209	Aug. 15 3,940	June	12	5.99	17,400	5,123
12 2,270	16 3.1	12 170	16 97.1	Aug.	15	5.24	13,000	9,281
13 52.5	Aug. 2 192	13 38.3	17 .6	Yearly		5.99	17,400	14,404
14 0	3 31.5	14 .9						

1972

Aug. 12 22.4				Aug.	12	1.58	385	44.4
				Yearly		1.58	385	44.4

1974

Apr. 30 10.2	Sep. 17 15.7	Sep. 22 117	Oct. 25 275	Apr.	30	1.52	317	20.2
May 1 22.0	18 2,840	23 .5	26 5.6	May	1	1.52	317	43.6
	19 33.1			Sep.	19	5.35	13,600	6,625
	20 0			Oct.	25	2.22	1,430	557
	21 334			Yearly		5.35	13,600	7,245.8

CARMINA SPRINGS AT AMISTAD DAM NEAR CD. ACUNA, COAHUILA

DESCRIPTION: Cipolletti weir of 70.6 second-foot capacity and staff gage located on a creek that runs almost parallel to Amistad Dam, about 130 feet from the confluence with the Rio Grande, at latitude 29°26'50", longitude 101°03'35", and about 11.0 miles northwest of Cd. Acuna, Coahuila. This creek enters the Rio Grande from the Mexican side at river mile 567.3, 0.2 river mile downstream from Amistad Dam, 12.6 river miles upstream from the International Highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 681.5 river miles downstream from American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: 1969 through 1974.

REMARKS: At least six separate springs have emerged on the watershed of this small creek since operation of Amistad Dam began in May 1968. Prior to this time, flow in this creek was exclusively from storm runoff. All storm water from surface runoff passing this station is deducted and is not included in the tabulation below. On September 24, 1971, a flood destroyed part of the weir.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	55.1	55.8	55.8	‡ 54.7	54.7	54.0	‡ 54.0	52.9	54.0	62.5	63.9	62.2
2	55.1	55.8	55.8	54.7	54.7	54.0	54.0	52.9	‡ 54.0	62.2	63.9	62.2
3	55.1	55.8	55.8	54.7	54.7	‡ 54.0	54.0	52.9	54.0	62.2	63.9	62.2
4	55.1	‡ 55.8	‡ 55.8	54.7	54.7	54.0	54.0	52.9	54.0	62.2	62.2	62.2
5	55.1	55.8	55.8	54.7	54.7	54.0	54.0	‡ 54.7	54.0	65.3	62.2	62.2
6	55.1	55.8	55.8	54.7	‡ 54.7	54.0	54.0	54.7	54.0	65.3	62.2	62.2
7	‡ 55.1	55.8	55.8	54.7	54.7	54.0	54.0	54.7	54.0	59.3	62.2	62.2
8	55.1	55.8	55.8	54.7	54.7	54.0	53.0	54.7	54.0	59.3	62.2	62.2
9	55.1	55.8	55.8	54.7	54.7	54.0	53.0	54.7	54.0	59.3	62.2	62.2
10	55.1	55.8	55.8	54.7	54.7	54.0	53.0	54.7	54.0	59.3	62.2	62.2
11	55.1	55.8	55.8	54.7	54.7	54.0	53.3	54.7	54.0	59.3	62.2	62.2
12	55.1	55.8	54.7	54.7	54.7	54.0	53.3	54.7	54.7	60.0	61.1	62.2
13	55.1	55.8	54.7	54.7	54.0	54.0	53.3	54.7	54.7	60.0	61.1	62.2
14	55.1	55.8	54.7	54.7	54.0	54.0	53.3	54.7	54.7	60.0	61.1	61.8
15	55.1	55.8	54.7	54.7	54.0	54.0	53.3	54.7	54.7	60.0	61.1	61.4
16	55.1	55.8	54.7	54.7	54.0	54.0	53.3	54.7	54.7	60.0	61.1	61.1
17	55.4	55.8	54.7	54.7	54.0	54.0	53.3	54.7	55.4	61.1	61.1	61.1
18	55.4	55.8	55.8	54.7	54.0	54.0	53.3	54.7	56.2	62.2	61.1	61.1
19	55.4	55.8	55.8	54.7	54.0	54.0	53.3	52.9	56.9	62.2	61.1	61.1
20	55.8	55.8	55.8	54.7	54.0	54.0	53.3	52.9	57.6	62.2	61.1	61.1
21	55.8	55.8	55.8	54.7	54.0	54.0	53.3	52.9	57.9	62.2	61.1	61.1
22	55.8	55.8	55.8	54.0	54.0	54.0	52.3	52.9	58.6	63.2	61.1	61.1
23	55.8	55.8	55.8	54.0	54.0	54.0	52.3	52.9	59.3	63.2	62.2	61.1
24	55.8	55.8	55.8	54.7	54.0	54.0	52.3	52.9	60.0	63.9	62.2	61.1
25	55.8	55.8	54.7	54.7	54.0	54.0	52.3	54.0	60.7	63.9	‡ 62.2	62.2
26	55.8	55.8	54.7	54.7	54.0	54.0	52.3	54.0	61.4	63.9	62.2	62.2
27	55.8	55.8	54.7	54.7	53.0	54.0	52.3	54.0	62.2	63.9	62.2	61.1
28	55.8	55.8	54.7	54.7	53.0	54.0	51.9	54.0	62.9	63.9	62.2	61.1
29	55.8		54.7	54.7	53.0	54.0	51.9	54.0	62.9	63.9	62.2	61.1
30	55.8		54.7	54.7	53.0	54.0	53.0	54.0	62.5	63.9	62.2	60.0
31	55.8		54.7		54.0		52.6	54.0		63.9		60.0
Sum	1,717.4	1,562.4	1,715.5	1,639.6	1,678.4	1,620.0	1,646.5	1,672.8	1,702.0	1,923.7	1,859.0	1,909.4

Month	Current Year 1974: Extreme Gage Feet High	Low	∅ Extreme Second-Feet High: Day	High	Low: Day	Low	Average Second-Feet	Total Acre-Feet	Period 1969-1974 Acre-Feet: Average	Maximum	Minimum
Jan.			†20	55.8	† 1	55.1	55.4	3,407	1,887	3,407	354
Feb.			† 1	55.8	† 1	55.8	55.8	3,099	1,752	3,099	373
Mar.			† 1	55.8	†12	54.7	55.4	3,403	1,852	3,403	525
Apr.			† 1	54.7	†22	54.0	54.7	3,254	1,787	3,254	629
May			† 1	54.7	†27	53.0	54.0	3,330	1,811	3,330	709
June			† 1	54.0	† 1	54.0	54.0	3,215	1,739	3,215	593
July			† 1	54.0	†23	51.9	53.0	3,266	1,764	3,266	533
Aug.			† 5	54.7	† 1	52.9	54.0	3,321	1,948	3,321	540
Sept.			†28	62.9	† 1	54.0	56.9	3,377	2,072	3,377	593
Oct.			† 5	65.3	† 7	59.3	62.2	3,816	2,311	3,816	830
Nov.			† 1	63.9	†12	61.1	61.8	3,685	2,201	3,685	964
Dec.			† 1	62.2	†30	60.0	61.4	3,786	2,395	3,786	1,077
Yearly				65.3		51.9	56.5	40,959	23,609	40,959	9,080

‡ Discharge measurement made on this day ∅ Mean daily † And other days

LOURDES, HILDA, ERNESTINA, AND ROSITA SPRINGS NEAR CD. ACUNA, COAHUILA

LOURDES SPRING

DESCRIPTION: Rectangular sharp-crested weir of 28.8 second-foot capacity and staff gage located at latitude 29°26'35", longitude 101°03'30", at the base of the high bank of the Rio Grande, and about 11.1 miles northwest of Cd. Acuna, Coahuila. This creek enters the Rio Grande from the Mexican side at river mile 566.9, 12.2 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 681.9 river miles downstream from American Dam at El Paso, Texas. The zero of the gage is 926.28 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: 1969 through 1974.

REMARKS: This spring emerged since operation of Amistad Dam began in May 1968. All storm water from surface runoff passing this station is deducted. The daily flow throughout the year was 1.8 second-feet, and the volume for the year amounted to 1,281.1 acre-feet.

HILDA SPRING

DESCRIPTION: Rectangular sharp-crested weir of 53.0 second-foot capacity and staff gage located at latitude 29°26'20", longitude 101°03'35", about 328 feet from the confluence with the Rio Grande, and about 11.0 miles northwest of Cd. Acuna, Coahuila. This creek enters the Rio Grande from the Mexican side at river mile 566.7, 11.8 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 682.1 river miles downstream from American Dam at El Paso, Texas. The zero of the gage is 908.14 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: 1969 through 1974.

REMARKS: This spring emerged since operation of Amistad Dam began in May 1968. All storm water from surface runoff passing this station is deducted. The daily flow throughout the year ranged from 3.5 to 4.2 second-feet and averaged 3.5 second-feet. The volume for the year amounted to 2,665 acre-feet.

ERNESTINA SPRING

DESCRIPTION: A 90° V-notch weir of 1.4 second-foot capacity and staff gage located at the spring on the right bank of Arroyo del Buey about 100 feet from the right bank of the Rio Grande at latitude 29°24'20", longitude 101°02'15", and about 8.5 miles northwest of Cd. Acuna, Coahuila. This spring enters the Rio Grande at river mile 564.0, 9.3 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, 3.5 river miles downstream from Amistad Dam, and 684.8 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: November 7, 1961 through 1974.

REMARKS: The flow of this spring is small and very uniform except during periods of very heavy rainfall, at which time the capacity of the weir may be exceeded. The daily flow and the monthly average throughout the year ranged from 0.071 to 0.106 second-foot, or 32 to 48 gallons per minute. The volume for the year amounted to 58.8 acre-feet. Waters from this spring have a high sulphur content.

ROSITA SPRING

DESCRIPTION: Cipolletti weir of 3.5 second-foot capacity and staff gage located at the spring about 65 feet from the right bank of the Rio Grande at latitude 29°21'55", longitude 101°00'25", and about 5.5 miles northwest of Cd. Acuna, Coahuila. This spring, located in Mexico, enters the Rio Grande at river mile 560.4, 5.7 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, 7.1 river miles downstream from Amistad Dam, and 688.4 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: November 17, 1961 through 1974.

REMARKS: The flow of this spring is very uniform during periods of dry weather and is not modified by diversions or storage. The daily flow and the monthly average throughout the year ranged from 0.106 to 0.247 second-foot, or 48 to 111 gallons per minute. The volume for the year amounted to 104.7 acre-feet.

RIO GRANDE BELOW AMISTAD DAM, NEAR DEL RIO, TEXAS

DESCRIPTION: Cableway, gravity well, concrete control weir, and water-stage recorders (graphic and digital), and binary decimal transmitter located on the left bank at latitude 29°25'30", longitude 101°02'20", and river mile 565.3, 2.2 river miles downstream from Amistad Dam, 10.6 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 683.5 river miles downstream from American Dam at El Paso, Texas. The zero of the gage is 898.94 feet above mean sea level, U.S.C.&G.S. datum.

RECORDS: Based on 46 discharge measurements during the year, 27 by the Mexican Section and 19 by the United States Section of the Commission, and a continuous record of gage heights. Computations for high flows by shifting control methods. Low and medium flow computations based on a stable control weir rating curve defined by meter measurements. Records available: September 1954 through 1974. Records are also available from May 1900 through April 1915 for a station 1.9 miles upstream; from December 1919 through March 1920 for a station 1.7 miles downstream near McKee's Switch; from July 2, 1941 through August 1954, and October 1960 through 1967 for a station at the international highway bridge; and from December 1923 through July 2, 1941, and 1968 through 1974 for a station approximately 10.4 miles downstream.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. On May 31, 1968, Amistad Dam started impounding water. After this day, flow at this station is controlled largely by releases from Amistad Reservoir, 2.3 river miles upstream. The transmitter relays gage height data upon interrogation by telephone via private line to the Amistad office.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 1,158,000 second-feet on June 28, 1954, determined by slope-area computation, with a gage height of 55.72 feet at the old station site 500 feet downstream. This is the greatest rate of discharge recorded at any point on the Rio Grande. Max. since Amistad Dam, 62,200 second-feet on Sept. 21, 1974. Min. 48.0 second-feet on Dec. 21, 1968 with a gage height of 1.20 feet.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	189	76.6	‡3,780	869	6,140	1,640	1,300	1,270	5,190	‡15,400	10,000	7,450
2	196	76.6	3,780	897	6,180	1,640	1,310	1,270	5,190	15,400	9,920	7,450
3	178	74.9	3,780	886	4,480	1,640	1,310	1,270	3,740	15,300	9,920	7,450
4	194	74.9	3,740	883	4,520	1,640	1,310	1,270	5,260	15,300	9,850	7,450
5	194	74.9	3,740	890	6,220	1,640	1,310	1,270	‡ 5,260	15,300	9,850	7,450
6	194	74.9	3,740	890	6,220	1,810	1,310	1,270	5,260	15,300	9,850	7,420
7	181	74.9	3,740	890	6,140	2,880	1,300	1,270	5,260	15,300	9,850	7,420
8	186	76.6	3,740	890	‡6,140	2,880	‡ 1,300	‡ 1,270	5,260	15,300	9,850	7,450
9	183	76.6	3,740	890	3,850	2,890	1,300	1,270	5,190	15,300	9,850	7,450
10	186	76.6	3,670	890	1,990	2,890	1,310	1,270	5,220	15,300	9,820	5,620
11	186	74.9	3,710	886	1,990	2,900	1,310	1,270	5,190	15,200	9,110	1,450
12	186	74.9	3,710	886	1,990	2,900	1,300	1,270	5,190	15,200	7,800	1,430
13	189	74.9	3,710	886	1,990	‡ 2,910	1,300	1,270	5,160	15,100	7,800	1,420
14	189	74.9	‡3,710	886	1,970	2,910	1,300	1,270	5,160	15,100	7,800	1,420
15	186	74.9	2,040	890	1,990	2,910	1,300	1,270	5,160	15,100	7,770	1,420
16	189	74.9	893	890	2,010	2,910	1,300	1,270	5,190	15,000	7,730	1,420
17	183	70.3	893	890	1,990	2,300	1,300	1,270	6,890	‡15,000	7,700	1,420
18	183	63.9	865	886	1,990	1,310	‡ 1,310	1,270	‡ 23,900	14,200	7,700	1,420
19	181	93.6	886	886	1,990	1,320	1,300	1,270	‡ 43,800	‡12,900	7,660	1,470
20	181	151	886	886	1,990	‡ 1,320	1,300	1,270	43,800	12,800	7,630	1,520
21	181	166	886	886	1,990	1,310	1,310	1,270	‡ 53,300	11,400	‡ 7,660	1,520
22	183	165	886	890	3,140	1,310	1,310	1,280	‡ 61,100	10,100	7,630	1,520
23	181	1,450	886	883	4,100	1,310	1,300	‡ 1,280	‡ 60,000	10,000	7,590	‡1,700
24	178	2,420	886	876	4,100	1,310	1,300	1,280	‡ 59,300	10,000	7,590	2,150
25	183	3,220	886	‡1,320	4,100	1,310	1,300	1,280	58,300	9,990	7,590	2,190
26	181	3,740	886	1,170	4,100	1,310	1,290	1,280	‡ 51,900	9,960	7,590	2,190
27	181	3,740	939	886	4,100	1,310	1,290	1,290	‡ 37,800	9,890	7,590	2,160
28	146	3,780 ‡	886	886	3,140	1,310	1,290	2,970	‡ 25,200	9,850	7,490	2,160
29	77.7		886	‡ 893	1,660	1,310	1,260	5,190	‡ 19,900	9,850	7,490	2,160
30	73.1		886	2,910	‡1,660	1,310	1,270	5,190	‡ 18,200	9,850	7,490	2,160
31	74.9		886		1,640		1,270	5,190		‡ 9,890		2,160
Sum	5,373.7	20,266.7	68,552	29,347	105,510	58,340	40,270	52,900	645,270	409,580	253,170	109,070

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1968-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	0.42	0.26	2	196	30	73.1	173	10,652	49,754	91,162	5,318
Feb.	2.20	.20	28	3,780	18	51.2	724	40,217	123,875	467,202	12,467
Mar.	2.20	1.02	† 1	3,780	18	865	2,210	135,937	62,559	135,937	7,271
Apr.	2.79	1.02	30	6,070	1	869	978	58,215	59,633	93,899	27,570
May	2.92	1.44	† 5	6,220	31	1,640	3,400	209,260	133,370	237,405	24,137
June	1.94	1.28	†13	2,910	†27	1,310	1,940	115,673	111,778	260,436	16,418
July	1.28	1.25	† 3	1,310	29	1,260	1,300	79,788	74,573	140,070	23,182
Aug.	2.56	1.25	†29	5,190	† 1	1,270	1,710	105,068	74,848	173,166	15,589
Sept.	17.45	.33	21	62,200	3	127	21,500	1,280,079	262,699	1,280,079	17,606
Oct.	5.15	3.35	1	15,400	31	8,480	13,200	812,596	182,702	812,596	3,734
Nov.	3.67	3.12	1	10,000	29	7,490	8,440	502,295	104,587	502,295	4,539
Dec.	3.12	1.31	† 1	7,450	†13	1,420	3,520	216,286	62,491	216,286	4,859
Yearly	17.45	0.20		62,200		51.2	4,910	3,566,066	1,302,869	3,566,066	416,788

‡ Discharge measurement made on this day † And other days

SPRING M-15 AND SPRING M-5 NEAR CD. ACUNA, COAHUILA

SPRING M-15

DESCRIPTION: Rectangular sharp-crested weir of 8.1 second-foot capacity and staff gage located at latitude 29°25'10", longitude 101°02'45", about 1300 feet from the confluence with the Rio Grande, and about 9.4 miles northwest of Cd. Acuna, Coahuila. This creek enters the Rio Grande from the Mexican side at river mile 565.0, 10.3 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 683.8 river miles downstream from American Dam at El Paso, Texas. The zero of the gage is 925.13 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: 1969 through 1974.

REMARKS: This spring emerged since operation of Amistad Dam began in May 1968. All storm water from surface runoff passing this station is deducted and is not included in the tabulation below.

Month	Current Year 1974								Period 1969-1974		
	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.			†30	2.5	† 1	1.8	1.8	118	70.5	131	21.1
Feb.			† 1	2.5	†26	1.8	2.1	123	66.5	123	19.5
Mar.			† 1	1.8	† 1	1.8	1.8	109	66.5	122	21.9
Apr.			† 1	1.8	† 1	1.8	1.8	105	64.9	105	21.1
May			† 1	1.8	† 1	1.8	1.8	109	72.2	109	21.9
June			† 1	1.4	† 1	1.4	1.4	84.3	55.1	96.5	21.1
July			† 1	1.4	† 1	1.4	1.4	86.7	55.9	99.7	21.1
Aug.			† 1	1.4	† 1	1.4	1.4	86.7	63.2	122	0
Sept.			† 8	1.8	† 1	1.4	1.8	101	64.0	105	0
Oct.			† 1	1.8	† 1	1.8	1.8	109	68.1	117	0
Nov.			† 1	1.8	† 1	1.8	1.8	105	74.6	124	21.1
Dec.			† 1	1.8	† 1	1.8	1.8	109	79.4	131	21.9
Yearly				2.5		1.4	1.8	1,245.7	800.9	1,362.2	257.2

SPRING M-5

DESCRIPTION: Rectangular sharp-crested weir of 17.7 second-foot capacity and staff gage located at latitude 29°25'05", longitude 101°02'35", at the base of the high bank of the Rio Grande, and about 9.2 miles northwest of Cd. Acuna, Coahuila. This creek enters the Rio Grande from the Mexican side at river mile 564.8, 10.1 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 684.0 river miles downstream from American Dam at El Paso, Texas. The zero of the gage is 932.38 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: 1969 through 1974.

REMARKS: This spring emerged since operation of Amistad Dam began in May 1968. All storm water from surface runoff passing this station is deducted and is not included in the tabulation below.

Month	Current Year 1974								Period 1969-1974		
	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.			† 1	2.5	† 1	2.5	2.5	152	134	152	86.7
Feb.			† 1	2.5	† 1	2.5	2.5	137	118	142	78.6
Mar.			† 1	2.5	† 1	2.5	2.5	152	125	152	64.9
Apr.			† 1	2.5	† 1	2.5	2.5	147	120	152	63.2
May			† 1	2.5	† 1	2.5	2.5	152	126	173	64.9
June			† 1	2.5	† 1	2.5	2.5	147	114	147	63.2
July			† 1	2.5	† 1	2.5	2.5	152	111	155	43.8
Aug.			† 1	2.5	† 1	2.5	2.5	152	122	162	43.8
Sept.			† 1	2.8	† 1	2.8	2.8	168	122	168	42.2
Oct.			† 1	2.8	† 1	2.8	2.8	173	128	173	43.8
Nov.			† 1	2.8	† 1	2.8	2.8	168	126	168	63.2
Dec.			† 1	2.8	† 1	2.8	2.8	173	130	173	64.9
Yearly				2.8		2.5	2.5	1,873	1,476	1,873	723.2

∅ Mean daily † And other days

ARROYO JABONCILLOS NEAR CD. ACUNA, COAHUILA

DESCRIPTION: Cipolletti weir of 70.6 second-foot capacity and staff gage located at latitude 29°24'25", longitude 101°02'25", about 660 feet from the confluence with the Rio Grande, and about 8.6 miles northwest of Cd. Acuna, Coahuila. This creek enters the Rio Grande from the Mexican side at river mile 564.5, 9.8 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 684.3 river miles downstream from American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: 1969 through 1974.

REMARKS: At least 9 separate springs have emerged along this creek since operation of Amistad Dam began in May 1968. Prior to this time, flow in this creek was exclusively from storm runoff. All storm water from surface runoff passing this station is deducted and is not included in the tabulation below.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	69.6	70.3	70.3	‡ 68.9	67.1	65.7	‡ 65.7	62.5	65.0	⁼ 84.8	84.8	77.7
2	70.3	70.3	70.3	68.9	67.1	65.7	65.7	62.5	‡ 67.1	⁼ 84.8	84.4	‡ 77.3
3	70.3	70.3	70.3	68.9	67.1	‡ 65.7	65.7	62.5	68.9	⁼ 84.8	84.4	77.3
4	71.3	‡ 70.3	‡ 71.3	68.9	67.1	65.7	65.7	62.5	63.9	⁼ 84.8	84.0	77.3
5	71.3	70.3	71.3	68.2	67.1	65.7	64.3	‡ 62.5	68.9	⁼ 84.8	83.7	77.3
6	71.3	69.9	71.3	68.2	‡ 67.1	65.7	64.3	67.1	68.9	⁼ 84.8	83.7	77.3
7	‡ 71.3	69.6	71.3	68.2	66.4	65.7	64.3	67.1	67.1	⁼ 84.8	83.3	77.0
8	71.3	69.6	71.3	68.2	65.7	65.7	63.2	67.1	66.4	⁼ 84.8	83.0	77.0
9	71.3	69.6	71.3	68.2	66.4	65.7	63.2	67.1	66.4	⁼ 84.8	83.0	77.0
10	71.3	70.3	71.3	68.2	67.1	66.4	64.3	67.1	66.4	⁼ 84.8	82.6	77.0
11	71.3	72.0	71.3	68.2	67.5	66.4	64.3	65.7	66.4	⁼ 84.8	82.6	76.6
12	71.3	72.0	71.3	68.2	66.0	66.4	64.3	68.9	66.4	⁼ 84.3	82.3	75.9
13	71.3	72.0	71.3	68.2	67.1	66.4	65.3	68.9	68.9	⁼ 84.8	81.9	75.6
14	71.3	72.0	71.3	68.2	67.1	66.4	65.3	68.9	68.9	⁼ 84.8	81.9	75.6
15	71.3	72.0	71.3	68.2	67.1	65.7	65.3	68.9	68.9	⁼ 84.8	81.6	75.6
16	71.3	72.0	71.3	68.2	67.1	65.7	65.3	67.1	70.3	⁼ 84.8	81.2	75.2
17	71.3	72.0	71.3	68.2	67.1	65.7	65.3	67.1	⁼ 72.4	⁼ 84.8	81.2	75.9
18	71.3	72.0	71.3	68.2	67.1	66.4	65.3	67.1	⁼ 74.5	⁼ 84.8	‡ 80.9	75.9
19	71.3	70.3	71.3	68.2	67.1	66.4	65.3	63.2	⁼ 76.6	⁼ 84.8	80.5	75.9
20	71.3	70.3	71.3	68.2	67.1	66.4	65.3	63.2	⁼ 78.4	⁼ 84.8	80.5	75.2
21	71.3	68.9	71.3	68.2	67.1	66.4	65.3	63.2	⁼ 80.5	⁼ 84.8	80.2	75.2
22	71.3	68.9	71.3	69.6	67.1	66.4	61.8	63.2	⁼ 82.6	⁼ 84.8	80.2	75.9
23	70.3	70.3	71.3	69.6	67.1	66.4	61.8	63.2	⁼ 84.8	⁼ 84.8	79.8	77.0
24	70.3	68.9	71.3	69.6	67.1	64.3	61.8	63.2	⁼ 84.8	⁼ 84.8	79.8	77.0
25	70.3	68.9	71.3	69.6	67.1	64.3	61.8	63.2	⁼ 84.8	⁼ 84.8	‡ 79.5	77.0
26	70.3	69.6	71.3	68.2	67.1	64.3	62.5	65.0	⁼ 84.8	⁼ 84.8	79.1	77.0
27	70.3	69.6	69.6	68.2	67.1	64.3	62.5	65.0	⁼ 84.8	⁼ 84.8	78.8	77.0
28	70.3	69.6	69.6	68.2	65.7	64.3	62.5	65.0	⁼ 84.8	⁼ 84.8	78.4	77.0
29	70.3		68.9	67.1	65.7	64.3	62.5	65.0	⁼ 84.8	⁼ 84.8	78.4	77.0
30	70.3		68.5	67.1	65.7	64.3	62.5	65.0	⁼ 84.8	⁼ 84.8	78.0	77.0
31	70.3		68.2		65.7		62.5	65.0		⁼ 84.8		77.0
Sum	2,197.6	1,971.8	2,195.6	2,052.2	2,071.0	1,968.9	1,984.9	2,023.0	2,227.2	2,828.8	2,443.7	2,373.7

Month	Current Year 1974								Period 1969-1974		
	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
	High	Low	High		Low				Average	Maximum	Minimum
			Day		Day						
Jan.			† 4	71.3	1	69.6	71.0	4,359	2,473	4,471	349
Feb.			†11	72.0	†21	68.9	70.3	3,911	2,252	4,136	381
Mar.			† 4	71.3	31	68.2	71.0	4,356	2,452	4,552	526
Apr.			†22	69.6	†29	67.1	68.5	4,068	2,341	4,340	636
May			†11	67.5	8	65.7	66.7	4,107	2,346	4,356	721
June			†10	66.4	†24	64.3	65.7	3,904	2,203	3,951	578
July			† 1	65.7	†22	61.8	63.9	3,938	2,278	4,148	769
Aug.			†12	68.9	† 1	62.5	65.3	4,012	2,478	4,149	782
Sept.			†23	⁼ 84.8	1	65.0	*74.2	* 4,417	2,709	* 4,417	782
Oct.			† 1	⁼ 84.8	† 1	⁼ 84.8	⁼84.8	⁼ 5,211	3,133	⁼ 5,211	1,097
Nov.			† 1	84.8	30	78.0	81.6	4,847	3,091	4,847	1,282
Dec.			1	77.7	†16	75.2	76.6	4,709	3,183	4,709	1,393
Yearly				84.8		61.8	71.7	51,839	30,939	51,839	9,890

‡ Discharge measurement made on this day ⁼ Estimated * Partly estimated ∅ Mean daily
† And other days

ARROYO DEL BUEY AND ARROYO DE LA TREINTA Y UNA NEAR CD. ACUNA, COAHUILA

ARROYO DEL BUEY

DESCRIPTION: Cipolletti weir of 35.3 second-foot capacity, located at latitude 29°24'20", longitude 101°02'25", 0.2 creek mile from the confluence with the Rio Grande, and about 8.5 miles northwest of Cd. Acuna, Coahuila. This stream enters the Rio Grande from the Mexican side at river mile 564.0, 3.5 river miles downstream from Amistad Dam, 9.3 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 684.8 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: November 1961 through 1974.

REMARKS: The flow of this stream is not modified by diversions or storage. Prior to 1969 discharges were based on a continuous record of gage heights and the weir discharge table. Storm flow is deducted and not included in the tabulation below. This station was established for investigational purposes in connection with Amistad Dam to determine what effect storage in Amistad Reservoir will have on the flow of this stream. At approximately 0.3 creek mile upstream from the weir four springs have emerged since Amistad Reservoir storage began. Backwater from the Rio Grande will affect the flow of this stream when the flow in the river is approximately 20,000 second-feet.

Current Year 1974									Period #Nov. 1961-1974		
Month	Extreme Gage Feet		ø Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
				High		Low					
	High	Low	Day		Day				**Average	Maximum	Minimum
Jan.			† 1	7.4	† 1	7.4	7.4	456	222	528	6.8
Feb.			† 1	7.4	† 1	7.4	7.4	412	200	477	5.4
Mar.			† 1	7.4	† 1	7.4	7.4	456	215	520	9.3
Apr.			† 1	7.4	†28	6.7	7.1	425	259	540	6.3
May			† 1	6.7	† 1	6.7	6.7	413	271	544	10.9
June			† 1	6.7	† 1	6.7	6.7	399	236	492	6.3
July			† 1	6.4	† 1	6.4	6.4	391	211	503	6.5
Aug.			† 1	6.4	† 1	6.4	6.4	391	240	517	6.7
Sept.			†28	8.1	† 1	6.7	7.4	437	263	493	6.6
Oct.			†26	9.5	† 1	8.1	8.8	544	289	544	6.5
Nov.			† 1	9.9	30	7.1	8.5	515	243	515	6.3
Dec.			† 1	7.1	†15	6.7	6.7	422	242	538	6.5
Yearly				9.9		6.4	7.4	5,261	2,391	6,031	216.8

ARROYO DE LA TREINTA Y UNA

DESCRIPTION: Cipolletti weir of 35.3 second-foot capacity, located at latitude 29°22'40", longitude 101°01'10", 0.6 creek mile from the confluence with the Rio Grande, and about 6.5 miles northwest of Cd. Acuna, Coahuila. This stream enters the Rio Grande from the Mexican side at river mile 561.2, 6.3 river miles downstream from Amistad Dam, 6.5 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 687.6 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: May 1961 through 1974.

REMARKS: The flow of this stream is very uniform during periods of dry weather and is not modified by diversions or storage. Prior to 1969 discharges were based on a continuous record of gage heights and the weir discharge table. Storm flow is deducted and not included in tabulation below. This station was established for investigational purposes in connection with Amistad Dam to determine what effect storage in Amistad Reservoir will have on the flow of this stream. It is estimated that backwater from the Rio Grande will affect the flow at this station only during times of extremely high releases.

Current Year 1974									Period #May 1961-1974		
Month	Extreme Gage Feet		ø Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
				High		Low					
	High	Low	Day		Day				** Average	Maximum	Minimum
Jan.			† 1	4.6	† 1	4.6	4.6	282	122	282	15.2
Feb.			28	5.3	† 1	4.2	4.6	257	113	257	13.9
Mar.			†30	5.7	† 1	5.3	5.3	327	126	327	14.2
Apr.			† 1	5.7	†23	4.6	4.9	302	152	302	10.5
May			1	4.6	† 2	4.2	4.2	261	131	261	5.9
June			† 1	4.6	†24	3.9	4.2	254	116	254	4.2
July			†16	4.2	† 1	3.9	3.9	250	110	250	0
Aug.			† 1	4.2	† 1	4.2	4.2	260	118	276	0
Sept.			†29	4.6	† 1	3.9	4.2	245	145	257	13.1
Oct.			† 1	4.6	† 1	4.6	4.6	282	156	282	12.1
Nov.			† 1	4.6	† 1	4.6	4.6	273	136	273	14.2
Dec.			† 1	4.6	†15	4.2	4.2	271	137	282	15.2
Yearly				5.7		3.9	4.6	3,264	1,562	3,264	250.4

ø Mean daily † And other days # Some months missing ** See explanation in REMARKS above

MARIS SPRING NEAR CD. ACUNA, COAHUILA

DESCRIPTION: Cipolletti weir of 106 second-foot capacity and staff gage located at the spring about 100 feet from the right bank of the Rio Grande at latitude 29°24'00", longitude 101°01'55", and about 8 miles northwest of Cd. Acuna, Coahuila. This spring enters the Rio Grande at river mile 563.5, 8.8 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, 4.0 river miles downstream from Amistad Dam, and 685.3 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on periodic staff gage readings and the weir discharge table. Mean daily discharges determined by prorating between readings. Records available: November 14, 1961 through 1974.

REMARKS: The flow of this spring is very uniform during periods of dry weather and is not modified by diversions or storage. This station was established for investigational purposes in connection with Amistad Dam to determine what effect storage in Amistad Reservoir will have on the flow of this spring. All storm water from surface runoff passing this station is deducted and is not included in the tabulation below. Prior to May 1969 the weir had an 11.1 second-foot capacity.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	15.2	13.8	13.8	‡ 13.8	13.1	12.0	‡ 12.0	12.0	12.0	‡ 24.0	23.3	19.8
2	15.2	13.8	13.8	13.8	13.1	12.0	12.0	11.7	‡ 12.0	23.7	23.3	‡19.8
3	15.2	13.8	13.8	13.8	13.1	‡ 12.0	12.0	11.7	12.4	23.3	23.3	19.8
4	15.2	‡13.8	‡ 13.8	13.8	13.1	12.0	12.0	11.7	12.4	23.3	22.6	19.8
5	15.2	13.8	13.8	13.8	13.1	12.0	12.0	‡ 11.7	12.0	23.3	22.6	19.4
6	15.2	13.8	13.8	13.8	‡ 13.1	12.0	12.0	11.7	12.0	22.6	22.2	18.7
7	15.2	13.8	13.8	13.8	13.1	12.0	12.0	11.7	11.7	23.7	22.2	18.7
8	15.2	13.8	13.8	13.8	13.1	12.0	12.0	11.7	11.7	23.3	22.2	18.7
9	15.2	13.8	13.8	13.8	13.1	12.0	12.0	11.3	11.7	23.3	22.2	18.7
10	15.2	13.8	13.8	13.8	13.1	12.7	12.0	11.3	12.0	23.3	22.2	18.7
11	15.2	14.5	13.8	13.4	13.1	12.7	12.0	11.3	12.0	23.3	22.2	17.7
12	15.2	14.5	13.8	13.4	13.1	12.7	12.0	11.7	12.0	23.0	22.2	17.7
13	15.2	14.5	13.8	13.4	13.1	12.7	12.0	11.7	12.0	22.6	21.5	16.6
14	‡ 15.2	14.5	13.8	13.4	13.1	12.7	12.0	11.7	12.0	22.6	21.5	16.6
15	15.2	14.5	13.8	13.4	13.1	12.0	12.0	11.7	11.7	22.6	21.5	16.6
16	15.2	14.5	13.8	13.4	13.1	12.0	12.0	11.7	12.0	22.6	21.5	16.6
17	14.8	14.5	13.8	13.4	13.1	12.0	12.0	11.7	21.2	22.2	21.5	16.6
18	14.5	14.5	13.8	13.4	13.1	12.0	12.0	11.7	21.2	22.2	21.2	16.2
19	14.5	14.5	13.8	13.4	13.1	12.0	12.0	11.3	21.5	22.2	21.2	16.2
20	14.5	14.5	13.8	13.4	13.1	12.0	12.0	11.3	22.2	21.5	20.8	15.9
21	14.5	14.5	13.8	13.4	13.1	12.0	12.0	11.3	22.6	21.5	20.8	15.9
22	14.5	14.5	13.8	13.4	13.1	12.0	12.0	11.3	23.3	22.2	20.1	15.9
23	14.5	14.5	13.8	13.4	12.7	12.0	12.0	11.3	23.3	22.2	19.8	15.9
24	14.5	14.5	13.8	13.4	12.7	12.7	12.0	11.3	23.7	22.6	19.8	15.9
25	14.5	13.8	13.8	13.4	12.7	12.7	12.0	11.3	23.7	22.6	‡19.8	15.2
26	14.5	13.8	13.4	13.4	12.7	12.7	12.0	11.3	23.7	23.3	19.8	15.2
27	14.5	13.8	13.4	13.1	12.7	12.7	12.0	11.3	24.0	23.3	19.8	15.2
28	13.8	13.8	13.4	13.1	12.7	12.7	12.0	11.3	24.0	24.0	19.8	15.2
29	13.8		13.4	13.1	12.0	12.7	12.0	12.0	24.0	24.0	19.8	15.2
30	13.8		13.4	13.1	12.0	12.7	12.0	12.0	24.0	24.0	19.8	15.2
31	13.8		13.4		12.0		12.0	12.0		24.0		15.2
Sum	458.2	396.2	425.4	404.8	400.4	368.4	372.0	358.7	514.0	712.3	640.5	528.8

Month	Current Year 1974								Period #Dec. 1961-1974		
	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
	High	Low	High		Low				**Average	Maximum	Minimum
			Day		Day						
Jan.			† 1	15.2	†28	13.8	14.8	908	398	934	4.4
Feb.			†11	14.5	† 1	13.8	14.1	785	347	843	4.1
Mar.			† 1	13.8	†26	13.4	13.8	842	370	923	4.9
Apr.			† 1	13.8	†27	13.1	13.4	803	370	878	4.2
May			† 1	13.1	†29	12.0	13.1	793	467	976	8.7
June			†10	12.7	† 1	12.0	12.4	731	412	917	6.0
July			† 1	12.0	† 1	12.0	12.0	739	396	977	7.9
Aug.			† 1	12.0	† 9	11.3	11.7	710	415	1,064	6.2
Sept.			†27	24.0	† 7	11.7	17.3	1,019	557	1,111	5.4
Oct.			† 1	24.0	†20	21.5	23.0	1,414	667	1,420	4.6
Nov.			† 1	23.3	†23	19.8	21.5	1,271	570	1,338	4.2
Dec.			† 1	19.8	†25	15.2	17.0	1,048	481	1,187	4.4
Yearly				24.0		11.3	15.2	11,063	5,450	11,421	146.2

‡ Discharge measurement made on this day
** See explanation in REMARKS above
# Some months missing
† And other days
∅ Mean daily

EIGHT MILE CREEK NEAR DEL RIO, TEXAS

DESCRIPTION: Concrete wall with 90° V-notch weir of 6.9 second-foot capacity, bubbler gage, and water-stage recorder located on the left bank at latitude 29°24'05", longitude 101°00'55", 0.8 creek mile from the confluence with the Rio Grande, and about 8 miles northwest of Del Rio, Texas. This stream enters the Rio Grande from the United States side at river mile 562.9, 4.6 river miles downstream from Amistad Dam, 8.2 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 685.9 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on a continuous record of gage heights and the weir discharge table. Records available: March 1961 through 1974.

REMARKS: The source of flow of this stream is from surface runoff during rainy periods and the subsequent flow from underground seepage as a result of such rains. Flows of 0.05 second-foot or less are shown as zero in the discharge tabulations; however, the monthly volumes in the annual and period summary are based on the sum of mean daily discharges computed to the nearest hundredth of a second-foot when the mean daily flow is less than 0.1 second-foot. All storm water from surface runoff passing this station is deducted and is not included in the tabulation below. This station was established for investigational purposes in connection with Amistad Dam to determine what effect storage in Amistad Reservoir may have on the flow of this stream.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet				
Daily:	Max. 7.7	Oct. 25, 1974	Min. 0	Occasionally
Monthly:	Max. 5.4	Oct. & Nov. 1974	Min. 0	Occasionally
Yearly:	Max. 4.0	1974	Min. 0	Several years

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.9	4.2	4.1	4.0	4.6	3.0	3.2	3.0	3.1	5.4	5.8	4.6
2	3.9	4.2	4.1	4.0	4.0	2.9	3.2	3.0	3.3	5.5	6.0	4.5
3	3.8	4.0	4.0	4.1	3.8	2.8	3.1	3.0	3.6	5.2	6.2	4.5
4	4.0	3.9	4.0	3.8	3.7	2.7	3.1	3.0	3.5	5.1	5.9	4.6
5	4.1	4.0	4.0	3.8	3.6	2.8	3.1	3.0	3.3	4.9	5.7	4.8
6	4.2	4.0	4.0	3.8	3.5	2.8	3.0	3.0	3.2	4.9	5.7	4.8
7	4.2	3.9	3.9	3.9	3.5	2.7	3.0	3.3	3.3	4.9	6.1	4.7
8	4.1	3.8	4.0	3.7	3.6	2.6	3.1	3.1	3.3	4.8	6.0	4.5
9	4.1	3.8	3.9	3.6	3.7	2.5	3.0	3.0	3.2	4.8	5.8	4.5
10	4.0	4.0	3.9	3.8	4.6	2.5	3.0	3.0	3.2	4.8	5.8	4.6
11	4.0	4.0	3.8	3.8	4.4	2.6	3.0	3.0	3.3	4.8	5.5	4.5
12	4.0	4.1	3.9	3.7	4.0	2.6	3.0	3.5	3.2	4.8	5.4	4.5
13	3.9	4.2	4.0	3.7	3.8	2.6	3.1	3.6	3.0	4.8	5.4	4.6
14	4.0	4.2	4.1	3.6	3.8	2.7	3.1	3.5	3.0	4.8	5.2	4.6
15	4.0	4.1	4.2	3.6	3.6	2.8	3.1	3.4	3.0	4.6	5.2	4.6
16	4.0	4.0	3.9	3.6	3.6	2.8	3.0	3.3	3.2	4.6	5.2	4.3
17	4.1	4.2	4.0	3.5	3.6	2.8	3.0	3.3	3.6	4.6	5.2	4.4
18	4.1	4.2	4.0	3.6	3.6	2.9	3.0	3.3	4.2	4.6	5.3	4.3
19	4.0	4.1	4.0	3.6	3.6	3.0	3.0	3.3	4.6	4.5	5.4	4.3
20	4.1	4.2	3.8	3.6	3.5	2.8	3.0	3.3	4.4	4.5	5.3	4.3
21	4.1	3.8	3.5	3.7	3.5	2.6	3.0	3.3	4.6	5.5	5.2	4.3
22	4.2	3.9	3.7	3.7	3.6	2.8	3.0	3.3	4.8	6.9	5.3	4.5
23	4.0	4.0	3.9	3.6	3.5	3.0	3.0	3.2	4.9	6.2	5.4	4.6
24	3.9	3.9	3.6	3.6	3.4	3.2	3.0	3.2	5.3	6.8	5.0	4.5
25	4.0	3.9	3.7	3.6	3.4	3.4	3.0	3.2	5.5	7.7	4.8	4.6
26	4.0	3.9	3.8	3.6	3.3	3.3	3.0	3.2	5.5	7.1	4.9	5.1
27	4.1	4.2	4.0	3.6	3.1	3.0	3.0	3.2	5.5	6.8	4.8	4.9
28	4.0	4.2	4.1	3.5	3.3	3.1	2.9	3.3	5.5	6.4	4.9	5.0
29	4.0		4.1	3.6	3.3	3.0	2.9	3.4	5.4	6.2	4.6	4.9
30	4.1		4.2	4.0	3.3	3.0	2.9	3.3	5.6	6.1	4.6	5.1
31	4.2		4.2		3.3		2.9	3.2		6.0		4.9
Sum	125.1	112.9	122.4	111.3	113.1	85.3	93.7	99.7	121.1	168.6	161.6	142.9

Month	Current Year 1974: Extreme Gage Feet High	Low	Ø Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period #March 1961-1974: Acre-Feet Average	Maximum	Minimum
Jan.	1.28	1.14	† 6	4.2	3	3.8	4.0	248	42.2	248	0
Feb.	1.27	1.15	† 1	4.2	† 8	3.8	4.0	224	39.0	224	0
Mar.	1.31	1.13	†15	4.2	21	3.5	3.9	243	41.3	243	0
Apr.	2.00	1.12	3	4.1	†17	3.5	3.7	221	47.4	226	0
May	2.61	1.09	† 1	4.6	27	3.1	3.6	224	45.4	224	0
June	1.13	.99	25	3.4	† 9	2.5	2.8	169	40.0	214	0
July	1.17	1.02	† 1	3.2	†28	2.9	3.0	186	39.0	228	0
Aug.	1.37	1.07	13	3.6	† 1	3.0	3.2	198	50.9	198	0
Sept.	3.22	1.03	30	5.6	†13	3.0	4.0	240	48.6	240	0
Oct.	2.32	1.24	25	7.7	†19	4.5	5.4	334	69.0	334	0
Nov.	1.47	1.24	3	6.2	†29	4.6	5.4	321	53.6	321	0
Dec.	1.62	1.21	26	5.1	†16	4.3	4.6	283	59.3	283	0
Yearly	3.22	0.99		7.7		2.5	4.0	2,891	580.7	2,891	3.4

Some months missing Ø Mean daily † And other days

MCKEE SPRING NEAR DEL RIO, TEXAS

DESCRIPTION: Cipolletti weir of 21.5 second-foot capacity, gravity well, and water-stage recorder located on the source pool of this spring which is located on the left flood plain of the Rio Grande at latitude 29°23' 35", longitude 101°01' 15", about 150 feet from the edge of the low-flow channel and about 8 miles northwest of Del Rio, Texas. Water from this spring enters the Rio Grande at river mile 562.7, 4.8 river miles downstream from Amistad Dam, and 886.1 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 894.59 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on a continuous record of gage heights and the weir discharge table. Records available: November 1961 through 1974.

REMARKS: The flow of this spring is uniform during periods of dry weather and is not modified by diversions or storage. It is estimated that backwater from the Rio Grande will reach the emergence of this spring when the river flow is approximately 14,000 second-feet. This station was established for investigational purposes in connection with Amistad Dam to determine what effect storage in Amistad Reservoir may have on the flow of this spring.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet			
Daily:	Max. 9.1	Aug. 15, 1972	Min. 0	Occasionally
Monthly:	Max. 8.1	Sept. 1972	Min. 0	Occasionally
Yearly:	Max. 7.5	1974	Min. 0	1963

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	6.3	6.7	7.6	7.0	8.2	7.5	7.3	7.3	7.2	8.0	7.8	8.0
2	6.4	6.7	7.6	7.0	8.2	7.5	7.3	7.3	7.2	8.0	7.8	8.0
3	6.5	6.7	7.6	7.0	8.2	7.5	7.3	7.3	7.2	8.0	8.0	8.0
4	6.7	6.7	7.6	7.0	8.2	7.3	7.3	7.3	7.2	8.0	8.0	8.0
5	6.8	6.7	7.6	7.2	8.2	7.3	7.3	7.3	7.2	8.0	8.0	8.0
6	7.0	6.7	7.6	7.2	8.0	7.3	7.3	7.3	7.2	8.0	8.0	8.0
7	7.1	6.5	7.6	7.3	8.0	7.3	7.3	7.3	7.2	8.0	8.0	8.0
8	7.2	6.5	7.6	7.3	8.0	7.3	7.3	7.3	7.2	8.0	8.0	8.0
9	7.3	6.5	7.6	7.3	8.2	7.3	7.3	7.3	7.2	8.0	8.0	8.0
10	7.5	6.5	7.6	7.3	8.2	7.3	7.3	7.3	7.2	8.0	8.0	7.8
11	7.6	6.5	7.6	7.3	8.0	7.3	7.3	7.3	7.3	7.8	8.0	7.6
12	7.5	6.5	7.6	7.3	8.0	7.3	7.3	7.8	7.3	7.8	7.8	7.6
13	7.4	6.7	7.6	7.3	8.0	7.3	7.3	7.6	7.3	7.8	8.0	7.6
14	7.3	6.8	7.6	7.3	8.0	7.3	7.3	7.5	7.3	7.8	8.0	7.6
15	7.2	6.8	7.5	7.3	7.8	7.3	7.2	7.5	7.3	7.8	8.0	7.6
16	7.1	6.8	7.5	7.3	7.6	7.3	7.2	7.5	7.3	7.8	8.0	7.6
17	7.1	7.0	7.5	7.3	7.6	7.3	7.2	7.3	7.6	7.8	8.0	7.6
18	7.1	7.0	7.3	7.3	7.6	7.3	7.2	7.2	8.0	7.8	8.0	7.6
19	7.1	7.0	7.2	7.3	7.6	7.3	7.2	7.2	8.0	7.8	8.0	7.6
20	7.0	7.0	7.2	7.3	7.6	7.3	7.2	7.2	8.0	7.8	8.0	7.6
21	7.0	7.2	7.2	7.3	7.6	7.3	7.2	7.0	8.0	7.8	8.0	7.6
22	7.0	7.2	7.2	7.3	7.6	7.3	7.2	7.0	8.0	7.8	8.0	7.6
23	7.0	7.3	7.2	7.3	7.6	7.3	7.2	7.0	8.0	7.8	8.0	7.6
24	7.0	7.6	7.2	7.3	7.6	7.3	7.2	7.0	8.0	7.8	8.0	7.6
25	7.0	7.6	7.2	7.3	7.6	7.3	7.2	7.0	8.0	7.8	8.0	7.6
26	7.0	7.6	7.2	7.3	7.5	7.3	7.2	6.8	8.0	7.8	8.0	7.6
27	7.0	7.5	7.2	7.3	7.5	7.3	7.3	6.8	8.0	7.8	8.0	7.6
28	6.9	7.6	7.0	7.3	7.5	7.3	7.3	7.0	8.0	7.8	8.0	7.6
29	6.9		7.0	7.3	7.5	7.3	7.3	7.2	8.0	7.8	8.0	7.6
30	6.9		7.0	7.6	7.5	7.3	7.3	7.2	8.0	7.8	8.0	7.6
31	6.9		7.0		7.5		7.3	7.2		7.8		7.5
Sum	217.9	194.0	229.0	217.9	242.2	219.6	225.1	224.3	227.4	243.8	239.4	239.3

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Ø Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period Nov. 1961-1974: Acre-Feet Average	Maximum	Minimum
Jan.	0.66	0.65	11	7.6	1	6.3	7.0	432	197	432	0
Feb.	.70	.63	†24	7.6	† 7	6.5	6.9	385	179	407	0
Mar.	.70	.58	† 1	7.6	†28	7.0	7.4	454	200	455	0
Apr.	.70	.58	30	7.6	† 1	7.0	7.3	432	210	442	0
May	.75	.63	† 1	8.2	†26	7.5	7.8	480	236	480	.7
June	.69	.62	† 1	7.5	† 4	7.3	7.3	436	199	436	0
July	.68	.60	† 1	7.3	†15	7.2	7.3	446	196	446	0
Aug.	.71	.59	2	7.8	†26	6.8	7.2	445	201	445	0
Sept.		.67	†15	8.0	† 1	7.2	7.6	451	211	479	0
Oct.		.66	† 1	8.0	†11	7.8	7.9	484	226	484	0
Nov.	.72	.67	† 3	8.0	† 1	7.5	8.0	475	215	475	0
Dec.	.72	.69	† 1	8.0	31	7.5	7.7	475	219	475	0
Yearly		0.58		8.2		6.3	7.5	5,395	2,439	5,395	0.7

Ø Mean daily † and other days

CANTU SPRING ON CIENEGAS CREEK NEAR DEL RIO, TEXAS

DESCRIPTION: Gravity well and water-stage recorder located at the spring source in the channel of a small tributary to Cienegas Creek at latitude 29°23' 15", longitude 100°56' 00", about 2.5 miles northwest of Del Rio, Texas, and 3.5 creek miles from the confluence with the Rio Grande. The spring is isolated from surface runoff by the concrete enclosure but creek backwater may influence the recorded gage heights. Cienegas Creek enters the Rio Grande at river mile 556.6, 1.9 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 692.2 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on 50 discharge measurements during the year and a continuous record of gage heights. Records available: March 1961 through 1974.

REMARKS: The flow of this spring is very uniform and is not modified by diversions or storage. A weir was installed on May 24, 1961 and removed November 21, 1962. Flows of 0.05 second-foot or less are shown as zero in the discharge tabulations; however, the monthly volumes in the annual and period summary are based on the sum of mean daily discharges computed to the nearest hundredth of a second-foot when the mean daily flow is less than 0.1 second-foot. This station was established for investigational purposes in connection with Amistad Dam to determine what effect storage in Amistad Reservoir may have on the flow of this spring.

EXTREME FLOWS FROM RECORDS:

	Average Flow in Second-Feet					
Daily:	Max. 9.6	Sept. 7-10, 1972	Min. 0	Occasionally
Monthly:	Max. 8.7	Sept. 1972	Min. 0	Occasionally
Yearly:	Max. 7.7	1972	Min. 0	1963

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	7.5	6.1	6.3	7.4	‡ 7.2	5.4	5.5	5.3	5.8	7.4	7.7	7.8
2	7.8	6.1	6.4	7.5	6.9	5.3	5.5	5.3	5.6	7.4	7.7	7.9
3	8.0	6.1	6.4	‡ 7.6	6.7	5.2	‡ 5.5	5.3	5.5	7.5	7.7	8.0
4	‡ 8.3	6.1	6.5	7.3	6.4	5.1	5.5	5.3	5.4	‡ 7.6	7.7	‡ 8.1
5	8.0	6.0	6.5	7.0	6.1	‡ 5.0	5.6	5.3	‡ 5.2	7.5	7.6	8.1
6	7.7	‡ 6.0	‡ 6.6	6.7	5.8	5.1	5.6	5.3	5.3	7.3	‡ 7.6	8.0
7	7.5	6.0	6.6	6.5	5.6	5.1	5.7	‡ 5.3	5.4	7.2	7.7	8.0
8	7.2	5.9	6.6	6.2	‡ 5.3	5.2	5.7	5.4	5.4	7.1	7.8	7.9
9	‡ 6.9	5.9	6.6	5.9	5.4	5.3	5.8	5.5	5.5	6.9	7.9	7.9
10	6.9	5.9	6.5	‡ 5.6	5.4	5.4	‡ 5.8	5.6	5.6	‡ 6.8	8.0	7.8
11	7.0	5.9	6.5	5.8	5.5	5.4	5.7	5.6	‡ 5.7	6.8	8.1	‡ 7.8
12	7.0	5.8	6.5	5.9	5.5	‡ 5.5	5.6	5.7	5.8	6.9	8.2	7.8
13	7.0	‡ 5.8	‡ 6.5	6.1	5.6	5.5	5.5	5.8	5.9	6.9	‡ 8.3	7.9
14	7.0	5.8	6.6	6.2	5.6	5.4	5.5	‡ 5.9	5.9	7.0	8.2	7.9
15	7.1	5.9	6.7	6.4	‡ 5.7	5.4	5.4	5.9	6.0	7.0	8.1	7.9
16	‡ 7.1	5.9	6.8	6.5	5.8	5.3	5.3	5.8	6.1	7.1	8.0	7.9
17	7.1	5.9	6.9	‡ 6.7	5.9	5.3	‡ 5.2	5.8	6.2	‡ 7.1	8.0	8.0
18	7.1	5.9	7.0	6.7	6.0	5.2	5.3	5.8	6.3	7.0	7.9	‡ 8.0
19	7.1	6.0	7.1	6.6	6.2	‡ 5.2	5.3	5.8	6.4	6.9	7.8	7.9
20	7.2	‡ 6.0	‡ 7.2	6.6	6.3	5.2	5.4	5.7	6.4	6.8	‡ 7.7	7.7
21	7.2	6.0	7.2	6.5	6.4	5.3	5.5	‡ 5.7	6.5	6.6	7.7	7.6
22	7.2	6.1	7.1	6.5	‡ 6.5	5.3	5.6	5.8	6.6	6.5	7.6	7.5
23	‡ 7.2	6.1	7.1	6.4	6.4	5.4	5.6	5.9	6.7	‡ 6.4	7.6	7.3
24	7.1	6.1	7.0	‡ 6.4	6.3	5.4	‡ 5.7	6.0	6.8	6.6	7.6	‡ 7.2
25	6.9	6.1	7.0	6.5	6.2	5.5	5.6	6.1	6.9	6.8	7.6	7.3
26	6.8	6.2	7.0	6.6	6.0	‡ 5.5	5.6	6.2	6.9	7.0	7.5	7.3
27	6.6	‡ 6.2	6.9	6.7	5.9	5.5	5.5	6.3	7.0	7.2	‡ 7.5	7.4
28	6.5	6.3	‡6.9	6.9	5.8	5.5	5.5	‡ 6.4	7.1	7.4	7.6	7.4
29	6.3		7.0	7.0	5.7	5.5	5.4	6.2	7.2	7.6	7.7	7.5
30	‡ 6.2		7.1	7.1	‡ 5.6	5.5	5.4	6.1	7.3	‡ 7.8	7.8	7.5
31	6.2		7.2		5.5		‡ 5.3	6.0		7.8		7.6
Sum	220.7	168.1	210.3	197.8	185.2	159.9	171.1	178.1	184.4	219.9	233.9	239.9

Month	Current Year 1974								Period March 1961-1974		
	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
				High		Low					
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	2.72	2.66	4	8.3	†30	6.2	7.1	438	205	509	0
Feb.	2.77	2.66	28	6.3	†12	5.8	6.0	333	177	455	0
Mar.	2.86	2.69	†20	7.2	1	6.3	6.8	417	191	518	0
Apr.	2.92	2.82	3	7.6	10	5.6	6.6	392	188	480	0
May			1	7.2	8	5.3	6.0	367	181	476	0
June			†12	5.5	5	5.0	5.3	317	168	476	0
July			† 9	5.8	17	5.2	5.5	339	167	505	0
Aug.			28	6.4	† 1	5.3	5.7	353	182	494	0
Sept.			30	7.3	5	5.2	6.1	366	190	520	0
Oct.			†30	7.8	23	6.4	7.1	436	212	477	0
Nov.			13	8.3	†26	7.5	7.8	464	209	489	0
Dec.			† 4	8.1	24	7.2	7.7	476	222	510	0
Yearly				8.3		5.0	6.5	4,698	2,292	5,619	0

‡ Discharge measurement made this day ∅ Mean daily † And other days

CIENEGAS CREEK NEAR DEL RIO, TEXAS

DESCRIPTION: Gravity wells and water-stage recorders located, one each, on the left bank of the Cienegas Creek at latitude 29°21'00", longitude 100°56'40", 0.3 creek mile from the confluence with the Rio Grande; and, for the Briggs Farm Ditch, on the right bank of a concrete flume at latitude 29°21'40", longitude 100°56'30", 2,900 feet from the ditch intake which branches off the right bank of Cienegas Creek immediately upstream from a small diversion dam across the creek, and about 2.5 miles west of Del Rio, Texas. The point of diversion is 1.8 creek miles from the confluence with the Rio Grande. Cienegas Creek enters the Rio Grande at river mile 556.6, 1.9 river miles upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 692.2 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gages has not been determined.

RECORDS: Based on 50 and 50 discharge measurements at Cienegas Creek and Briggs Farm Ditch, respectively, during the year and a continuous record of gage heights. Mean daily discharge computations determined by combining the two records for the total yield of the springs. Records available: March 1965 through 1974. Discharge measurement data available since November 1962. Records are also available from September 1931 through June 1935 for a station 0.1 creek mile downstream.

REMARKS: Low flow of this stream is from springs, one of which is Cantu Spring whose discharge is shown on page 41. The flow of this stream is modified by irrigation diversions through the Briggs Farm ditch and, occasionally, by other smaller diversions upstream. During 1974 there were no appreciable diversions from the creek, other than through the Briggs Farm ditch whose net amount of diversion is included in the tabulation below. All storm flow passing this station is deducted and is not included in the tabulation. These stations were established for investigational purposes in connection with Amistad Dam to determine what effect storage in Amistad Reservoir may have on the flow of these springs.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	14.9	12.5	16.4	13.6	15.8	13.2	12.4	11.6	13.8	12.9	17.2	15.8
2	15.5	13.2	16.4	13.4	15.5	13.1	12.7	11.7	13.7	12.7	17.4	16.3
3	16.2	16.4	16.5	13.5	15.1	12.9	12.7	12.9	18.1	12.7	17.1	16.5
4	17.0	17.9	16.7	13.6	15.0	13.4	12.6	12.7	15.6	12.3	17.3	16.5
5	17.0	18.5	16.7	14.3	15.2	12.8	12.6	12.6	15.1	12.8	16.7	16.5
6	17.1	17.4	16.8	15.3	14.6	12.9	12.5	13.1	14.6	13.7	15.8	17.0
7	17.2	15.9	16.7	15.1	14.6	12.8	12.2	13.5	14.7	15.9	15.9	16.3
8	16.7	15.7	16.6	15.0	15.2	12.8	12.5	13.3	14.6	16.1	16.3	15.6
9	16.7	15.7	16.5	14.9	15.7	13.4	12.5	12.5	14.5	16.2	15.9	16.0
10	16.9	15.6	17.0	15.0	19.2	13.4	12.5	12.3	13.8	16.4	15.7	16.0
11	16.4	16.3	16.9	14.5	16.4	13.2	12.6	11.9	14.2	16.0	15.5	16.6
12	16.6	16.1	16.9	12.1	16.3	13.6	12.4	17.9	14.4	15.4	15.7	16.6
13	15.9	15.2	16.9	13.4	16.5	13.6	13.3	20.9	14.2	15.4	15.4	16.5
14	16.1	14.0	18.1	13.8	16.0	13.6	13.2	17.5	14.0	14.8	15.6	16.4
15	16.5	13.5	17.7	14.4	16.0	13.5	13.2	15.8	13.9	14.4	15.5	17.1
16	16.7	14.7	17.5	14.8	15.6	13.1	12.7	14.4	13.8	13.5	16.1	17.0
17	16.3	14.8	16.9	14.7	15.5	11.9	12.7	14.4	13.8	13.0	16.0	16.2
18	15.7	14.2	16.4	14.4	15.5	11.2	12.4	13.2	14.0	12.9	16.2	16.7
19	15.6	15.5	16.2	14.4	14.9	11.2	11.1	13.1	13.9	13.3	16.4	16.8
20	15.3	15.9	16.2	14.6	15.4	11.4	11.2	13.0	13.6	13.3	16.3	16.8
21	15.6	16.4	15.5	13.5	14.7	11.5	11.0	12.8	13.4	15.4	15.8	16.8
22	16.0	15.2	15.6	13.5	14.5	11.7	11.0	12.9	13.1	15.8	15.4	16.9
23	16.5	14.1	15.6	13.4	13.8	11.7	11.0	12.9	12.8	15.6	16.5	16.9
24	16.1	14.6	15.0	13.8	13.8	11.9	11.1	12.6	12.7	17.6	17.0	16.7
25	15.5	14.7	15.1	13.8	13.7	12.0	11.6	12.3	12.2	20.2	16.7	17.9
26	15.1	15.2	15.7	13.9	13.1	12.6	11.1	12.7	12.5	18.3	16.1	19.4
27	14.6	16.3	15.9	14.1	13.1	12.7	11.0	13.1	13.6	17.8	15.6	18.1
28	13.3	16.4	15.7	13.2	13.2	12.7	11.0	14.0	13.0	17.6	15.9	18.2
29	12.7		15.2	13.3	13.3	12.7	11.2	14.5	12.9	17.6	15.4	17.5
30	12.4		15.1	15.9	13.7	12.7	11.2	14.2	12.9	18.2	15.5	17.2
31	12.3		13.7		13.7		11.7	13.9		17.4		17.1
Sum	486.4	431.9	504.1	423.2	464.6	379.2	372.9	424.2	417.4	475.2	483.9	521.9

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Ø Extreme Second-Feet High Day	Ø Extreme Second-Feet High	Ø Extreme Second-Feet Low Day	Ø Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period Mar. 1965-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.			7	17.2	31	12.3	15.7	965	599	1,083	134
Feb.			5	18.5	1	12.5	15.4	857	539	1,003	98.0
Mar.			14	18.1	31	13.7	16.3	1,000	566	1,103	102
Apr.			30	15.9	12	12.1	14.1	839	525	1,060	100
May			10	19.2	†26	13.1	15.0	922	529	1,019	109
June			†12	13.6	†18	11.2	12.6	752	459	1,070	86.3
July			13	13.3	†21	11.0	12.0	740	462	1,063	85.5
Aug.			13	21.5	1	11.6	13.7	841	530	1,241	48.4
Sept.			3	18.1	25	12.2	13.9	828	527	1,043	84.1
Oct.			25	20.2	4	12.3	15.3	943	654	1,135	150
Nov.			2	17.4	†13	15.4	16.1	960	609	1,027	152
Dec.			26	19.4	8	15.6	16.8	1,035	638	1,035	133
Yearly				21.5		11.0	14.8	10,682	6,637	12,352	1,530.9

Ø Mean daily † And other days

RIO GRANDE AT DEL RIO, TEXAS

DESCRIPTION: Cableway, gravity well, concrete control weir, water-stage recorders (graphic and digital), and binary decimal transmitter located on the right bank 1,200 feet upstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila at latitude 29°19' 35", longitude 100°55' 50", and river mile 554.9; 12.6 river miles downstream from Amistad Dam, and 693.9 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 869.20 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 27 discharge measurements during the year, 21 by the United States Section and 6 by the Mexican Section of the Commission, and a continuous record of gage heights. Computations for high flow by shifting control methods. Low and medium flow computations based on a stable control weir rating curve defined by meter measurements. Records available: December 1923 through July 2, 1941 and January 1968 through 1974. Records are available from May 1900 through April 1915 for a station 12.2 miles upstream; from December 1919 through March 1920 for a station 8.7 miles upstream near McKee's Switch; from July 2, 1941 through 1954 and October 1960 through 1967 for a station 1,200 feet downstream at the international highway bridge; and from September 1954 through 1974 for a station, Rio Grande below Amistad Dam, 10.4 miles upstream.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. Except for tributary inflows and small intervening diversions below Amistad Dam, flow at this station, after May 31, 1968 is controlled largely by releases from Amistad Reservoir. The concrete control weir was placed in operation on February 8 and the cable on June 7, 1968. The transmitter, operated in cooperation with the National Weather Service, relays gage height data upon interrogation by telephone via commercial circuits.

EXTREME FLOWS FROM RECORDS: The greatest recorded flow of 1,140,000 second-feet occurred on June 28, 1954, with a gage height of 38.25 feet at a station 1,200 feet downstream. This peak flow was deduced by subtracting 18,000 second-feet from the peak discharge which occurred below Amistad Dam Site, 10.5 miles upstream. This subtraction was for estimated flattening of the flood wave in traveling between these points. The lowest recorded flow was 142 second-feet which occurred August 14, 1971, with a gage height of 1.27 feet.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	326	‡ 186	‡4,060	1,030	6,570	1,810	1,490	1,440	5,420	‡15,100	10,700	7,760
2	337	186	4,060	1,010	6,570	1,810	1,480	1,450	5,460	15,000	10,700	7,740
3	327	181	4,060	1,020	4,970	1,810	1,480	1,440	3,950	‡15,000	10,700	7,760
4	337	181	4,070	‡ 1,020	4,960	1,820	1,490	1,440	5,520	15,000	10,600	7,760
5	324	184	4,070	1,020	6,610	1,830	1,480	1,450	‡ 5,510	14,900	10,500	7,720
6	324	181	4,060	1,020	6,610	‡ 2,130	1,490	1,460	5,500	14,900	10,700	7,670
7	322	175	4,040	1,020	6,580	3,100	1,480	1,470	5,490	14,900	10,600	7,630
8	324	179	4,050	1,030	‡ 6,610	3,120	1,480	1,450	5,460	14,800	10,600	7,640
9	326	181	4,060	1,020	4,680	3,130	1,480	1,440	5,460	14,800	10,600	7,640
10	325	181	4,050	1,030	2,290	3,130	‡ 1,460	1,430	5,470	14,800	10,600	6,360
11	332	183	4,050	1,020	2,210	3,150	1,480	1,430	5,450	14,700	9,760	1,710
12	335	186	4,030	1,020	2,220	3,130	1,480	1,550	5,460	14,700	7,910	1,660
13	334	186	4,050	1,030	2,230	3,170	1,490	1,460	5,420	14,700	7,930	1,640
14	337	186	4,080	1,030	2,220	3,160	1,480	1,450	5,420	14,700	7,910	1,630
15	331	182	2,320	1,040	2,220	3,150	1,490	1,440	5,410	14,600	7,880	1,630
16	334	180	1,070	1,040	2,210	3,140	1,490	1,440	5,450	14,600	7,900	1,630
17	‡ 332	181	1,070	1,030	2,220	2,720	1,490	1,430	6,730	14,600	7,900	1,620
18	330	179	1,070	1,040	2,210	1,510	1,480	1,430	24,000	14,300	7,930	1,620
19	321	190	1,050	1,040	2,220	1,480	1,490	1,430	‡ 43,900	13,400	7,950	‡1,600
20	331	313	1,050	1,030	2,220	1,480	1,480	1,430	‡ 43,800	13,400	‡7,950	1,610
21	329	307	1,050	1,030	2,220	‡ 1,480	1,490	1,430	51,300	12,300	7,940	1,600
22	334	357	1,050	1,030	3,130	1,480	1,490	‡ 1,430	‡ 63,800	10,800	7,890	1,600
23	335	1,440	1,050	1,020	4,270	1,480	1,490	‡ 1,430	‡ 62,600	10,600	7,890	1,690
24	338	2,650	1,050	1,030	4,280	1,490	1,480	1,430	62,200	10,600	7,910	2,280
25	350	3,280	1,050	‡ 1,370	4,280	1,490	1,480	1,450	‡ 61,600	10,700	7,890	2,340
26	358	4,080	1,050	1,440	4,260	1,490	‡ 1,480	1,450	56,900	10,600	7,880	2,330
27	351	4,080	1,070	1,020	4,250	1,490	1,480	1,450	40,400	10,500	7,830	2,310
28	342	4,070	1,010	1,020	3,640	1,490	1,480	2,730	‡ 27,200	10,500	7,820	2,290
29	243		1,030	1,020	1,830	1,490	1,470	5,360	20,300	10,500	7,790	2,290
30	231		1,030	2,470	‡ 1,820	1,490	1,440	5,470	‡ 18,700	10,500	7,800	2,290
31	221		1,030		‡ 1,820		1,440	5,420		10,500		2,290
Sum	10,021	24,045	75,890	32,990	114,430	64,650	45,880	58,010	669,280	411,000	265,980	115,340

Month	Current Year 1974								Period #1968-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	1.51	1.39	†25	364	31	214	323	19,876	53,654	90,952	14,497
Feb.	2.57	1.35	†25	4,110	18	142	859	47,693	123,506	448,205	18,633
Mar.	2.90	1.91	14	4,250	†28	1,010	2,450	150,526	68,070	150,526	17,293
Apr.	3.37	1.90	30	6,680	† 6	936	1,100	65,435	65,058	93,320	33,846
May	3.37	1.67	† 1	6,680	4	561	3,690	226,969	137,776	245,046	30,928
June	2.65	2.07	† 9	3,180	21	1,370	2,160	128,231	115,486	250,318	23,143
July	2.13	2.07	† 8	1,520	†20	1,370	1,480	91,002	79,281	138,413	31,474
Aug.	3.16	2.07	†29	5,520	† 1	1,370	1,870	115,061	82,830	185,871	28,326
Sept.	14.08	1.61	22	64,400	3	469	22,300	1,327,497	277,683	1,327,497	38,850
Oct.	4.82	3.87	1	15,200	31	9,890	13,300	815,207	192,390	815,207	11,578
Nov.	3.99	3.55	† 1	10,800	†28	7,760	8,870	527,524	113,377	527,524	13,644
Dec.	3.55	2.16	† 1	7,760	†18	1,600	3,720	228,774	69,384	228,774	13,918
Yearly	14.08	1.35		64,400		142	5,170	3,743,795	1,378,506	3,743,795	503,583

‡ Discharge measurement made on this day
† And other days

Values for January 1968 are Rio Grande near Del Rio discharge less Arroyo Las Vacas flow

ARROYO LAS VACAS AT CD. ACUNA, COAHUILA

DESCRIPTION: Concrete wall with a 90° V-notch weir of 353 second-foot capacity, gravity well, and water-stage recorder located on the left bank at Cd. Acuna, Coahuila, latitude 29°19'45", longitude 100°57'20", and 1.8 creek miles from the confluence with the Rio Grande. This stream enters the Rio Grande at river mile 554.7, on the upstream side of the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, 12.8 river miles downstream from Amistad Dam, and 694.1 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 885.82 feet above mean sea level, U. S. C.& G. S. datum.

RECORDS: Based on 2 discharge measurements during the year, a stable rating curve up to 353 second-feet, which is the capacity of the weir, and a continuous record of gage heights. Computations by shifting control methods for flows exceeding the capacity of the weir. During 1974, the capacity of the weir was exceeded on August 12, September 18, and October 21. Records available: Occasional estimates from June 1935 to March 19, 1938 and a continuous record from March 20, 1938 through 1974.

REMARKS: Low flow of this stream is from springs and is modified by irrigation diversions upstream. On June 17, 1961, a flood destroyed the station leaving the control wall under several feet of silt. The station was reconstructed in September and a V-notch weir with a capacity of 353 second-feet, constructed at this station, started operating December 14, 1961. On June 28, 1954, backwater from the Rio Grande reached an elevation of 902.49 feet at this station. Records prior to 1965 were published under the title "Arroyo Las Vacas near Cd. Acuna, Coahuila."

EXTREME FLOWS FROM RECORDS: Momentary: Max. 63,570 second-feet with a gage height of 25.26 feet on June 17, 1961. Min. no flow several occasions in 1956, 1957, 1960, 1961, and September 1, 1967.

Average Flow in Second-Feet**

Daily:	Max. 23,940	June 17, 1961	Min. 0	Several days Dec. 1956, Jan. 1957 and Sept. 1, 1967
Monthly:	Max. 1,050	June 1961	Min. 0.4	Several months 1952, 1953, & 1954
Yearly:	Max. 96.7	1961	Min. 2.8	1952

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	7.8	11.7	6.0	6.0	8.1	2.8	1.4	1.1	1.8	8.5	11.3	8.5
2	7.8	11.7	7.1	5.6	5.3	2.8	1.4	1.1	252	8.5	11.3	8.5
3	8.5	10.9	7.1	5.6	4.2	2.8	1.1	1.1	126	8.8	10.2	8.5
4	8.5	12.4	6.7	5.3	4.2	3.2	1.1	1.1	3.5	7.1	9.9	7.1
5	8.5	13.1	6.7	5.3	4.2	3.2	1.1	1.1	2.8	7.8	9.9	7.1
6	8.5	10.2	6.7	5.3	4.2	3.5	1.1	1.1	2.8	8.5	9.9	6.0
7	8.5	7.8	6.7	5.3	4.2	4.2	1.1	1.1	2.8	7.8	9.9	6.0
8	8.5	7.1	6.7	5.3	4.2	4.2	1.4	1.4	2.8	7.8	9.9	6.0
9	8.5	7.1	6.7	5.3	13.8	2.8	1.4	1.4	2.8	7.8	9.9	6.0
10	8.5	7.1	6.7	5.3	8.1	2.1	1.4	1.4	2.8	7.1	9.9	6.0
11	8.5	6.7	6.7	5.3	5.7	2.1	1.4	1.4	2.8	5.7	9.9	6.0
12	8.5	6.7	7.1	5.3	5.3	2.1	1.4	‡ 675	2.8	5.3	8.5	8.1
13	8.5	6.7	7.1	5.7	5.3	2.1	1.4	9.5	2.8	4.6	9.2	4.6
14	8.5	7.1	8.5	5.7	5.3	2.1	1.4	3.5	2.8	5.3	9.2	5.3
15	8.5	6.7	8.5	5.7	4.2	2.1	1.4	2.8	2.8	4.9	9.9	7.1
16	8.5	6.4	8.5	5.7	4.2	2.1	1.4	2.8	22.6	4.6	9.9	7.4
17	8.5	6.0	8.5	5.7	4.2	2.1	1.4	2.8	34.3	4.2	9.9	7.8
18	8.1	6.0	7.1	5.7	4.2	2.1	1.4	2.8	‡2,750	4.2	9.9	6.7
19	7.4	6.0	6.0	5.7	4.2	2.1	1.4	2.1	143	4.2	9.9	5.3
20	6.7	6.0	6.0	6.0	3.5	2.1	1.4	2.1	48.3	4.2	9.2	7.1
21	6.0	6.0	6.0	6.0	3.5	2.1	1.4	2.1	69.2	46.6	8.5	8.5
22	6.0	6.0	6.0	6.0	3.5	2.1	1.1	2.1	43.1	46.6	9.2	6.4
23	6.0	6.0	6.0	6.0	3.5	2.1	1.1	2.1	38.8	8.1	10.9	6.7
24	6.0	6.0	6.0	6.0	3.5	1.4	1.1	2.1	42.0	20.1	10.9	5.7
25	6.0	6.0	6.0	6.0	3.5	1.4	1.1	2.1	38.8	49.3	11.3	6.0
26	6.0	6.0	6.0	6.0	3.2	1.4	1.1	2.1	33.9	15.2	11.3	7.1
27	6.0	6.0	6.0	4.2	3.2	1.4	1.1	2.1	20.1	14.1	10.6	8.5
28	8.5	6.0	6.0	4.2	2.8	1.4	1.1	2.1	14.5	15.2	9.2	10.2
29	8.5		6.0	3.9	3.2	1.4	1.1	2.1	10.9	14.1	8.5	11.7
30	8.5		6.0	7.1	3.2	1.4	1.1	2.1	10.2	12.4	8.5	13.1
31	8.5		6.0		3.2		1.1	2.1		11.7		11.7
Sum	241.3	211.4	207.1	166.2	142.9	68.7	38.9	739.8	3,731.8	380.8	296.5	230.7

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	0.52	0.46	† 3	8.5	†21	6.0	7.8	478	353	910	31.5
Feb.	.62	.46	5	13.1	†17	6.0	7.4	419	503	5,950	33.3
Mar.	.62	.46	14	13.1	† 1	6.0	6.7	410	561	2,600	59.2
Apr.	.72	.39	30	19.1	29	3.9	5.7	329	1,456	16,610	75.4
May	.69	.33	1	18.0	28	2.8	4.6	285	1,373	9,080	90.0
June	.52	.28	6	8.5	†24	1.4	2.1	137	2,696	62,520	43.3
July	.33	.23	2	2.8	† 3	1.1	1.4	76.2	871	8,230	28.8
Aug.	5.97	.23	12	5,050	† 1	1.1	24.0	1,467	1,152	13,661	42.2
Sept.	9.91	.28	18	11,400	1	1.8	124	7,404	3,117	49,566	37.3
Oct.	2.20	.39	21	396	†17	4.2	12.4	756	1,702	20,444	22.6
Nov.	.59	.49	† 1	11.3	29	7.8	9.9	588	357	1,670	21.0
Dec.	.62	.43	†30	13.1	13	4.6	7.4	456	330	780	22.0
Yearly	9.91	0.23		11,400		1.1	17.7	12,805.2	14,481	70,026.3	2,066.7

‡ Discharge measurement made on this day ** Period 1938-1974 † And other days

SAN FELIPE SPRINGS AT DEL RIO, TEXAS

DESCRIPTION: Two large and at least two smaller springs rise near the northeast city limits of Del Rio, Texas in or near the channel of San Felipe Creek at latitude 29°22'20" and longitude 100°53'00". The total yield of these springs consists of waters measured in the Val Verde Canal at Del Rio, Texas and in San Felipe Creek at Moore Park, Del Rio, Texas, and diversions by the city of Del Rio. Diversions by the San Felipe Irrigation Company through the Val Verde Canal are measured at a gaging station consisting of a paved measuring section and gravity well and water-stage recorder located on the left side of the canal under the U. S. Highway 277 Bridge across San Felipe Creek at latitude 29°21'55" and longitude 100°53'10". The bridge is located about 0.6 creek mile downstream from the source of the springs and 2.9 creek miles from the confluence of the creek with the Rio Grande. The gaging station on San Felipe Creek at Moore Park consists of gravity well and water-stage recorder located on the left bank about 300 feet downstream from the U. S. Highway 277 Bridge at latitude 29°21'50" and longitude 100°53'10". This stream enters the Rio Grande at river mile 553.1, 1.6 river miles downstream from the international highway bridge between Del Rio, Texas, and Cd. Acuna, Coahuila, and 695.7 river miles downstream from the American Dam at El Paso, Texas. The zeros of the gages for the two stations are, respectively, 942.58 feet and 930.77 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Records for the Val Verde Canal and San Felipe Creek at Moore Park are based on 52 and 52 discharge measurements, respectively, by wading during the year, and continuous records of gage heights. Computations by shifting control methods. Records for the Del Rio Pumping Plant are furnished by the City of Del Rio Water Department. Records available: Total yield of the springs, Feb. 1961 through 1974.

REMARKS: The flows tabulated below represent only the total yield of the springs. All storm runoff has been eliminated from the tabulations.

Average Flow in Second-Feet

Daily:	Max. 155	June 11, 1973	Min. 29.2	July 29, 1964
Monthly:	Max. 145	Dec. 1972	Min 34.4	August 1964
Yearly:	Max. 139	1973	Min. 50.5	1963

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	141	147	135	131	132	136	128	128	128	128	131	130
2	143	148	137	138	129	133	126	125	128	131	130	130
3	143	149	129	137	123	130	126	125	129	132	129	130
4	142	150	127	138	128	133	125	126	133	134	130	131
5	140	148	130	137	134	138	128	124	131	136	129	132
6	142	141	129	139	130	133	130	131	131	132	131	132
7	140	140	130	135	131	131	130	128	130	134	135	133
8	140	137	131	137	131	131	133	127	129	132	136	133
9	140	140	130	133	132	131	131	126	130	133	135	129
10	136	140	130	137	137	130	128	127	128	134	134	128
11	135	141	131	135	136	131	129	129	126	133	132	128
12	134	138	133	136	133	131	131	136	129	134	131	128
13	135	139	132	132	134	132	133	135	136	135	128	128
14	132	139	134	136	129	133	132	135	136	136	127	128
15	136	138	136	132	127	127	130	137	133	135	127	127
16	140	136	134	130	129	129	129	136	132	132	124	130
17	136	135	142	129	132	132	130	136	133	129	124	132
18	138	136	139	130	133	132	131	132	146	130	124	130
19	139	136	131	129	134	134	131	133	137	124	123	129
20	140	135	128	129	141	134	129	132	136	125	125	130
21	135	136	130	130	138	132	128	136	136	127	124	128
22	134	136	131	128	138	133	128	136	135	127	130	129
23	137	136	133	129	137	133	128	129	136	127	130	128
24	139	135	133	129	137	134	128	128	136	129	130	131
25	140	134	134	129	140	134	126	123	132	131	128	132
26	138	135	134	131	135	137	126	128	130	127	124	131
27	139	134	132	129	136	136	131	131	131	129	124	129
28	140	135	132	130	137	128	130	130	131	127	129	130
29	141		132	130	136	131	127	132	130	131	130	128
30	144		134	131	137	131	129	130	129	135	131	129
31	147		135		138		128	127		134		128
Sum	4,306	3,894	4,108	3,976	4,144	3,970	3,999	4,038	3,967	4,063	3,865	4,021

Month	Current Year 1974								Period Feb. 1961-1974		
	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
	High	Low	Day	High	Day	Low			Average	Maximum	Minimum
Jan.			31	147	14	132	139	8,541	5,818	8,860	2,274
Feb.			4	150	†25	134	139	7,724	5,229	7,771	2,119
Mar.			17	142	4	127	133	8,148	5,651	8,521	2,365
Apr.			6	139	22	128	133	7,886	5,402	8,340	2,291
May			20	141	3	123	134	8,220	5,693	8,620	2,842
June			5	138	15	127	132	7,874	5,524	8,346	2,481
July			† 8	133	4	125	129	7,932	5,638	8,670	2,214
Aug.			15	137	25	123	130	8,009	5,576	8,337	2,114
Sept.			18	146	11	126	132	7,868	5,523	8,329	2,555
Oct.			† 5	136	19	124	131	8,059	6,006	8,874	2,508
Nov.			8	136	19	123	129	7,666	5,795	8,521	2,384
Dec.			† 7	133	15	127	130	7,976	6,082	8,926	2,390
Yearly				150		123	132	95,903	67,937	100,796	36,580

∅ Mean daily † And other days

SAN FELIPE CREEK NEAR DEL RIO, TEXAS

DESCRIPTION: Cableway, bubbler gage, and water-stage recorders (graphic and digital) located on the right bank at latitude 29°19'55", longitude 100°53'20", immediately upstream from the Silos Farm road bridge, 1.1 creek miles from the confluence with the Rio Grande, and about 2 miles south-southeast of Del Rio, Texas. This stream enters the Rio Grande at river mile 553.1, 1.6 river miles downstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 695.7 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 877.43 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 52 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: September 1931 through 1974.

REMARKS: Municipal diversions at Del Rio and irrigation diversions greatly modify the flow of this spring-fed creek at this station. Backwater from the Rio Grande reaches this station when the Rio Grande near Del Rio reaches a stage of 15 feet or a flow of about 60,000 second-feet. On June 28, 1954 combined creek flow and backwater from the Rio Grande reached a stage of 24.51 feet, the highest of record, at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 45,000 second-feet on June 14, 1935 with a gage height of 23.20 feet. Min. 0.4 second-foot on July 20, 1953.

		Average Flow in Second-Feet			
Daily:	Max. 16,200	June 14, 1935	Min. 1.5		July 21, 1953
Monthly:	Max. 805	June 1935	Min. 4.6		July 1953
Yearly:	Max. 136	1935	Min. 25.1		1953

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	125	126	109	108	146	92.7	82.5	89.5	104	110	122	116
2	133	125	117	‡ 108	133	91.8	‡ 82.9	87.9	108	‡109	120	114
3	‡ 140	127	120	104	124	89.3	82.7	90.2	137	105	121	‡ 113
4	138	127	118	101	124	‡ 90.0	84.7	90.1	‡ 117	104	121	112
5	139	‡ 120	‡ 121	104	122	94.0	87.4	94.3	113	103	‡ 120	113
6	139	115	119	110	116	91.7	89.1	‡ 113	112	103	121	114
7	137	113	119	109	‡113	90.1	91.3	120	111	104	126	113
8	‡ 136	115	123	110	112	84.3	93.2	115	112	‡105	125	115
9	136	116	122	‡ 107	137	91.0	‡ 92.5	110	110	106	124	117
10	136	115	120	102	110	90.3	91.8	110	‡ 108	104	123	‡ 117
11	136	116	121	102	110	‡ 90.3	93.5	111	104	103	120	121
12	138	‡ 117	‡ 121	101	110	90.2	94.8	234	106	103	‡ 121	123
13	138	116	121	104	109	93.8	98.8	‡ 112	108	102	120	123
14	138	117	147	108	‡110	96.5	96.5	109	107	104	119	124
15	‡ 137	112	133	107	93.7	96.8	91.0	109	107	100	117	123
16	135	107	129	‡ 105	94.4	97.1	‡ 87.7	107	104	‡ 98.1	117	122
17	134	108	137	106	97.9	91.0	88.0	103	‡ 103	101	118	‡ 122
18	135	112	136	106	100	‡ 93.7	88.0	102	169	107	118	122
19	132	112	‡ 131	106	100	92.7	87.6	102	123	106	‡ 121	121
20	132	‡ 114	139	107	100	94.6	85.9	‡ 102	125	108	122	121
21	131	115	142	110	‡ 97.0	94.1	86.7	102	125	121	120	123
22	‡ 132	115	146	110	98.1	96.7	84.5	104	125	‡122	119	124
23	132	116	137	‡ 107	96.6	95.7	‡ 83.3	102	126	123	119	124
24	132	118	132	109	97.2	95.4	82.7	103	125	155	119	‡ 122
25	132	119	135	110	96.8	‡ 94.4	83.8	107	123	168	115	133
26	134	‡ 121	‡ 130	114	97.5	90.1	87.4	109	122	125	‡ 111	133
27	134	119	130	113	96.6	83.8	98.6	‡ 112	121	124	111	128
28	132	119	129	115	94.8	84.1	98.5	109	112	122	116	129
29	‡ 132		125	117	‡ 93.7	85.1	97.7	113	113	122	116	130
30	131		123	‡ 161	94.4	86.0	‡ 98.8	111	109	‡130	115	130
31	129		119		95.9		92.6	108		130		‡ 129
Sum	4,165	3,272	3,951	3,281	3,325.6	2,747.8	2,784.5	3,395.0	3,489	3,527.1	3,577	3,771

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1932-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	1.53	1.34	6	145	21	121	134	8,261	4,511	8,906	934
Feb.	1.46	1.16	4	133	15	102	117	6,490	3,615	8,630	487
Mar.	2.59	1.11	14	279	1	99.5	127	7,837	3,406	7,837	689
Apr.	2.56	1.16	30	278	3	92.0	109	6,508	3,905	10,407	566
May	3.53	.98	9	414	‡16	87.0	107	6,596	4,705	17,600	739
June	1.22	.93	22	107	27	76.5	91.6	5,450	5,086	47,900	301
July	1.15	.88	30	111	1	75.9	89.8	5,523	3,567	8,800	285
Aug.	5.92	.86	12	1,050	2	80.6	110	6,734	3,492	7,584	350
Sept.	3.33	1.07	18	399	16	94.3	116	6,920	5,057	28,678	872
Oct.	3.55	1.10	25	439	16	94.8	114	6,996	4,824	14,229	1,000
Nov.	1.40	1.23	7	132	27	105	119	7,095	3,978	7,597	526
Dec.	1.75	1.23	25	170	‡ 4	109	122	7,480	4,081	8,329	496
Yearly	5.92	0.86		1,050		75.9	113	81,890	50,227	98,137	18,201

‡ Discharge measurement made on this day ‡ And other days

DIVERSIONS FROM THE RIO GRANDE

MAVERICK CANAL AT MILE 13 NEAR QUEMADO, TEXAS

DESCRIPTION: Light-weight cableway for making current meter measurements from the bank, bubbler gage, and water-stage recorders (graphic and digital), located on the left bank of a gunnite-lined section of the canal at latitude 29°03'00", longitude 100°39'40", 0.5 canal mile downstream from the Tequesquite Creek Siphon, 3.5 canal miles upstream from the Las Moras Creek Siphon, about 7.5 miles north-northwest of Quemado, Maverick County, Texas, and 12.8 canal miles from the canal intake. The canal intake is at river mile 537.4, 17.3 river miles downstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 711.4 river miles downstream from the American Dam at El Paso, Texas. The elevation of the zero of the gage has not been determined.

RECORDS: Based on 28 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Gage heights at this station are affected by gate operation at Las Moras Siphon. Records available: June 21, 1949 through 1974.

REMARKS: Water from the Rio Grande is diverted into the Maverick Canal by Maverick County Water Control and Improvement District No. 1 for power generation and irrigation use. At canal mile 31.8 a portion of the diverted water returns to the river through the Maverick Power Plant, and the remainder enters the Maverick Canal Extension. In 1974, 9,976 acres of land were irrigated between canal mile 31.8 and the power plant, and 26,872 acres were irrigated from the extension, making a total of 36,848 acres. A total of 772,811 acre-feet returned to the Rio Grande at the power plant and through the irrigation system (see pages 52, 54, and 57).

EXTREME FLOWS FROM RECORDS: Momentary: Max. 1,750 second-feet on August 30, 1973. Min. no flow several days in June, July, and November 1954.

Average Flow in Second-Feet

Daily:	Max.	1,730	August 29, 1973	Min.	0	June 28 through July 11 & Nov. 2,	1954
Monthly:	Max.	1,580	August 1973	Min.	319	July	1954
Yearly:	Max.	1,420	1961	Min.	632		1972

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	473	388	1,410	1,140	1,370	1,430	1,430	1,430	1,470	1,370	1,560	1,550
2	493	384	1,420	‡1,130	‡1,420	1,430	1,430	1,420	1,480	1,470	1,570	1,540
3	‡ 500	383	1,420	1,120	1,420	1,430	1,430	1,390	1,460	‡1,520	1,560	1,530
4	497	378	1,420	1,120	1,380	1,410	1,430	1,390	1,450	1,530	1,540	1,540
5	501	‡ 375	‡1,410	1,120	1,390	1,390	1,390	1,390	1,500	1,510	1,550	1,520
6	483	344	1,400	1,130	1,450	1,400	1,390	‡ 1,440	‡ 1,510	1,520	1,550	1,520
7	457	314	1,390	1,160	1,460	1,510	1,440	1,480	1,510	1,510	1,570	1,530
8	449	303	1,390	1,180	1,450	1,520	1,420	1,470	1,510	1,500	1,570	1,540
9	449	301	1,400	1,160	1,440	1,520	‡ 1,420	1,440	1,510	1,540	1,580	1,530
10	447	305	1,400	1,160	1,420	1,510	1,420	1,430	1,500	1,540	1,560	‡1,530
11	447	308	1,380	1,170	1,440	‡ 1,510	1,420	1,440	1,560	1,540	1,550	1,440
12	444	311	1,360	1,160	1,430	1,540	1,420	1,470	1,580	1,550	‡1,530	1,420
13	446	314	1,400	1,160	1,430	1,550	1,430	1,470	1,560	1,570	1,550	1,400
14	445	322	1,440	1,160	‡1,420	1,550	1,460	1,470	1,560	1,560	1,550	1,450
15	‡ 443	366	1,440	1,190	1,400	1,550	1,430	1,460	1,560	1,530	1,550	1,500
16	437	419	1,270	‡1,180	1,440	1,560	1,420	1,480	1,580	1,540	1,540	1,500
17	447	383	1,150	1,160	1,490	1,520	1,420	1,480	‡ 1,550	‡1,550	1,550	1,500
18	439	379	1,150	1,150	1,510	1,440	1,420	1,470	1,450	1,550	1,540	1,490
19	432	365	‡1,190	1,150	1,550	1,400	1,440	1,470	1,290	1,530	1,540	1,490
20	430	349	1,190	1,140	1,550	1,390	1,440	‡ 1,440	1,310	1,550	1,550	1,490
21	427	‡ 419	1,190	1,170	1,530	1,390	1,460	1,410	1,320	1,530	1,550	1,500
22	423	436	1,190	1,180	1,520	1,390	1,430	1,420	1,340	1,510	1,590	1,500
23	426	468	1,190	1,150	1,520	1,420	‡ 1,410	1,410	1,360	1,540	1,570	1,490
24	425	1,080	1,190	1,130	1,510	1,400	1,380	1,390	1,350	1,570	1,560	‡1,540
25	447	1,390	1,190	1,130	1,510	‡ 1,380	1,380	1,430	1,370	1,480	1,560	1,580
26	477	1,430	1,190	1,380	1,530	1,380	1,360	1,410	1,460	1,540	‡1,550	1,590
27	483	1,390	1,180	1,260	1,530	1,380	1,160	1,400	1,360	1,540	1,550	1,580
28	482	1,380	1,190	1,170	1,510	1,390	1,420	1,440	1,250	1,550	1,560	1,580
29	‡ 465		1,170	1,150	1,460	1,400	1,450	1,420	1,140	1,560	1,540	1,580
30	407		1,150	1,180	‡1,450	1,420	‡ 1,420	1,460	1,210	‡ 1,560	1,550	1,570
31	391		1,140		1,430		1,430	1,470		1,570		1,570
Sum	14,012	14,984	40,000	34,940	45,360	43,510	43,800	44,590	43,060	47,430	46,640	47,090

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1950-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	5.11	4.60	3	504	31	391	452	27,792	69,576	89,500	25,608
Feb.	9.02	4.13	26	1,470	↑ 8	301	535	29,720	64,987	86,817	27,287
Mar.	8.91	7.65	↑14	1,450	18	1,120	1,290	79,339	67,486	90,700	27,679
Apr.	8.68	7.35	26	1,440	5	1,110	1,160	69,302	65,436	81,000	40,721
May	9.15	8.28	↑19	1,560	↑ 1	1,290	1,460	89,970	71,440	89,970	39,400
June	9.16	8.33	16	1,570	6	1,350	1,450	84,317	73,285	90,547	31,210
July	9.05	5.92	14	1,480	27	714	1,410	86,876	72,968	93,900	19,600
Aug.	8.97	8.40	↑ 7	1,500	24	1,350	1,440	88,443	75,741	97,111	36,708
Sept.	9.27	7.36	↑11	1,590	30	1,100	1,440	85,408	74,042	89,851	32,963
Oct.	9.26	8.38	24	1,590	1	1,340	1,530	94,076	75,635	94,076	22,235
Nov.	9.26	8.94	22	1,590	12	1,490	1,550	92,509	70,027	92,509	22,487
Dec.	9.20	8.32	26	1,600	13	1,310	1,520	93,402	70,786	93,402	23,516
Yearly	9.27	4.13		1,600		301	1,270	921,154	851,409	1,027,400	458,631

‡ Discharge measurement made on this day ↑ And other days

PINTO CREEK NEAR DEL RIO, TEXAS

DESCRIPTION: Cableway, solid ledge rock and concrete control, bubbler gage, and digital water-stage recorder located on the right bank at latitude 29°08'45", longitude 100°43'05", 1.6 creek miles from the confluence with the Rio Grande, and about 19 miles southeast of Del Rio, Texas. This stream enters the Rio Grande at river mile 530.1, 6.1 river miles downstream from the Maverick County Water Control and Improvement District No. 1 diversion dam, and 718.7 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 813.68 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 12 discharge measurements during the year and a continuous record of gage heights. Records available: September 1955 through 1974 at this station, and November 22, 1928 through August 1955 at a site 3.9 miles upstream.

REMARKS: Small irrigation diversions modify the flow of this spring-fed creek at this station. When the flow in the Rio Grande at the confluence of this creek exceeds about 80,000 second-feet, backwater may reach this station. Backwater from the Rio Grande flood of June 1954 reached a gage height of 28.8 feet, or an elevation of 842.50 feet above mean sea level, at this station. On June 29, 1966 the graphical water-stage recorder was replaced by a digital recorder.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 186,000 second-feet on June 24, 1948 with a gage height of 32.0 feet. Min. frequently no flow.

		Average Flow in Second-Feet			
Daily:	Max. 28,200	June 24, 1948	Min. 0	Frequently
Monthly:	Max. 953	June 1948	Min. 0	Frequently
Yearly:	Max. 105	1932	Min. 1.8	1945

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	24.8	‡ 24.1	‡ 20.8	‡ 14.4	‡ 126	1.0	‡ 1.9	3.4	5.3	‡ 4.9	9.0	6.5
2	25.2	24.0	20.2	13.3	24.2	1.1	1.9	‡ 3.1	2.7	4.7	8.4	‡ 6.2
3	‡ 26.0	23.3	19.5	13.1	10.5	‡ 1.2	5.1	2.4	‡ 119	4.7	8.6	5.5
4	25.8	23.1	19.0	13.0	6.0	1.1	10.5	2.4	75.8	4.6	‡ 8.1	5.6
5	26.1	23.5	19.1	12.7	4.9	1.1	9.5	2.4	26.0	4.5	7.2	5.5
6	26.1	23.8	19.8	12.6	4.4	1.2	9.7	2.4	16.7	4.4	7.1	5.9
7	25.5	23.4	19.9	12.7	4.1	1.2	9.3	2.4	10.1	4.5	8.9	5.9
8	25.8	23.2	20.0	11.6	4.6	1.3	9.3	2.4	6.3	4.5	8.9	5.8
9	26.1	22.8	19.8	10.7	5.2	1.4	9.3	2.3	5.6	4.6	7.6	5.8
10	25.7	22.2	19.8	10.2	10.0	1.4	9.4	2.2	5.8	4.7	7.7	6.0
11	25.3	22.6	19.8	10.0	14.2	1.4	9.2	2.2	5.8	4.6	7.1	6.2
12	24.5	22.6	19.4	8.6	9.8	1.7	9.3	12.2	5.2	4.6	6.7	6.4
13	23.5	22.7	19.4	8.6	7.0	1.7	9.7	11.5	4.9	4.6	6.4	6.4
14	23.2	22.5	22.0	7.6	7.6	1.7	11.1	4.0	4.7	4.7	6.5	6.3
15	22.8	22.3	21.8	8.0	12.0	1.8	11.7	3.0	4.6	4.7	9.1	6.3
16	22.8	22.1	20.4	8.4	9.8	1.8	10.9	2.7	4.7	4.8	9.2	6.1
17	23.0	22.2	20.0	8.6	10.3	1.9	9.8	2.4	4.9	4.9	9.7	6.0
18	23.5	22.0	20.6	8.6	9.1	2.0	9.0	2.3	5.1	5.1	9.6	5.6
19	22.6	21.8	20.5	8.7	8.9	2.0	8.0	2.2	4.8	5.0	9.5	5.7
20	22.0	21.9	19.8	8.2	8.9	2.0	7.5	2.2	4.4	5.0	9.2	5.9
21	21.3	21.7	19.9	8.5	4.4	2.1	7.2	2.2	38.0	5.4	8.3	6.1
22	21.4	21.5	19.7	9.7	7.6	2.1	6.9	2.2	11.1	6.9	7.6	6.0
23	21.6	21.3	19.6	9.0	7.6	2.1	6.6	2.2	7.5	6.9	7.8	6.0
24	21.3	21.4	19.0	6.7	6.8	2.3	6.0	2.2	7.5	18.5	10.7	6.3
25	21.8	21.3	19.3	3.8	6.1	2.3	5.5	2.2	6.7	27.2	8.2	9.7
26	22.0	21.1	20.4	3.4	6.0	2.3	5.0	2.2	5.9	18.1	7.5	12.4
27	22.6	20.9	20.7	3.4	5.1	2.4	4.9	2.2	5.6	11.9	7.3	9.0
28	22.8	21.0	19.9	3.4	1.9	2.4	4.8	2.3	5.3	9.7	7.2	8.0
29	23.2		17.7	3.4	1.2	2.4	4.4	2.4	4.9	9.2	7.0	8.0
30	23.3		16.0	50.4	1.0	2.6	4.3	9.8	4.9	8.8	6.3	8.0
31	23.3		14.9		1.0		4.3	12.1		10.2		8.7
Sum	735.4	626.3	608.7	311.3	346.2	53.0	232.0	112.1	419.8	226.9	242.4	207.8

Month	Current Year 1974								Period 1929-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	1.57	1.39	† 5	26.5	21	20.9	23.7	1,459	525	2,270	0
Feb.	1.49	1.29	† 1	24.5	†27	20.8	22.4	1,242	581	5,760	0
Mar.	1.41	1.16	14	23.2	31	14.7	19.6	1,207	515	2,500	0
Apr.	2.31	.69	30	142	26	3.3	10.4	617	1,400	27,100	0
May	3.28	.66	1	478	†29	.9	11.2	687	2,216	29,400	0
June	.71	.66	30	2.6	† 1	.9	1.8	105	3,982	56,700	0
July	1.11	.69	15	12.1	2	1.6	7.5	460	1,564	30,000	0
Aug.	1.61	.66	12	35.1	† 9	2.2	3.6	222	1,862	48,700	0
Sept.	2.51	.69	3	236	2	1.4	14.0	833	2,518	48,965	0
Oct.	1.64	.77	25	36.5	† 5	4.4	7.3	450	1,082	8,940	0
Nov.	1.11	.83	24	12.9	14	5.9	8.1	481	474	2,590	0
Dec.	1.12	.84	26	13.3	18	5.1	6.7	412	551	2,470	0
Yearly	3.28	0.66		478		0.9	11.3	8,175	17,270	76,259.3	1,325.3

‡ Discharge measurement made on this day † And other days

RIO SAN DIEGO AT JIMENEZ, COAHUILA

DESCRIPTION: Cableway, masonry and concrete Cipolletti weir of 777 second-foot capacity, gravity well, and water-stage recorder located on the left bank of Rio San Diego, and gravity well and water-stage recorder on Acequia de Dolores, an irrigation canal that runs along the left bank of the river under the cable, located at latitude 29°04'20", longitude 100°43'50", about 3.5 miles west of Jimenez, Coahuila, and 4.1 river miles from the confluence with the Rio Grande. Part of the canal flow measured here returns to the river downstream. This stream enters the Rio Grande at river mile 525.2, 11.0 river miles downstream from Maverick Dam, 29.4 river miles downstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 723.6 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 831.72 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: For the river, based on the weir discharge table and a continuous record of gage heights; and for the canal, on a continuous record of gage heights. The flows tabulated below include the flow of the canal, and prior to 1964, records do not include this flow. In 1974, the capacity of the weir was exceeded on May 1, August 12, September 21 and 22, and October 25. Records available: 1922 through 1974. The records from 1922 through September 1932 are considered doubtful.

REMARKS: Reservoirs and irrigation diversions upstream from these stations modify the flow of this spring-fed stream. On December 24, 1955, the zero of the gage was raised 2.62 feet; in November 1961 an additional 0.20 foot, and the capacity of weir was increased from 706 to 777 second-feet.

EXTREME FLOWS FROM RECORDS**: Momentary: Max. 81,930 second-feet on June 17, 1961 with a gage height of 20.70 feet. Min. no flow occurred on several occasions during April, May, and June 1939, May and August 1952, and July and August 1953.

Average Flow in Second-Feet**

Daily:	Max.	33,730	June 17, 1961	Min.	0	Occasionally
Monthly:	Max.	2,380	Oct. 1932	Min.	8.0	July 1956
Yearly:	Max.	527	1935	Min.	24.0	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	154	116	111	90.4	332	62.2	44.8	34.3	61.4	523	473	341
2	151	116	111	90.4	113	62.2	44.8	34.3	99.2	516	448	333
3	154	116	111	97.1	99.6	62.2	36.4	34.3	396	487	448	321
4	154	116	111	97.1	94.3	62.2	36.4	34.3	186	480	473	320
5	154	116	97.1	97.1	90.8	62.2	36.4	34.6	129	480	473	320
6	179	116	104	97.1	90.4	62.2	36.4	73.8	114	466	473	320
7	179	116	104	97.1	90.4	62.2	36.4	326	114	452	473	320
8	179	121	104	97.1	90.4	62.2	36.4	80.2	99.9	441	533	320
9	179	125	104	97.1	90.1	62.2	36.4	67.1	99.9	452	547	320
10	179	125	104	98.2	90.1	62.2	36.4	61.4	99.2	487	547	320
11	179	126	104	98.2	90.1	50.5	36.4	50.5	61.4	445	530	301
12	179	126	104	98.2	89.7	50.9	45.9	526	67.5	431	431	301
13	179	126	104	98.2	77.0	50.9	45.9	328	73.5	420	406	301
14	179	126	125	98.2	77.7	50.9	45.9	99.9	73.5	410	406	281
15	179	126	126	98.2	77.7	50.9	45.9	73.8	73.5	388	406	281
16	162	126	126	98.2	77.7	50.9	45.9	61.8	73.5	388	406	262
17	162	126	126	98.2	77.7	50.9	45.9	67.1	73.5	388	406	262
18	146	126	126	98.2	76.3	50.9	45.9	67.1	182	367	406	262
19	136	126	111	98.2	73.8	49.4	45.9	66.7	172	367	406	262
20	123	126	104	98.2	73.8	49.8	45.6	66.0	117	367	396	262
21	123	126	104	85.1	73.8	39.9	45.6	66.0	908	388	385	255
22	123	126	104	91.5	73.1	39.9	45.6	66.0	922	410	385	249
23	123	119	104	85.1	73.1	39.9	45.2	60.7	526	441	385	249
24	123	112	97.1	85.1	73.1	44.8	45.2	60.7	526	614	385	249
25	131	112	97.1	79.1	73.1	39.9	35.6	60.7	526	763	385	249
26	131	105	97.1	79.5	73.8	44.8	35.6	60.7	526	646	385	288
27	131	104	97.1	73.5	74.5	44.8	35.6	60.7	526	646	360	288
28	123	111	97.1	73.1	74.5	44.8	35.6	60.7	526	632	352	288
29	116		97.1	78.8	67.8	44.8	35.6	60.7	526	583	341	288
30	116		97.1	98.2	67.8	44.8	34.3	60.7	526	590	341	288
31	116		97.1		67.8		34.3	60.7		487		288
Sum	4,642	3,358	3,305.9	2,769.7	2,765.0	1,556.4	1,258.2	2,865.5	8,404.0	14,955	12,791	8,989

Month	Current Year 1974								Period 1933-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	0.52	0.39	† 6	179	†29	116	150	9,202	7,147	36,430	1,860
Feb.	.43	.36	†11	126	27	104	120	6,657	5,690	25,760	1,060
Mar.	.43	.36	†15	126	5	97.1	107	6,553	5,030	27,040	1,340
Apr.	.36	.30	†10	98.2	28	73.1	92.2	5,493	5,954	40,270	1,110
May	1.44	.26	1	886	†29	67.8	89.3	5,483	11,012	120,200	861
June	.26	.20	† 1	62.2	†21	39.9	51.9	3,086	10,448	108,300	543
July	.23	.16	†12	45.9	†30	34.3	40.6	2,495	7,938	37,890	490
Aug.	1.97	.16	12	1,500	† 1	34.3	92.5	5,685	8,204	53,789	738
Sept.	4.17	.26	21	5,330	† 1	61.4	280	16,667	15,970	94,667	1,183
Oct.	1.48	.82	25	946	†18	367	484	29,671	17,271	71,830	1,698
Nov.	1.08	.79	† 9	547	30	331	427	25,378	11,214	64,060	803
Dec.	.79	.66	† 1	341	†22	249	290	17,830	7,734	45,320	1,130
Yearly	4.17	0.16		5,330		34.3	185	134,200	113,612	381,720	17,430

** Period October 1932-1974 † And other days

RIO GRANDE BELOW MAVERICK DAM NEAR QUEMADO, TEXAS

DESCRIPTION: Cableway, bubbler gage, control weir of 1,270 second-foot capacity, gravity well, and water-stage recorder located on the right bank at latitude 29°03'00", longitude 100°40'00", and river mile 523.4; 1.5 miles south-southeast of Jimenez, Coahuila, 1.9 river miles downstream from Rio San Diego, about 7.5 miles north-northwest of Quemado, Maverick County, Texas, 12.8 river miles downstream from the Maverick County Water Control and Improvement District No. 1 diversion dam, 31.3 river miles downstream from the international highway bridge between Del Rio, Texas and Cd. Acuna, Coahuila, and 725.5 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 769.00 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 15 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods prior to completion of the weir and for flows exceeding the capacity of the weir thereafter. Computations for flows within the capacity of the weir were based on a stable control weir rating curve defined by meter measurements. Records available: 1965 through 1974. Records, excluding some high flow periods, are also available from 1956 through May 1965 for a station 8.1 river miles upstream.

REMARKS: This station was placed in operation January 1, 1965 and replaces the station "Rio Grande below Maverick Dam near Del Rio, Texas" which stopped operating June 1, 1965. Irrigation diversions 14.0 river miles upstream largely control the flow at this station. A bubbler gage replaced the gravity well on May 1, 1966. The weir was placed in operation June 1, 1967 at which time a bubbler gage and gravity well were installed and the zero of the gage was set 3.28 feet higher.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 59,000 second-feet on September 23, 1974 with a gage height of 19.55 feet. Min. 3.5 second-feet on March 9, 1969 with a gage height of 0.16 feet.

			Average Flow in Second-Feet		
Daily:	Max. 59,000	Sept. 23, 1974	Min. 7.1	July 16, 17, and 18, 1969
Monthly:	Max. 21,300	Sept. 1974	Min. 28.3	June 1969
Yearly:	Max. 4,380	1974	Min. 286	1968

Mean Daily Discharge in Second-Feet 1974 —— Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	188	169	3,060	110	5,330	523	89.0	86.6	4,520	16,600	10,200	7,200
2	169	169	3,060	109	5,790	491	56.5	72.4	4,520	‡15,600	10,200	7,200
3	229	169	3,150	117	5,010	480	‡ 84.8	65.7	4,480	15,600	10,200	7,130
4	198	164	3,150	109	3,960	487	82.3	53.7	4,030	15,600	10,100	7,130
5	198	160	3,150	107	4,730	493	96.4	53.7	4,730	15,600	10,100	7,130
6	211	169	3,200	109	5,860	505	112	91.5	4,630	15,500	10,100	7,030
7	229	169	3,200	114	5,860	1,320	102	554	4,630	15,500	10,200	7,030
8	229	169	3,200	113	5,790	1,660	97.8	219	4,630	15,400	10,200	7,030
9	229	169	3,250	101	5,260	1,700	91.8	156	4,630	15,200	10,200	6,920
10	229	169	3,250	101	1,360	1,690	92.9	141	4,590	15,200	10,100	6,920
11	225	169	3,250	116	1,020	1,700	93.5	139	4,450	15,200	10,000	1,770
12	219	169	3,200	109	1,020	1,700	93.5	204	4,410	15,200	7,660	819
13	219	165	‡3,130	109	1,020	1,700	105	939	4,410	15,000	7,520	780
14	219	151	3,210	101	1,020	1,730	102	‡ 247	4,410	15,000	7,490	696
15	219	148	2,850	93.9	1,020	1,730	100	156	4,410	14,900	7,490	653
16	208	137	427	93.9	886	1,730	94.6	144	4,410	14,900	7,490	660
17	208	110	230	‡ 93.9	830	1,740	86.5	126	4,560	14,900	7,490	646
18	203	108	197	86.5	816	561	86.5	131	16,600	14,900	7,490	‡ 636
19	188	101	148	86.5	851	‡ 151	91.1	123	37,100	12,900	7,420	618
20	179	93.9	117	86.5	851	145	103	113	44,800	12,700	7,380	618
21	175	91.8	117	86.5	851	133	95.3	133	‡46,300	12,500	‡7,380	618
22	173	86.5	117	86.5	1,080	140	96.0	121	‡58,600	10,600	7,310	618
23	198	86.5	117	86.5	3,090	140	91.5	116	‡59,000	10,200	7,310	618
24	169	1,030	101	86.5	3,170	138	75.2	113	‡58,600	10,900	7,310	1,020
25	169	1,340	105	79.5	3,150	148	69.9	117	57,200	11,100	7,310	1,390
26	169	2,970	117	256	3,100	165	68.2	119	56,200	10,500	7,310	1,500
27	179	3,000	117	212	3,100	149	312	125	‡45,900	10,400	7,240	1,420
28	179	3,090	117	86.5	3,030	111	96.4	129	35,000	10,300	7,240	1,390
29	179		117	79.5	‡ 893	89.0	72.4	3,850	23,900	10,300	7,200	1,370
30	‡ 175		117	161	473	89.0	60.0	4,520	21,700	10,300	7,200	1,370
31	169		109		537		60.7	4,520		10,100		1,370
Sum	6,130	14,722.7	49,680	3,286.7	80,758	23,543.0	2,968.8	17,669.6	637,350	418,600	251,840	91,300

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1968-1974 Acre-Feet Average	Maximum	Minimum
Jan.	0.56	0.49	3	244	† 2	169	198	12,153	18,428	54,215	5,236
Feb.	2.49	.33	28	3,150	†22	86.5	526	29,211	87,006	401,339	5,788
Mar.	2.89	.36	14	3,340	24	101	1,600	98,483	29,229	93,483	5,374
Apr.	.92	.30	26	487	29	72.4	109	6,508	14,744	32,447	5,030
May	3.38	.92	† 6	5,860	30	473	2,610	160,187	82,137	200,487	6,574
June	2.03	.33	17	2,010	†29	86.5	784	46,661	56,048	154,298	1,571
July	1.58	.26	27	1,150	2	56.5	95.7	5,892	22,948	80,943	2,322
Aug.	2.95	.23	†30	4,520	† 4	53.7	569	35,052	60,616	164,760	11,855
Sept.	19.55	1.18	23	59,000	4	717	21,300	1,264,108	243,880	1,264,108	13,978
Oct.	8.07	4.69	1	20,100	31	9,820	13,500	831,298	194,889	831,298	13,399
Nov.	4.79	3.81	† 1	10,200	29	7,130	8,400	499,143	88,382	499,143	13,343
Dec.	3.84	1.08	† 1	7,200	†19	618	2,950	181,109	38,334	181,109	7,438
Yearly	19.55	0.23		59,000		53.7	4,380	3,169,805	936,641	3,169,805	207,998

‡ Discharge measurement made on this day † And other days

RIO SAN RODRIGO NEAR MOUTH AT EL MORAL, COAHUILA

DESCRIPTION: Cableway, gravity well, concrete control weir of 4,600 second-foot capacity, and water-stage recorder located on the left bank at El Moral, Coahuila, latitude 28°53'45", longitude 100°38'05", 0.6 river mile from the confluence with the Rio Grande, and about 15.5 miles northwest of Piedras Negras, Coahuila. The stream enters the Rio Grande at river mile 512.0, 19.5 river miles downstream from the Maverick County Water Control and Improvement District No. 1 diversion dam, 20.7 river miles upstream from the international highway bridge between Eagle Pass, Texas and Piedras Negras, Coahuila, and 736.8 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 751.61 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 8 discharge measurements made at low and medium flows during the year and a continuous record of gage heights. Records available: 1962 through 1974.

REMARKS: This station, located 10.6 river miles downstream from the permanent station which was in operation from 1922 through May 1966, was originally installed on a provisional basis; however, it became the permanent station on June 1, 1966 when operation of the upstream station was discontinued. The rating curve for this station is affected by backwater from the Rio Grande when its flow is approximately 10,000 second-feet. The flow of this spring-fed stream is modified by diversions above this station. On November 25, 1969, a concrete control weir was finished and placed in operation. Prior to this date, the zero of the gage was 746.82 feet above mean sea level, U. S. C. & G. S. datum.

EXTREME FLOWS FROM RECORDS**: Momentary: Max. 72,000 second-feet on June 17, 1961 determined by slope-area computations. Min. frequently no flow.

Average Flow in Second-Feet

Daily:	Max.	7,950	Sept. 23, 1974	Min.	0	Frequently
Monthly:	Max.	1,450	Aug. 1971	Min.	0	Frequently
Yearly:	Max.	305	1971	Min.	5.3	1963

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	82.6	59.3	26.1	30.4	95.0	6.7	0	0	0	544	239	142
2	79.8	59.3	26.1	29.0	29.3	6.7	0	0	0	448	210	142
3	79.8	57.2	26.1	27.5	20.1	6.7	0	0	0	381	195	138
4	79.8	55.1	26.1	26.1	20.1	5.3	0	0	0	327	185	138
5	79.8	55.1	26.1	25.1	19.1	5.3	0	0	0	287	177	138
6	79.8	55.1	25.1	25.1	18.0	5.3	0	0	0	252	177	138
7	77.0	52.6	25.1	23.7	‡ 17.0	5.3	0	0	0	224	177	134
8	77.0	53.0	25.1	22.6	15.9	5.3	0	0	0	202	182	130
9	79.8	53.0	25.1	‡ 22.6	14.8	5.3	0	0	0	178	172	126
10	78.0	53.0	25.1	22.6	14.1	5.3	0	0	0	157	168	126
11	75.9	52.3	25.1	22.6	14.1	4.9	0	0	0	141	164	126
12	74.2	50.9	25.1	22.6	13.1	4.9	0	0	0	128	159	126
13	74.2	50.9	25.1	21.2	13.1	4.2	0	15.9	0	119	‡ 159	122
14	74.2	50.9	203	19.1	12.4	4.2	0	2.1	0	108	159	122
15	‡ 73.1	48.7	73.5	20.1	12.4	4.2	0	0	0	95.7	155	119
16	71.3	44.1	45.2	20.1	12.4	4.2	0	0	0	91.5	155	119
17	70.6	41.3	41.3	20.1	11.7	3.9	0	0	0	88.3	155	‡ 115
18	68.9	38.1	39.6	20.1	10.6	3.9	0	0	0	85.5	155	115
19	68.9	35.0	39.6	20.1	10.6	3.5	0	0	0	82.6	155	115
20	66.4	33.2	38.1	20.1	10.6	3.2	0	0	0	79.8	150	115
21	63.9	32.8	36.4	20.1	9.9	2.5	0	0	0	82.6	146	115
22	64.6	30.4	36.4	20.1	9.9	2.5	0	0	0	82.6	146	111
23	66.4	30.0	36.4	19.1	9.2	2.1	0	0	7,950	92.2	146	111
24	66.4	28.2	35.0	17.0	9.2	1.8	0	0	6,500	731	146	111
25	66.4	27.5	35.0	17.0	8.5	1.4	0	0	‡3,380	604	146	123
26	66.4	‡ 26.5	‡ 36.4	15.9	8.5	1.1	0	0	2,140	1,080	146	134
27	66.4	26.1	36.4	15.9	7.8	1.1	0	0	1,660	667	142	126
28	64.6	26.1	36.4	14.8	7.8	.7	0	0	1,110	480	142	122
29	62.2		33.2	14.8	7.8	.7	0	0	809	381	142	119
30	59.3		30.4	19.4	7.1	.4	0	0	696	312	142	119
31	59.3		30.4		7.1		0	0		273		111
Sum	2,217.0	1,225.7	1,194.0	634.9	477.2	112.6	0	18.0	24,245.0	8,804.8	4,392	3,348

Month	Current Year 1974								Period 1962-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	1.21	1.05	1	82.6	†30	59.3	71.3	4,397	2,558	9,976	0
Feb.	1.05	.72	† 1	59.3	26	25.1	43.8	2,431	1,686	6,669	0
Mar.	2.76	.72	14	710	† 6	25.1	38.5	2,366	1,434	3,880	0
Apr.	1.31	.56	30	105	†28	14.8	21.2	1,259	2,983	21,692	122
May	1.87	.39	1	257	†30	7.1	15.5	945	2,171	6,431	17.0
June	.39	.13	† 1	6.7	30	.4	3.9	224	1,268	4,705	0
July				0		0	0	0	4,084	23,394	0
Aug.	.72		13	25.1	† 1	0	.7	35.7	10,644	39,017	0
Sept.	8.66		23	14,000	† 1	0	809	48,065	15,001	48,065	0
Oct.	5.45	1.18	24	4,200	20	79.8	294	17,470	14,052	53,038	0
Nov.	1.84	1.48	1	251	†27	142	163	9,695	5,427	19,270	0
Dec.	1.48	1.34	† 1	142	†22	111	124	7,628	4,084	15,058	0
Yearly	8.66			14,000		0	131	94,515.7	66,292	220,979	3,850.7

** Period 1961-1974 ‡ Discharge measurement made on this day † And other days

RETURN FLOW TO THE RIO GRANDE AT MAVERICK POWER PLANT NEAR EAGLE PASS, TEXAS

DESCRIPTION: A part of the water diverted from the river into the Maverick Canal is returned to the Rio Grande through the hydroelectric power plant located on the left bank of the Rio Grande at latitude 28°49' 50", longitude 100°33' 10", about 9 miles north-northwest of Eagle Pass, Texas, and about 32.2 canal miles downstream from the point of diversion. The return enters the Rio Grande at river mile 501.5 and 747.3 river miles downstream from the American Dam at El Paso, Texas.

RECORDS: Based on records furnished by the Maverick County Water Control and Improvement District No. 1, showing hourly discharge in cubic feet per second based on hourly manometer readings, through each turbine at the Central Power and Light Company hydroelectric power plant. The mean daily discharges computed from the manometer readings have been multiplied by a factor to make them agree with periodic current meter measurements of flows made under stable flow conditions by hydrographers of the Commission. There were 51 discharge measurements made during the year. Records available: 1949 through 1974.

REMARKS: This power plant began operating April 16, 1932 with hydroelectric power generating facilities for 12,000 kw. Because the September 1932 flood washed out the upper end of the Maverick Canal, this plant did not operate from September 2, 1932 until March 17, 1937. Since then it has operated continuously except for 44 days in 1953 when shortage of water prevented operation and from June 30 through July 19, during flood of 1954, and while the canal was being repaired. The plant's operation is now governed by the amount of water released from Amistad Reservoir which began operations on May 31, 1968.

Average Flow in Second-Feet

Daily:	Max. 1,460	Aug. 29, 1969 & Oct. 23, 1973	Min. 0	Occasionally
Monthly:	Max. 1,340	Nov. 1974	Min. 14.1	June 1953
Yearly:	Max. 1,020	1950 & 1951	Min. 232	1972

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	65.5	187	955	‡ 671	1,050	719	‡ 721	677	1,380	1,120	1,360	1,230
2	63.7	180	976	589	‡ 1,180	302	690	678	1,380	1,200	1,330	‡1,190
3	67.1	205	1,030	567	1,200	‡ 755	678	695	1,360	‡1,260	1,330	1,180
4	‡ 58.8	‡ 160	‡1,020	488	1,220	731	735	746	1,340	1,290	‡1,320	1,160
5	65.6	143	960	440	1,210	688	662	‡ 697	‡ 1,300	1,260	1,310	1,190
6	111	93.1	940	450	‡1,230	657	661	806	1,340	1,270	1,320	1,210
7	‡ 54.8	23.6	921	584	1,190	742	790	1,180	1,380	‡1,230	1,320	1,210
8	54.2	23.6	917	‡ 545	1,200	749	‡ 721	1,340	1,400	1,100	1,390	1,250
9	54.7	24.6	958	488	1,190	854	661	1,270	‡ 1,330	1,020	1,430	‡1,230
10	55.1	50.5	1,010	472	1,140	‡ 804	680	1,150	1,210	999	1,430	1,250
11	55.5	‡ 63.9	‡ 989	496	1,130	804	701	1,140	1,250	1,050	‡1,430	1,210
12	55.9	45.1	933	474	1,180	806	680	‡ 1,150	1,240	1,080	1,410	1,170
13	56.4	21.6	972	496	‡1,070	811	723	1,120	1,210	1,140	1,380	1,130
14	‡ 56.8	20.7	1,210	593	988	894	858	1,070	1,210	1,120	1,360	1,150
15	56.8	19.7	1,330	‡ 532	962	936	‡ 743	1,040	1,270	‡1,080	1,350	1,200
16	56.8	18.7	1,250	470	941	1,020	725	984	‡ 1,240	1,120	1,350	‡1,180
17	56.8	17.8	1,070	477	947	‡ 912	705	941	1,240	1,160	1,360	1,150
18	56.8	16.8	‡ 992	499	966	838	679	974	1,200	1,140	‡1,350	1,160
19	56.8	‡ 15.8	1,030	505	1,070	761	718	‡ 886	1,010	1,120	1,350	1,170
20	40.0	15.8	1,020	504	‡1,020	726	753	824	962	1,190	1,330	1,180
21	‡ 23.0	15.8	987	631	981	767	806	763	982	‡1,150	1,330	1,160
22	23.0	15.8	917	‡ 562	963	800	‡ 795	770	1,070	1,140	1,320	1,180
23	23.0	165	877	531	949	880	742	701	1,110	1,170	1,340	‡1,120
24	23.0	568	917	514	941	‡ 791	724	700	1,140	1,270	1,360	1,160
25	35.4	‡915	‡ 913	543	922	746	707	837	1,170	1,300	‡1,340	1,240
26	75.0	959	891	732	1,020	727	669	‡ 779	1,290	1,320	1,290	1,350
27	209	943	862	729	945	702	579	804	1,240	1,330	1,230	1,390
28	‡274	953	856	668	‡ 924	676	698	894	1,130	1,340	1,230	1,420
29	293		795	596	814	699	‡ 704	1,140	1,000	‡1,350	1,210	1,420
30	229		747	657	734	793	631	1,310	916	1,380	1,210	1,410
31	207		776		727		651	1,350		1,390		1,410
Sum	2,613.5	5,880.9	30,001	16,503	32,004	23,590	21,990	29,427	36,300	37,089	40,070	38,060

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Ø Extreme Second-Feet Day	High	Day	Low	Average Second-Feet	Total Acre-Feet	Period 1949-1974: Acre-Feet Average	Maximum	Minimum
Jan.			29	293	†21	23.0	84.3	5,184	47,896	72,800	4,952
Feb.			26	959	†19	15.8	210	11,665	44,813	68,500	9,373
Mar.			15	1,330	30	747	968	59,506	40,834	65,400	5,713
Apr.			25	732	5	440	550	32,733	30,744	58,600	4,301
May			6	1,230	31	727	1,030	63,479	45,315	69,133	2,280
June			16	1,020	6	657	786	46,790	41,912	68,900	341
July			14	858	27	579	709	43,617	39,760	54,161	2,880
Aug.			31	1,350	1	677	949	58,368	46,978	69,000	13,457
Sept.			8	1,400	30	916	1,210	72,000	52,580	75,591	13,741
Oct.			31	1,390	10	999	1,200	73,565	54,141	79,674	11,147
Nov.			† 9	1,430	†29	1,210	1,340	79,478	48,342	73,473	3,203
Dec.			†26	1,420	23	1,120	1,230	75,490	49,934	75,490	2,603
Yearly				1,430		15.8	859	621,875	549,327	740,000	168,354

‡ Discharge measurement made on this day Ø Mean daily † And other days

DIVERSIONS FROM THE RIO GRANDE
MAVERICK CANAL EXTENSION BELOW THE POWER PLANT
NEAR EAGLE PASS, TEXAS

DESCRIPTION: Gage well and digital water-stage recorder located on the downstream side of a wooden pile bridge at latitude 28°49'50", longitude 100°32'40", about 1 mile downstream from the heading of this canal extension, about 9 miles north-northwest of Eagle Pass, Texas, and about 32.8 canal miles downstream from the point of diversion from the Rio Grande, which is located at river mile 537.4. The elevation of the zero of the gage has not been determined.

RECORDS: Based on 49 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1939 through 1974.

REMARKS: The main Maverick Canal divides into two branches at a point about 9 miles north-northwest of Eagle Pass, Texas, and about 31.8 canal miles downstream from the point at which water from the Rio Grande is diverted. One branch leads to the Maverick Power Plant and back to the Rio Grande while the other branch forms this Maverick Canal Extension, which is used to transmit irrigation water. Irrigation from this canal extension began in June 1938. In 1974, 26,872 acres of land north and south of Eagle Pass were irrigated. A total of 115,212 acre-feet of water from this canal extension returned to the river through the irrigation system which extends approximately 67 canal miles downstream.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 580 second-feet on July 25, 1964. Min. occasionally no flow.

		Average Flow in Second-Feet		
Daily:	Max. 559	July 14, 1964	Min. 0	Occasionally
Monthly:	Max. 525	July 1964	Min. 18.7	March 1939
Yearly:	Max. 345	1964	Min. 62.1	1939

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	285	131	293	‡ 284	244	434	‡ 451	464	63.5	153	148	228
2	297	125	293	325	‡ 194	433	449	461	67.1	154	165	‡ 230
3	305	125	293	324	195	‡ 424	450	460	90.9	‡ 149	164	230
4	‡ 313	‡ 126	‡292	368	145	421	456	459	67.3	132	‡ 164	228
5	315	127	300	380	138	417	458	‡ 456	‡ 121	148	164	211
6	316	147	304	376	‡ 169	415	463	446	94.3	157	164	200
7	‡ 313	196	306	371	200	431	473	211	53.8	‡ 168	164	198
8	306	191	307	‡ 369	200	457	‡ 472	44.6	53.9	221	113	197
9	298	196	308	379	199	469	470	78.2	‡ 85.3	278	66.2	‡ 205
10	304	199	309	402	193	‡ 466	471	159	179	319	67.1	196
11	309	‡ 197	‡307	415	191	470	473	‡ 214	179	302	‡ 65.7	183
12	310	195	303	417	190	471	479	213	186	301	67.0	191
13	319	210	286	398	‡ 237	468	482	213	186	306	96.3	205
14	‡ 319	216	134	362	289	373	490	240	158	300	134	220
15	306	225	46.5	‡ 386	289	375	‡ 483	263	158	‡ 287	135	222
16	298	206	49.8	400	289	381	485	300	‡ 158	265	135	‡ 231
17	295	217	80.5	398	292	‡ 381	487	347	157	250	135	243
18	306	217	‡101	397	293	382	488	372	157	267	‡ 136	242
19	307	‡ 208	97.5	394	296	383	479	‡ 390	156	264	134	232
20	307	211	118	392	319	384	468	390	167	263	133	219
21	‡ 300	247	129	391	340	387	469	389	178	‡ 262	133	228
22	293	283	156	‡ 385	337	390	‡ 465	402	179	260	142	239
23	295	290	181	387	338	395	462	433	179	259	144	‡ 238
24	312	296	182	389	339	‡ 390	462	444	147	238	127	237
25	318	‡ 296	182	388	339	388	461	450	90.3	187	‡ 129	230
26	317	295	181	390	340	416	459	‡ 451	94.1	174	136	158
27	226	294	182	389	341	425	455	423	93.7	172	193	106
28	‡ 158	294	194	391	‡ 346	455	466	384	91.5	171	222	82.1
29	109		220	388	394	465	‡ 480	183	94.5	‡ 158	221	81.3
30	109		229	362	430	459	473	67.9	132	146	226	80.6
31	114		239		441		468	65.5		140		79.4
Sum	8,679	5,960	6,603.3	11,397	8,547	12,605	14,547	9,873.2	3,817.2	6,851	4,223.3	6,070.4

Month	Current Year 1974: Average Rainfall Inches** 1939-1974	1974	Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1939-1974: Acre-Feet Average	Maximum	Minimum
Jan.	0.80	0.76	13	324	†29	108	280	17,215	12,751	19,800	2,140
Feb.	.97	0	25	298	† 3	124	213	11,821	11,747	18,200	2,120
Mar.	.72	2.20	11	311	14	42.9	213	13,097	15,014	23,310	1,150
Apr.	1.63	.63	12	424	1	255	380	22,606	15,903	25,900	3,430
May	2.94	1.12	†30	452	4	108	276	16,953	13,884	28,191	2,840
June	1.98	1.04	24	534	28	187	420	25,002	16,797	30,173	3,750
July	1.36	.21	14	493	2	442	469	28,854	18,192	32,276	4,510
Aug.	2.28	2.87	1	470	7	41.1	318	19,583	15,993	29,812	3,480
Sept.	3.09	4.08	13	202	† 7	53.4	127	7,571	12,231	22,640	4,600
Oct.	2.20	1.30	9	321	29	128	221	13,589	12,838	21,800	4,702
Nov.	.67	.76	30	226	11	59.7	141	8,377	12,928	20,117	4,170
Dec.	.65	1.33	17	244	31	79.0	196	12,040	13,073	20,200	4,233
Yearly	19.29	16.30		534		41.1	272	196,708	171,351	250,801	44,950

‡ Discharge measurement made on this day † And other days

** On the United States side from Maverick Power Plant to Cuervo Creek

RETURN FLOW TO THE RIO GRANDE FROM MAVERICK CANAL
MAVERICK DAM TO EAGLE PASS, TEXAS

DESCRIPTION: Part of the water diverted from the Rio Grande into the Maverick Canal is returned to the river through various drains and spillways of the irrigation system located between Maverick Diversion Dam and Eagle Pass, Texas. These return flows are measured at gaging stations consisting of sharp-crested Cipolletti weirs or control structures equipped with continuous water-stage recorders located at Lateral 2 Spill, Canon Grande, Quemado Creek, Lateral 15 Spill, Hardt Spill, Houchin Spill, Lateral 12 Spill, Lateral 8-B Spill, Elm Creek, and Seco Creek; and a Parshall flume at the Lateral 2 Sand Trap Spill into Las Moras Creek immediately below the canal siphon.

RECORDS: Based on the weir discharge table and a continuous record of gage heights. All storm flow occurring at these stations is deducted from the records and is not shown below. Records available: April 1959 through 1974.

REMARKS: In addition to the flows listed below, water from the Maverick Canal is returned to the Rio Grande in this reach at the Maverick Power Plant (see page 52).

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet		
Daily:	Max. 788	Jan. 16, 1965	Min. 18.3	March 9, 1969
Monthly:	Max. 218	Jan. 1965	Min. 32.8	Jan. 1973
Yearly:	Max. 145	1965	Min. 51.4	1973

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	57.9	32.6	79.3	68.9	81.7	102	82.4	82.2	47.6	34.8	53.8	53.3
2	62.2	40.7	89.4	60.9	76.8	93.7	81.3	83.6	43.1	39.6	55.0	56.2
3	62.2	41.8	79.2	54.3	66.5	83.5	93.2	78.8	44.7	43.7	54.3	58.3
4	64.4	37.0	80.5	57.1	53.9	82.5	87.6	85.9	43.0	44.3	50.8	71.5
5	59.1	38.7	84.0	64.2	47.9	93.9	85.0	71.5	53.2	52.8	52.1	68.7
6	45.4	48.2	88.9	67.8	43.9	100	90.9	72.9	44.0	40.1	50.8	70.2
7	48.1	58.6	90.3	66.6	40.7	102	85.1	95.4	49.8	49.6	56.2	72.6
8	52.1	61.3	95.5	82.1	40.7	101	71.4	56.9	51.4	63.8	56.7	57.0
9	53.5	54.5	86.8	75.7	34.5	91.7	78.5	51.6	47.8	63.1	49.6	56.7
10	52.7	41.1	82.8	89.6	33.6	86.5	79.2	47.2	50.9	74.6	45.9	53.2
11	56.0	39.3	92.3	88.2	40.9	69.9	78.7	50.4	50.9	74.7	40.8	50.7
12	57.3	47.7	93.1	87.3	42.2	64.4	72.6	56.6	58.9	68.4	36.3	52.6
13	51.2	51.1	76.5	101	45.8	79.5	80.9	53.0	71.3	75.8	39.8	51.0
14	65.0	59.9	63.6	87.1	46.7	96.2	73.3	64.4	86.8	75.6	39.6	50.8
15	70.9	55.5	64.2	71.3	51.5	77.5	69.7	70.9	69.1	74.8	40.1	47.3
16	63.2	53.9	63.4	85.4	58.1	71.0	74.1	62.9	73.3	78.2	41.8	47.2
17	62.1	47.9	59.5	84.9	78.9	70.5	64.2	65.8	61.2	75.0	40.8	52.3
18	62.5	50.3	56.1	81.3	90.5	72.1	67.8	59.4	53.8	80.6	41.5	52.6
19	56.1	50.9	52.3	76.1	72.1	73.3	81.7	47.9	53.5	78.0	48.7	48.3
20	51.5	56.6	48.1	75.6	61.7	82.5	80.1	58.5	62.3	67.1	46.3	54.4
21	60.8	57.8	40.7	72.6	63.4	86.8	73.6	69.7	71.7	73.8	44.1	52.8
22	65.6	60.4	43.4	83.2	71.3	84.2	73.0	83.3	65.7	83.1	51.9	50.0
23	57.0	66.0	51.1	75.7	81.3	74.5	70.7	104	67.2	76.7	53.1	55.1
24	47.2	50.8	41.4	74.3	80.3	78.4	72.4	111	67.5	78.5	46.6	57.8
25	46.6	54.4	44.6	84.6	76.6	70.3	68.5	86.3	65.5	86.9	39.8	48.2
26	50.5	64.2	50.2	80.7	75.4	68.8	66.6	77.7	62.7	79.5	45.0	43.3
27	48.8	79.7	56.5	89.2	82.9	72.7	64.5	81.2	47.0	67.6	55.1	37.5
28	42.8	74.2	55.8	73.9	73.2	76.9	66.2	82.6	39.4	63.6	45.8	37.6
29	40.2		56.8	72.6	71.9	84.6	59.1	69.5	44.3	56.6	49.4	36.4
30	38.7		60.4	79.8	91.9	85.8	71.7	62.1	41.7	55.0	53.9	37.5
31	35.1		74.3		84.2		67.1	50.8		55.0		36.8
Sum	1,686.7	1,475.1	2,101.0	2,312.0	1,961.0	2,476.7	2,331.1	2,194.0	1,689.3	2,030.9	1,425.6	1,617.9

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Ø Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period Apr. 1959-1974: Acre-Feet Average	Maximum	Minimum
Jan.			15	70.9	31	35.1	54.4	3,346	6,344	13,430	2,014
Feb.			27	79.7	1	32.6	52.7	2,926	5,374	7,652	2,242
Mar.			8	95.5	21	40.7	67.8	4,167	6,231	8,952	3,061
Apr.			13	101	3	54.3	77.1	4,586	6,333	7,795	3,715
May			30	91.9	10	33.6	63.3	3,890	6,123	8,777	3,697
June			† 1	102	12	64.4	82.6	4,912	6,661	9,219	2,912
July			3	93.2	29	59.1	75.2	4,624	6,940	9,358	2,811
Aug.			24	111	10	47.2	70.8	4,352	6,724	9,666	2,931
Sept.			14	86.8	28	39.4	56.3	3,351	5,740	9,477	2,835
Oct.			25	86.9	1	34.8	65.5	4,028	5,804	8,583	2,811
Nov.			8	56.7	12	36.3	47.5	2,828	5,871	8,696	2,717
Dec.			7	72.6	29	36.4	52.2	3,209	5,797	8,821	2,438
Yearly				111		32.6	63.8	46,219	73,942	104,997	37,237

Ø Mean daily † And other days

GLE PASS, TEXAS

order, and resistance-type transmitter located on the , and river mile 491.8; 0.5 river mile upstream from Texas and Piedras Negras, Coahuila, 73.4 river miles s downstream from the American Dam at El Paso, sea level, U. S. C. & G. S. datum.

year, 58 by the Mexican Section and 25 by the United rd of gage heights. Computations by shifting control 4; Aug. 1914 through Apr. 1916; Sept. 1916; Sept. and Sept. 1920; June 1922; Sept., Nov., and Dec. 1923; and

s modify the river flow at this station. The trans- a receiver located in the office of the Eagle Pass heatstone bridge circuit can be balanced to in- ated in cooperation with the National Weather Service. 00 second-feet, determined by slope-area calcula- feet. Well-authenticated information indicates the discharge of 1,236,000 second-feet and a gage height were the only floods since 1745 with flows greater e 22, 1953 with a gage height of 0.07 foot.

cond-Feet**

Min.	30.7	June 22, 1953
Min.	248	April 1953
Min.	870	1956

974 — Annual and Period Summary

							July	Aug.	Sept.	Oct.	Nov.	Dec.
							883	798	5,470	20,300	11,300	8,230
							‡ 840	844	5,720	17,300‡	11,300	8,190
							812	833	6,220	16,900	11,300	‡8,160
							869	922	4,590	16,700‡	11,200	8,090
							819	833	5,190	16,600	11,200‡	8,120
							788	‡ 893	5,160	16,500	11,100	8,050
							890	1,300	5,160	16,400‡	11,300	7,980
							879	‡ 1,510	5,160	16,200	11,300	7,980
							784	1,320	5,120	16,000	11,300	7,980
							798	1,210	‡ 5,050	15,900	11,300	‡7,980
							‡ 816	1,200	5,050	15,900	11,200	‡5,470
							793	1,540	5,010	15,800	‡9,850	2,510
							837	‡ 2,180	5,010	15,900	8,900	2,330
							935	1,560	5,050	15,800	8,790	2,220
							935	1,260	5,090	15,700‡	8,760	2,210
							‡ 890	1,130	5,090	15,600	8,760	2,170
							862	1,070	5,120	15,600	8,690	‡2,160
							837	1,090	‡ 8,090	15,500	8,650	2,150
19	367	‡ 239	1,350	703	1,940	1,170	879	1,050	‡20,900	14,400	‡8,650	2,140
20	352	‡ 234	1,290	699	1,910	‡ 935	897	982	‡33,500	13,300	8,620	2,140
21	340	231	1,230	802	‡ 1,870	935	964	‡ 915	‡40,600	13,300	8,580	2,120
22	‡ 341	222	‡1,160	770	1,860	1,000	953	982	‡45,600	12,100‡	8,550	2,120
23	350	314	1,110	738	2,690	1,030	‡ 893	‡ 901	‡59,700	11,200	8,510	2,090
24	341	812	1,130	703	3,780	1,010	883	836	‡67,500	10,300	8,550	‡2,150
25	352	2,160	1,100	731	3,740	‡ 946	840	992	‡66,700	11,100	8,480	2,780
26	396	‡2,850	1,240	851	3,880	915	‡ 795	932	‡64,600	11,500	‡8,440	‡2,970
27	494	‡3,440	1,110	1,100	3,780	911	756	‡ 968	61,100	11,800	8,370	2,990
28	554	‡3,490	1,080	929	‡ 3,710	865	943	1,070	47,300	11,800	8,330	3,000
29	‡ 569		1,030	788	2,890	862	890	3,090	31,600	11,500‡	8,260	2,970
30	526		978	823	1,430	946	‡ 763	‡ 5,160	23,400	11,500	8,190	‡2,970
31	526		1,020		1,350		766	5,260		11,400‡		2,970
Sum	13,202	20,343	79,498	23,624	104,290	48,265	26,594	44,681	658,850	449,800	237,730	135,390

Month	Current Year 1974								Period 1968-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
				High		Low					
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	2.10	1.54	27	614	21	335	427	26,191	60,999	93,804	26,191
Feb.	4.46	1.21	28	3,530	22	205	727	40,369	126,514	448,150	35,604
Mar.	5.58	2.46	14	6,040	30	918	2,560	157,721	67,574	157,721	20,899
Apr.	2.79	2.03	27	1,260	16	636	783	46,853	57,774	89,308	24,030
May	6.07	2.82	1	7,170	31	1,300	3,370	206,344	128,193	230,246	36,193
June	3.87	2.26	14	2,660	29	812	1,610	95,710	104,852	246,770	19,254
July	2.49	2.13	‡14	935	30	699	858	52,723	73,153	119,791	26,100
Aug.	5.35	2.17	31	5,300	1	724	1,440	88,636	123,474	261,760	56,856
Sept.	22.47	3.81	24	67,800	4	2,660	22,000	1,306,836	300,303	1,306,836	80,699
Oct.	11.81	6.59	1	22,700	24	8,050	14,500	891,747	266,216	891,747	80,599
Nov.	7.91	5.63	8	11,400	30	8,190	9,610	570,870	137,559	570,870	46,790
Dec.	6.66	3.38	1	8,230	23	2,030	4,380	268,589	88,103	268,589	26,197
Yearly	22.47	1.21		67,800		205	5,190	3,753,089	1,535,219	3,753,089	705,670

** Period 1924-1974 ‡ Discharge measurement made on this day † And other days

RIO ESCONDIDO AT VILLA DE FUENTE, COAHUILA

DESCRIPTION: Cableway, gravity well, concrete control weir of 1,750 second-foot capacity, and water-stage recorder located on the downstream side of the left abutment of the highway bridge over Rio Escondido on the outskirts of Villa de Fuente, Coahuila, 1.2 river miles downstream from the cableway, at latitude 28°40'10", longitude 100°32'50", about 3 miles southwest of Piedras Negras, Coahuila, 3.7 river miles from the confluence with the Rio Grande, and 6.8 river miles downstream from the confluence of Rio San Antonio with Rio Escondido. Rio Escondido enters the Rio Grande at river mile 488.2, 3.1 river miles downstream from the international highway bridge between Eagle Pass, Texas and Piedras Negras, Coahuila, and 760.6 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 718.37 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 12 discharge measurements during the year and a continuous record of gage heights. Records available: 1922 through 1974. Records from 1922 through September 1932 are considered doubtful.

REMARKS: Diversions and drainage returns modify the flow of this spring-fed stream at this station. Backwater from the Rio Grande reached an elevation of 729.92 feet during the flood of June 1954. Prior to November 1954, the gage well was located at the present cableway site. The weir was destroyed by a flood on September 24, 1964. On November 25, 1969, the concrete control weir was finished and placed in operation.

EXTREME FLOWS FROM RECORDS**: Momentary: Max. 24,000 second-feet on June 29, 1936 with a gage height of 19.13 feet. Min. frequently no flow.

Average Flow in Second-Feet**

Daily:	Max.	13,100	Sept. 24, 1964	Min.	0	Several days 1956-1958 & 1965
Monthly:	Max.	827	Sept. 1964	Min.	0.3	September 1965
Yearly:	Max.	144	1971	Min.	2.4	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	77.0	67.1	77.0	45.6	35.0	11.3	6.0	5.3	8.1	21.2	21.2	29.0
2	77.0	67.1	74.5	41.7	36.7	11.3	‡ 6.0	6.0	9.9	18.7	23.7	29.0
3	77.0	67.1	‡ 72.0	‡ 41.7	60.0	11.3	4.9	5.3	‡ 274	19.8	23.7	29.0
4	77.0	67.1	72.0	41.7	34.6	‡ 9.9	4.9	3.9	28.6	18.7	23.7	29.0
5	77.0	67.1	62.2	41.7	32.1	8.5	4.9	3.2	19.4	18.7	23.7	29.0
6	77.0	67.1	61.1	41.7	31.8	8.5	4.9	113	16.6	15.9	23.7	29.0
7	77.0	67.1	55.4	41.7	‡ 29.0	7.1	4.9	8.5	21.2	11.3	31.4	32.1
8	‡ 77.0	67.1	53.3	39.6	32.1	7.1	4.9	8.5	21.2	11.3	33.5	32.1
9	77.0	67.1	53.3	38.1	31.8	7.8	4.9	7.4	21.2	15.5	30.4	32.1
10	77.0	67.1	53.3	36.7	30.4	9.2	4.9	6.0	21.2	15.5	30.4	‡ 32.1
11	77.0	67.1	53.3	35.0	29.0	16.2	4.9	6.0	21.2	12.7	28.9	32.1
12	77.0	‡ 67.1	56.9	35.0	27.5	14.1	4.9	6.4	20.1	10.6	‡ 27.5	32.1
13	77.0	67.1	64.3	35.0	26.1	14.5	4.9	8.5	21.9	10.2	26.1	32.1
14	77.0	67.1	72.7	35.0	26.1	17.3	4.9	8.5	22.2	12.0	26.1	32.1
15	77.0	67.1	63.6	35.0	26.1	13.8	4.9	8.5	23.7	11.3	26.1	32.1
16	77.0	67.1	57.9	37.4	27.5	14.5	4.9	6.0	26.1	11.3	24.7	32.1
17	77.0	67.1	53.3	41.7	29.0	18.4	4.9	3.9	25.1	10.6	23.7	32.1
18	77.0	67.1	53.3	41.0	27.2	15.2	4.9	3.9	26.8	11.3	23.7	32.1
19	74.2	72.0	51.6	41.7	21.2	13.4	4.9	3.2	29.0	10.6	26.1	29.0
20	72.0	72.0	53.3	41.7	20.1	8.5	4.9	2.8	28.6	9.9	25.1	29.0
21	69.6	74.9	53.3	35.0	21.2	9.2	4.9	2.8	28.6	9.9	25.1	29.0
22	69.6	72.0	53.3	32.5	21.2	8.5	3.9	3.2	26.1	13.1	25.1	30.4
23	72.0	72.0	53.3	30.4	20.1	11.7	3.9	3.2	29.0	13.8	26.1	30.4
24	72.0	72.0	53.3	29.0	18.7	9.5	3.9	3.9	29.0	20.8	26.1	30.4
25	72.0	72.0	53.3	29.0	14.8	7.4	3.9	3.9	26.8	35.7	26.1	35.0
26	72.0	77.0	53.3	29.0	13.8	7.1	3.9	4.9	24.7	23.3	26.1	38.1
27	72.0	77.0	49.4	29.0	13.1	6.4	6.0	8.8	21.2	21.2	26.1	38.1
28	69.6	77.0	49.4	29.0	13.1	6.0	4.9	23.7	21.2	21.2	27.5	38.1
29	69.6		49.4	29.0	13.1	6.0	3.9	8.8	20.1	‡ 21.2	28.9	33.1
30	68.5		47.3	29.0	11.3	6.0	3.2	7.1	21.2	21.2	28.9	41.7
31	67.1		45.6		11.3		3.2	6.4		21.2		41.7
Sum	2,386.2	1,945.7	1,775.2	1,089.6	785.0	315.7	145.8	301.5	934.0	499.7	789.4	1,008.2

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1933-1974: Acre-Feet Average	Maximum	Minimum
Jan.	1.31	1.25	† 1	77.0	31	67.1	74.5	4,574	2,217	15,990	43.8
Feb.	1.31	1.25	†26	77.0	† 1	67.1	69.6	3,860	1,624	9,990	38.9
Mar.	1.54	1.08	12	118	31	45.6	57.2	3,522	1,382	6,910	92.4
Apr.	1.08	.92	1	45.6	†24	29.0	36.4	2,160	1,376	21,950	81.1
May	1.97	.66	† 2	219	†30	11.3	25.4	1,557	3,543	25,470	154
June	.79	.52	17	18.7	†28	6.0	10.6	626	2,241	19,730	60.3
July	.52	.43	† 1	6.0	†30	3.2	4.6	291	1,566	9,740	57.6
Aug.	2.10	.39	6	257	†20	2.8	9.9	597	2,772	20,330	34.9
Sept.	4.00	.52	3	1,140	1	6.0	31.1	1,852	4,312	49,182	17.8
Oct.	1.08	.62	25	45.6	†20	9.9	16.2	991	3,363	28,327	43.8
Nov.	.98	.82	8	35.0	1	21.2	26.5	1,566	2,186	25,730	43.8
Dec.	1.05	.92	†30	41.7	† 1	29.0	32.5	2,000	1,901	13,406	67.3
Yearly	4.00	0.39		1,140		2.8	32.5	23,596	28,933	104,294	1,755.3

** Period 1932-1974 ‡ Discharge measurement made on this day † And other days

RETURN FLOW TO THE RIO GRANDE FROM MAVERICK CANAL
EAGLE PASS TO SAN ANTONIO CROSSING

DESCRIPTION: Part of the water diverted from the Rio Grande into the Maverick Canal is returned to the river through various drains and spillways of the irrigation system located between Eagle Pass, Texas and the San Antonio Crossing Gaging Station. These return flows are measured at gaging stations consisting of sharp-crested Cipolletti weirs or control structures equipped with continuous water-stage recorders located at Lateral 40 Spill, Lateral 40 D Spill, Canon Diablo, Lateral 50 Lowline No. 1, Lateral 50 Spill, Lateral 50 Lowline No. 2, Rosita Creek, Lateral 60K Spill, Sauz Creek, Lateral 70 Spill No. 1, Lateral 70 Spill No. 2, Indio Creek, Gravel Spill, Lateral 71 Spill, and Cuervo Creek.

RECORDS: Based on the weir discharge table, stable station control rating tables, and a continuous record of gage heights. All storm flow occurring at these stations is deducted from the records and is not shown below. Records available: April 1959 through 1974.

EXTREME FLOWS FROM RECORDS:

	Average Flow in Second-Feet				
Daily:	Max. 350	July 5, 1968	Min. 15.7	March 10, 1969
Monthly:	Max. 248	July 1967	Min. 54.6	December 1969
Yearly:	Max. 206	1963	Min. 132	1970

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	160	87.5	159	131	244	186	192	176	53.5	62.1	93.6	120
2	167	68.7	171	132	216	204	199	164	42.6	69.9	76.8	146
3	185	70.8	181	141	176	195	180	161	56.3	83.9	85.6	139
4	169	76.8	164	141	172	207	180	175	65.6	81.4	96.2	127
5	160	79.8	139	136	153	169	183	160	68.9	79.3	116	143
6	203	73.8	134	179	116	166	185	140	56.9	82.3	110	137
7	222	67.8	138	197	97.8	172	189	152	76.9	68.6	125	119
8	227	82.1	140	195	118	161	198	109	64.7	80.1	114	114
9	215	105	160	190	144	163	186	73.5	50.2	78.2	111	121
10	202	123	193	192	136	192	162	49.8	40.8	119	103	114
11	206	128	163	194	131	196	161	43.1	64.7	156	84.8	112
12	208	122	186	191	138	183	174	70.9	92.2	175	70.0	122
13	205	112	170	211	129	181	182	104	107	155	61.4	129
14	254	101	181	251	130	206	214	96.5	113	144	52.7	116
15	250	88.7	164	203	128	239	200	91.5	126	148	54.0	127
16	231	103	126	209	144	235	213	97.9	123	135	70.7	130
17	232	117	91.6	201	136	219	181	114	107	131	89.8	124
18	224	128	59.0	197	130	228	191	132	93.3	125	102	135
19	231	122	58.9	206	152	186	186	145	96.0	128	105	144
20	234	106	65.4	204	154	179	193	164	94.5	142	97.6	139
21	235	95.6	71.8	205	152	185	197	160	92.0	153	95.1	125
22	247	88.1	87.1	222	153	184	207	156	85.7	148	103	119
23	229	108	99.0	224	152	183	204	161	90.8	132	104	132
24	211	134	116	199	160	175	183	169	100	167	103	150
25	208	165	136	200	160	160	192	200	101	156	102	160
26	204	181	131	194	184	148	190	214	93.3	130	99.6	148
27	234	160	124	196	170	153	193	221	79.5	118	93.9	129
28	240	138	115	203	150	151	191	240	70.1	106	89.6	124
29	184		105	225	149	161	197	241	62.7	108	102	114
30	141		116	225	144	190	200	205	63.7	107	114	77.3
31	99.2		142		155		206	120		98.0		53.3
Sum	3,032.7		5,794		5,557		4,506.2		3,666.8		3,889.6	
	6,417.2	4,091.8		4,673.8		5,909		2,431.9		2,825.4		

Current Year 1974									Period Apr. 1959-1974		
Month	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
			High		Low						
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.			14	254	31	99.2	207	12,728	10,126	12,728	5,242
Feb.			26	181	7	67.8	108	6,015	9,291	13,117	5,561
Mar.			10	198	19	58.9	132	8,116	10,649	13,498	6,118
Apr.			14	251	1	131	193	11,492	11,275	14,646	9,380
May			1	244	7	97.8	151	9,270	10,538	14,327	6,205
June			15	239	26	148	185	11,022	11,566	14,430	7,798
July			14	214	11	161	191	11,720	11,699	15,219	5,223
Aug.			29	241	11	43.1	145	8,938	10,915	14,299	8,378
Sept.			15	126	10	40.8	81.1	4,824	8,985	13,974	4,541
Oct.			12	175	1	62.1	118	7,273	9,081	12,248	4,983
Nov.			7	125	14	52.7	94.2	5,604	9,323	11,843	5,067
Dec.			25	160	31	53.3	125	7,715	9,628	12,797	3,354
Yearly				254		40.8	145	104,717	123,076	149,031	95,204

∅ Mean daily

RIO GRANDE AT SAN ANTONIO CROSSING NEAR EL INDIO, TEXAS

DESCRIPTION: Cableway, bubbler gage, concrete control weir, and water-stage recorders (graphic and digital) located on the left bank at latitude 28°20'40", longitude 100°18'35", and river mile 455.8; 0.5 river mile downstream from Cuervo Creek, which marks the lower end of the Maverick County Water Control and Improvement District No. 1, 1.9 river miles upstream from Tovar Creek, 5 miles northeast of Villa Guerrero, Coahuila, about 11.5 miles south of El Indio, Texas, 35.5 river miles downstream from the international highway bridge between Eagle Pass, Texas and Piedras Negras, Coahuila, and 793.0 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 580.00 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 37 discharge measurements during the year, 32 by the United States Section and 5 by the Mexican Section of the Commission, and a continuous record of gage heights. Computations for high flows by shifting control methods. Low and medium flow computations based on a stable control weir rating curve defined by meter measurements. Records available: Mar., Apr., May, Oct., Nov., and Dec. 1952 with some days missing; Jan. through Aug. 20, 1953; Sept. 23, 1953 through June 14, 1954; and May 27, 1955 through 1974 with several days missing prior to Sept. 1955.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 912,000 second-feet in June 1954, determined by slope-area computation, with an elevation of 624.31 feet. Min. 54.4 second-feet on June 24, 1953 with an elevation of 581.96 feet at a station 1,700 feet upstream from the present site.

Average Flow in Second-Feet**

Daily:	Max. 185,000	Sept. 25, 1964	Min. 299	July 20 & Aug. 2-4, 1956
Monthly:	Max. 31,700	Sept. 1964	Min. 445	July 1956
Yearly:	Max. 6,130	1958	Min. 1,040	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	714	734	4,080	1,250	‡ 1,940	1,520	1,180	1,010	5,060	21,300	11,100‡	7,860
2	‡ 723	684	4,100	1,130	6,780	1,550	1,110	1,020	5,160	‡15,900	11,300	7,990
3	744	662	4,180	‡ 1,060	6,510	1,590	1,090	1,030	8,640	15,400	11,200	7,980
4	770	673	4,250	1,050	5,420	1,500	1,070	1,040	‡ 5,300	15,700	11,200	‡7,930
5	786	652	4,220	992	4,980	1,510	1,120	1,080	5,200	16,100	11,100	7,870
6	787	‡ 626	‡4,160	985	6,300	1,490	1,050	1,230	5,300	16,000	11,100	7,830
7	825	591	4,120	1,030	6,430	1,520	1,070	‡ 1,970	5,400	16,000	11,200	7,750
8	770	534	4,100	1,130	6,440	2,130	1,200	2,220	5,410	15,700	11,200	7,720
9	755	552	4,140	1,080	6,470	2,600	1,090	1,830	5,460	15,500	11,300	7,660
10	750	552	4,210	‡ 1,020	5,710	2,760	‡ 1,040	1,520	5,290	15,400	11,200	7,620
11	747	598	4,260	1,030	2,940	2,650	1,060	1,380	5,130	15,400	11,200	6,930
12	765	593	4,200	1,050	2,560	‡ 2,630	1,090	1,380	5,040	15,200	10,300	3,310
13	773	567	4,220	1,020	2,510	2,640	1,070	2,740	5,130	15,000	‡8,410	2,740
14	778	521	5,070	1,070	2,340	2,980	1,140	2,230	5,120	15,100	8,330	2,550
15	813	521	5,920	1,150	‡ 2,250	2,810	1,260	1,570	5,190	15,000	8,250	2,460
16	‡ 800	516	4,300	1,020	2,230	2,810	1,180	1,390	5,200	‡14,500	8,250	2,460
17	792	523	2,100	‡ 999	2,110	2,830	1,120	1,320	5,240	14,400	8,250	2,370
18	774	530	1,600	974	2,020	2,720	1,100	1,270	‡ 5,860	14,300	8,170	‡2,340
19	772	496	1,510	972	2,030	1,910	1,040	1,280	14,800	13,900	8,170	2,350
20	773	‡ 469	‡1,490	977	2,160	1,330	1,090	1,220	27,700	12,600	8,170	2,360
21	766	483	1,430	994	2,090	1,250	1,140	‡ 1,160	38,000	12,500	8,100	2,310
22	773	485	1,430	1,100	2,100	1,250	1,200	1,140	‡ 42,700	11,900	8,100	2,270
23	766	480	1,360	1,020	2,210	1,270	1,170	1,130	53,300	10,800	8,100	2,270
24	759	600	1,350	987	3,860	1,310	‡ 1,110	1,120	‡ 65,900	11,400	8,100	2,250
25	774	1,700	1,380	963	3,900	1,190	1,120	1,160	‡ 67,500	12,700	7,950	2,710
26	868	2,640	1,360	980	4,040	‡ 1,140	1,080	1,280	65,800	11,800	7,870	3,260
27	862	3,900	1,350	1,170	4,140	1,130	1,050	1,320	64,000	11,500	‡7,800	3,360
28	957	4,000	1,320	1,300	4,030	1,090	957	1,320	54,000	11,200	7,800	3,250
29	932		1,290	1,180	‡ 3,880	1,080	1,270	1,730	‡ 37,100	11,100	7,800	3,200
30	‡ 852		1,240	1,100	2,130	1,110	1,110	4,380	24,500	10,900	7,730	3,110
31	796		1,220		1,540		1,040	4,980		10,900		3,090
Sum	24,516	25,882	90,960	31,783	114,110	55,300	34,417	50,450	653,430	435,100	278,750	139,160

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1938-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	6.17	5.92	28	1,030	1	705	791	48,627	74,199	108,121	47,179
Feb.	7.57	5.71	28	4,110	21	444	924	51,336	134,925	444,879	51,336
Mar.	8.11	6.29	15	6,810	†30	1,210	2,930	180,417	82,820	180,417	37,442
Apr.	6.43	6.09	28	1,430	25	924	1,060	63,041	70,723	105,586	37,386
May	8.15	6.23	2	7,130	1	1,160	3,680	226,334	142,523	237,838	50,723
June	7.19	6.14	†13	3,100	28	1,030	1,840	109,686	127,707	353,792	29,308
July	6.34	5.98	29	1,320	28	819	1,110	68,265	85,876	134,150	37,226
Aug.	7.90	6.11	31	5,090	† 1	985	1,630	100,066	140,011	294,704	66,322
Sept.	16.27	7.29	†24	67,900	4	2,940	21,800	1,296,059	309,356	1,296,059	83,327
Oct.	9.92	8.69	1	22,500	†23	10,300	14,000	863,008	278,875	863,008	92,140
Nov.	8.82	8.43	2	11,500	30	7,580	9,290	552,893	147,422	552,893	56,569
Dec.	8.49	6.84	2	8,120	24	2,250	4,490	276,020	101,167	276,020	49,819
Yearly	16.27	5.71		67,900		444	5,300	3,835,752	1,695,604	3,835,752	895,415

** Period 1956-1974 ‡ Discharge measurement made on this day † And other days

RIO GRANDE AT PALAFOX NEAR LAREDO, TEXAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the right bank on the outskirts of Palafox, Webb County, Texas and Villa Hidalgo, Coahuila at latitude 27°47'55", longitude 99°52'40", and river mile 403.0; 1.9 river miles downstream from Arroyo Agua Verde in Mexico, 13.1 river miles upstream from Santo Tomas Creek in United States, 44.7 river miles upstream from the international highway bridge between Laredo, Texas and Nuevo Laredo, Tamaulipas, and 845.8 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 436.02 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 18 discharge measurements during the year, 16 by the Mexican Section and 2 by the United States Section of the Commission, and a continuous record of gage heights. Computations by shifting control methods. High flows prior to early 1962 were computed from a rating curve developed after the cableway was installed. Records available: August 1959 through 1974.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. The recorder was installed on August 5, 1959 and the cableway in early 1962.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 214,000 second-feet on September 25, 1964 with a gage height of 42.06 feet. Min. 314 second-feet on June 30, and July 1, 1972 with a gage height of -0.66 foot.

Average Flow in Second-Feet**

Daily:	Max. 163,000	Sept. 26, 1964	Min. 314	July 1, 1972
Monthly:	Max. 30,400	Sept. 1964	Min. 434	June 1969
Yearly:	Max. 5,470	1974	Min. 1,270	1972

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	756	830	3,960	1,260	1,110	1,600	1,110	1,020	5,090	20,900	11,600	8,860
2	749	798	4,030	‡ 1,250	‡ 4,520	1,600	1,190	978	5,510	18,500	11,500	8,860
3	749	766	4,130	1,270	7,560	1,620	1,130	978	14,500	17,300	11,400	8,830
4	766	738	4,130	1,100	7,030	‡ 1,640	1,070	1,050	8,690	16,700	11,400	8,760
5	780	738	4,060	1,050	5,440	1,550	‡ 1,050	1,050	4,770	16,600	‡11,400	8,760
6	812	749	‡4,060	1,110	6,070	1,550	1,110	‡ 1,170	5,330	16,600	11,400	8,760
7	‡ 876	738	4,060	1,150	7,270	1,510	978	6,250	5,260	16,500	11,400	8,690
8	886	713	4,060	1,070	7,240	1,510	1,020	2,360	5,190	16,300	11,600	8,620
9	855	678	4,060	1,050	7,310	2,250	1,190	1,850	5,190	16,100	11,600	‡8,720
10	830	660	4,130	1,020	6,920	2,670	1,070	1,810	5,160	15,900	11,600	8,720
11	812	660	4,170	1,050	3,990	2,770	1,000	1,510	‡ 5,260	15,900	11,600	8,760
12	812	‡ 660	4,130	1,100	2,770	2,610	1,000	1,320	5,330	15,700	‡11,400	6,920
13	812	660	4,840	1,100	2,530	2,570	1,070	1,300	6,430	15,700	9,960	3,530
14	788	639	4,870	1,050	‡ 2,410	2,890	1,020	2,760	5,690	15,800	9,360	3,050
15	812	600	5,510	1,020	2,290	2,890	1,110	1,930	5,510	15,900	9,220	2,910
16	840	590	5,260	1,080	2,250	2,890	1,230	1,550	5,720	15,700	9,250	2,810
17	‡ 830	590	3,220	1,030	2,210	2,850	1,150	1,340	5,510	15,600	9,250	2,780
18	812	590	1,990	939	2,090	2,770	1,100	1,250	5,470	15,700	9,250	2,710
19	812	590	1,760	897	2,050	2,650	1,090	1,170	‡ 9,500	15,500	9,220	2,660
20	812	590	1,710	897	2,090	1,860	1,020	1,250	20,500	14,800	9,220	2,690
21	766	590	1,620	918	2,170	1,360	1,070	1,210	30,700	13,500	9,150	2,640
22	766	590	1,510	897	2,090	1,230	1,130	1,130	35,700	13,300	9,150	2,660
23	766	590	1,500	982	2,050	1,230	1,210	1,090	43,400	12,400	9,110	2,620
24	766	579	1,510	1,020	2,440	1,270	1,210	1,130	54,400	11,700	9,110	2,620
25	766	590	1,480	961	3,670	1,320	1,130	1,050	66,400	12,900	9,110	2,620
26	766	1,470	1,510	897	3,740	1,210	1,110	1,580	66,000	13,200	9,110	2,620
27	812	2,710	1,510	897	3,880	1,170	1,070	1,300	63,900	12,700	8,970	2,980
28	855	3,960	1,440	1,070	3,810	1,130	1,000	1,270	60,700	12,300	8,860	3,570
29	918		1,400	1,240	3,740	1,130	957	3,090	43,100	12,000	8,860	3,780
30	1,110		1,360	1,170	3,500	1,050	1,080	2,940	26,600	11,700	8,830	3,710
31	901		1,340		2,070		1,170	5,400		11,700		3,670
Sum	25,453	24,656	94,320	31,545	118,310	56,350	33,845	55,086	630,510	465,100	302,890	159,890

Month	Current Year 1974								Period 1968-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
				High		Low			Average	Maximum	Minimum
	High	Low	Day		Day						
Jan.	1.08	0.49	30	1,110	† 2	749	819	50,489	74,817	107,275	50,489
Feb.	3.81	- .03	28	4,030	24	579	879	48,884	135,273	455,925	48,884
Mar.	5.18	1.41	15	6,850	31	1,320	3,040	187,056	86,988	187,056	38,574
Apr.	1.41	.72	1	1,320	22	876	1,050	62,579	70,574	105,285	36,522
May	5.45	1.02	4	8,120	1	1,070	3,810	234,708	147,891	234,708	60,344
June	3.31	.95	14	3,190	30	1,020	1,880	111,730	187,026	750,090	25,768
July	1.44	.52	30	1,340	30	731	1,090	67,132	93,298	156,748	30,729
Aug.	7.87	.79	7	12,700	3	915	1,780	109,215	155,930	360,755	70,515
Sept.	27.56	4.13	25	67,500	2	4,770	21,000	1,250,870	313,509	1,250,870	93,812
Oct.	11.42	7.38	1	20,900	†30	11,700	15,000	922,217	321,366	922,217	100,018
Nov.	7.42	6.07	8	11,700	30	8,830	10,100	601,059	158,141	601,059	56,954
Dec.	6.10	2.76	1	8,900	26	2,520	5,160	317,123	110,050	317,123	51,077
Yearly	27.56	-0.03		67,500		579	5,470	3,963,062	1,354,863	3,963,062	920,935

** Period August 1959-1974 ‡ Discharge measurement made on this day † And other days

RIO GRANDE AT LAREDO, TEXAS

DESCRIPTION: Cableway, bubbler gage, and water-stage recorder located on the right bank at Laredo, Texas at latitude 27°29'45", longitude 99°29'30", and river mile 357.2; immediately downstream from the Laredo, Texas sewage plant, 1.1 river mile downstream from the international highway bridge between Laredo, Texas and Nuevo Laredo, Tamaulipas, and 891.6 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 345.28 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 76 discharge measurements during the year, 68 by the Mexican Section and 8 by the United States Section of the Commission, and a continuous record of gage heights. Computations by shifting control methods. Records available: May 1900 through 1913; May, June, and Oct. 1914; Sept. 1916; Sept. and Oct. 1917; Oct. 1918; Sept. and Oct. 1919; Aug. and Sept. 1920; June, Nov., and Dec. 1922; and 1923 through 1974. Gage height records are available for Jan., Feb., and Mar. 1914.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. This station was established in Jan. 1955 to replace the station 1.7 miles upstream which was destroyed by the June-July 1954 flood. Prior to July 11, 1968 the recorder was located 0.2 river mile upstream, where the cableway is still located, and the zero of the gage was 347.90 feet above mean sea level, U. S. C. & G. S. datum.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 716,900 second-feet on June 30, 1954, determined by slope-area calculations, with a gage height of 61.35 feet. Much well-authenticated information establishes the occurrence of a greater flood in June 1865 with a gage height of 62.5 feet on the same gage and discharge of approximately 950,000 second-feet, and also that these were the only floods since 1749 with flows greater than 600,000 second-feet. Min. no flow several days in June and July 1953 and on July 24, 1956.

Average Flow in Second-Feet**

Daily:	Max. 576,000	June 30, 1954	Min. 0	Several days June, July 1953
Monthly:	Max. 49,500	Sept. 1932	Min. 5.5	June 1953
Yearly:	Max. 9,670	1932	Min. 1,080	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	738	742	3,920	‡ 1,180	1,110	1,620	‡ 968	939	5,230	‡25,400	11,700	8,330
2	749	703	3,960	1,150	1,180	1,670	968	883	‡ 5,010	‡21,700	11,500	8,370
3	749	660	3,990	1,130	‡ 6,070	‡ 1,500	1,050	868	9,570	17,900	11,500	8,370
4	759	‡ 618	‡ 4,030	1,050	6,640	1,550	953	897	‡ 14,200	17,200	11,400‡	‡8,330
5	770	593	4,060	950	5,540	1,460	897	‡ 925	6,000	17,100	11,400	8,300
6	791	607	4,030	930	4,980	1,370	883	1,070	5,190	17,000	11,400	8,230
7	816	607	3,990	908	5,860	1,370	897	5,690	5,400	16,800	11,400	8,230
8	826	593	4,030	‡ 908	6,360	1,370	883	3,670	5,370	16,700	11,600	8,190
9	‡ 862	572	3,960	989	6,390	1,400	897	1,910	‡ 5,330	16,500	11,700	8,160
10	848	551	4,030	1,060	6,600	‡ 2,440	968	1,900	5,330	‡16,300	11,700	8,160
11	816	‡ 530	‡ 4,170	1,050	5,620	2,860	897	1,650	5,160	16,100	11,600‡	8,160
12	816	530	4,170	1,140	3,020	2,620	911	‡ 1,380	5,160	16,100	11,500	‡7,270
13	816	540	4,170	1,050	‡ 2,490	2,540	939	1,260	5,620	16,100	10,700	‡3,850
14	802	551	4,410	1,050	2,420	2,700	954	1,870	6,220	‡16,100	9,000	3,080
15	‡ 816	519	‡ 5,050	‡ 1,020	2,340	3,110	‡ 911	‡ 2,550	5,400	16,200	8,900	2,910
16	816	509	5,930	1,050	2,230	3,110	939	1,690	5,370	16,100	8,790	‡2,790
17	837	480	4,480	1,050	2,160	‡ 2,860	1,020	1,410	‡ 5,540	15,900	8,760	2,710
18	816	‡ 459	‡ 2,550	975	2,100	2,780	953	1,290	5,260	15,900	‡8,720	2,680
19	816	459	1,780	936	2,050	2,540	939	‡ 1,220	6,140	15,800	8,690	2,650
20	816	459	1,590	908	‡ 2,050	2,100	939	1,220	‡ 15,000	15,200	8,650	2,580
21	‡ 791	441	1,560	922	2,070	1,360	939	1,250	‡ 24,800	‡13,300	8,620	2,580
22	770	434	1,460	‡ 908	2,030	1,070	‡ 968	1,150	‡ 33,500	13,700	‡8,550	2,580
23	770	420	1,370	‡ 936	1,930	1,060	996	1,110	‡ 38,800	12,900	8,510	‡2,560
24	780	420	1,380	1,020	1,950	‡ 1,100	1,050	1,120	‡ 45,600	11,900	8,760	2,580
25	770	‡ 427	1,360	964	3,320	1,120	1,020	1,110	‡ 55,800	13,200	‡3,510	2,580
26	770	456	1,360	903	3,740	1,130	968	‡ 1,110	‡ 62,500	13,600	8,510	2,850
27	802	‡2,260	‡ 1,360	908	‡ 3,810	1,050	968	1,720	‡ 63,600	12,700	8,480	3,490
28	‡ 862	‡3,640	1,330	950	3,880	989	953	1,320	62,500	‡12,600	8,400	3,670
29	862		1,290	‡ 1,190	3,710	961	‡ 897	1,640	56,200	12,200	8,330	3,670
30	929		1,240	1,210	3,670	975	833	‡ 3,360	‡ 38,800	11,900	8,330	3,600
31	918		1,240		2,540		1,020	4,410		11,900		3,570
Sum	25,099	19,780	93,250	30,406	109,920	53,785	29,378	53,582	613,600	482,500	295,610	155,080

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1968-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	2.13	1.30	†30	953	1	727	809	49,774	75,591	109,488	49,774
Feb.	4.69	1.48	23	3,920	26	413	706	39,225	134,898	450,602	39,225
Mar.	6.36	2.36	16	6,430	31	1,230	3,010	184,927	86,506	184,927	37,096
Apr.	2.66	1.94	12	1,460	† 7	879	1,010	60,239	71,022	115,874	35,107
May	6.53	2.17	5	6,320	1	1,050	3,530	218,093	148,462	233,678	89,917
June	4.20	2.10	11	3,240	†29	961	1,790	106,714	180,375	695,494	29,685
July	2.23	1.87	3	1,030	30	770	946	58,271	99,993	223,886	32,270
Aug.	8.37	1.97	7	10,200	† 3	855	1,730	106,265	160,956	425,780	65,681
Sept.	27.66	5.48	27	63,900	2	4,940	20,400	1,216,757	317,596	1,216,757	94,988
Oct.	17.26	9.23	1	30,500	24	11,300	15,600	956,960	359,193	950,960	105,334
Nov.	9.38	7.71	1	11,700	†29	8,330	9,850	586,230	156,866	586,230	53,095
Dec.	7.74	3.51	† 2	8,370	24	2,550	5,010	307,569	111,713	307,569	51,316
Yearly	27.66	1.48		63,900		413	5,370	3,891,074	1,903,581	3,891,074	920,740

** Period 1924-1974 ‡ Discharge measurement made on this day † And other days

RIO SALADO AT LAS TORTILLAS, TAMAULIPAS

DESCRIPTION: Cableway, control weir with notch opening of 2,500 second-foot capacity, gravity well, and water-stage recorder located on the right bank at latitude 26°50'10", longitude 99°33'50", 2.0 river miles downstream from the confluence of Rio Sabinas with Rio Salado, 6 miles southeast of the town of Las Tortillas, Tamaulipas, and 24.8 river miles from the confluence with the Rio Grande. This stream enters the Rio Grande at river mile 298.4, 24.6 river miles upstream from Falcon Dam, and 950.4 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 325.72 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 13 discharge measurements during the year, a stable rating curve up to 2,500 second-feet, and a continuous record of gage heights. Computations by shifting control methods for flows greater than 2,500 second-feet. Records available: September 9, 1953 through 1974. Records are also available for a station at old Cd. Guerrero, 18.6 miles downstream, from 1900 through 1913 and 1923 through September 8, 1953.

REMARKS: Reservoirs and irrigation diversions modify the flow at this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 65,000 second-feet on September 16, 1971 with a gage height of 40.39 feet. Min. frequently no flow. The maximum discharge was measured at the highway bridge 13.0 river miles downstream from the station. Extreme flow data for the Rio Salado at Cd. Guerrero prior to September 8, 1953 may be found in previous bulletins.

Average Flow in Second-Feet**

Daily:	Max. 62,900	Sept. 16, 1971	Min.	0	Frequently
Monthly:	Max. 13,600	Sept. 1971	Min.	0	Frequently
Yearly:	Max. 3,310	1971	Min.	56.8	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	278	270	179	186	102	86.5	116	31.1	922	270	144	74.9
2	285	255	186	171	130	162	116	29.0	‡ 427	224	144	74.9
3	285	278	186	‡ 148	‡ 142	396	‡ 112	29.0	247	209	139	84.0
4	270	262	186	148	327	188	112	31.1	971	194	135	88.6
5	270	255	‡ 186	148	313	‡ 121	112	33.2	‡2,520	179	130	93.2
6	270	247	194	144	194	93.2	112	130	1,620	164	‡130	93.2
7	278	232	179	139	317	84.0	102	780	593	148	130	93.2
8	‡ 285	‡ 232	164	139	300	84.0	97.8	306	343	‡ 130	125	93.2
9	278	232	156	130	164	93.2	88.6	915	285	125	125	88.6
10	262	217	156	130	130	1,550	84.0	248	232	121	125	84.0
11	262	201	164	135	121	5,090	74.9	121	186	116	121	‡ 74.9
12	255	201	164	139	121	1,980	70.3	93.2	144	112	121	79.5
13	255	201	171	139	125	385	61.1	‡ 74.9	130	102	121	84.0
14	247	194	262	139	116	255	56.5	65.7	125	93.2	121	84.0
15	247	171	466	139	112	232	56.5	61.1	135	117	116	84.0
16	239	164	544	125	112	367	56.5	56.5	148	139	116	88.6
17	239	156	480	130	102	300	54.4	61.1	121	209	116	84.0
18	239	164	406	144	97.8	194	52.3	61.1	112	155	112	84.0
19	239	156	321	139	97.8	148	50.1	61.1	112	120	112	79.5
20	232	144	292	139	102	139	45.9	54.4	107	95.7	112	74.9
21	224	148	247	130	102	130	43.8	54.4	88.6	88.6	112	74.9
22	224	148	224	235	102	130	43.8	48.0	112	84.0	112	70.3
23	209	148	209	148	88.6	125	45.9	48.0	388	84.0	112	79.5
24	194	164	209	121	74.9	125	39.6	45.9	1,620	121	107	84.0
25	179	171	201	111	70.3	121	35.3	45.9	1,480	869	93.2	88.6
26	179	164	209	102	65.7	121	35.3	43.8	918	487	84.0	84.0
27	179	164	201	102	79.5	116	35.3	41.7	593	250	84.0	88.6
28	194	171	201	93.2	74.9	116	33.2	39.6	501	160	84.0	88.6
29	234		209	93.2	74.9	116	35.3	184	406	125	84.0	84.0
30	262		201	93.2	74.9	116	35.3	1,580	321	130	74.9	84.0
31	270		194		70.3		31.1	2,100		139		84.0
Sum	7,563	5,510	7,347	4,079.6	4,103.6	13,163.9	2,044.8	7,473.8	15,907.6	5,560.5	3,442.1	2,595.7

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	1.31	1.05	29	300	†25	179	244	14,998	8,114	57,070	0
Feb.	1.25	.95	3	278	20	139	197	10,922	6,835	66,880	0
Mar.	1.87	.98	16	699	† 9	148	237	14,577	4,459	29,690	0
Apr.	1.28	.75	22	285	28	84.0	136	8,099	5,832	21,994	0
May	1.77	.69	5	618	26	65.7	132	8,140	19,516	100,919	0
June	5.25	.75	11	5,650	† 7	84.0	438	26,098	24,578	172,970	0
July	.89	.43	1	121	31	26.8	66.0	4,054	27,134	441,541	0
Aug.	3.15	.43	30	2,330	† 1	26.8	241	14,830	15,137	92,579	0
Sept.	3.38	.72	5	2,780	21	74.9	530	31,559	108,306	807,616	2,860
Oct.	2.36	.75	25	1,210	†22	84.0	179	11,031	68,303	550,739	110
Nov.	.98	.72	† 1	144	†29	74.9	115	6,822	32,187	338,000	0
Dec.	.79	.69	† 4	93.2	22	65.7	83.7	5,150	17,041	176,100	0
Yearly	5.25	0.43		5,650		26.8	216	156,280	337,442	2,400,553.5	41,238.2

** Period September 1953-1974 ‡ Discharge measurement made on this day † And other days

RIO GRANDE BELOW FALCON DAM, TEXAS

DESCRIPTION: The discharges reported below represent water measured as it leaves Falcon Reservoir through turbine penstocks, bypass valves, spillway gates, and leakage. Falcon Dam, astride the Rio Grande, is located at latitude 26°33'25", longitude 99°10'05", and river mile 273.8; about 7 miles southwest of Falcon, Texas, 84.5 river miles downstream from the international highway bridge between Laredo, Texas and Nuevo Laredo, Tamaulipas, and 975.0 river miles downstream from the American Dam at El Paso, Texas. A gravity well and water-stage recorder located 2.5 river miles downstream and a cableway located one mile farther downstream are used to measure the flow of this station at times when spillway gates are in operation.

RECORDS: Based on daily Simplex meter records of releases through the six turbines, established rating curves for the four hollow-jet bypass valves, estimates of gate leakage, and measurements of flow at the cable during spillgate operations. During 1974 there were 4 discharge measurements, 1 by the United States Section and 3 by the Mexican Section of the Commission. Records available: 1958 through 1974. Records are also available from December 17, 1952 through 1957 for a station at Chapeno, 2.5 miles downstream, where discharges included arroyo inflow below Falcon Dam, which inflow is eliminated from the records reported below.

REMARKS: Computation of flow was made jointly by the United States and Mexican Sections of the Commission from a consolidation of the basic data gathered by each Section incident to the international operation of Falcon Reservoir.

EXTREME FLOWS FROM RECORDS**: Momentary: Max. 82,600 second-feet on September 18, 1971. Min. 1.5 second-feet on March 24 and 25, 1957 (at Chapeno gaging station).

Average Flow in Second-Feet**

Daily:	Max. 76,400	Sept. 18, 1971	Min. 1.5	March 24 & 25, 1957
Monthly:	Max. 32,500	Oct. 1958	Min. 23.5	Nov. 1973
Yearly:	Max. 6,930	1958	Min. 1,580	1970

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	501	5,600	3,230	1,120	4,790	8,810	3,670	4,670	2,240	15,000	6,600	3,020
2	274	6,920	3,730	1,030	5,620	7,870	3,610	4,410	2,390	15,000	6,600	3,010
3	18.0	6,870	4,070	1,020	6,260	7,560	3,520	5,030	3,030	15,000	6,600	3,000
4	18.0	6,800	3,680	996	6,820	7,320	3,270	5,140	2,510	‡15,000	6,580	2,370
5	1,180	6,570	3,270	1,780	7,080	6,340	18.0	4,780	1,730	15,000	6,570	1,520
6	1,730	6,100	3,430	2,640	5,830	6,390	515	5,960	2,370	15,000	6,550	1,500
7	1,750	6,330	3,540	2,620	5,980	6,140	511	5,100	2,210	15,000	6,650	1,600
8	1,780	6,340	4,350	2,630	3,960	5,810	772	6,110	2,260	‡15,000	6,600	1,600
9	1,930	6,030	4,270	2,650	3,210	6,350	1,540	6,140	2,370	15,000	6,580	1,490
10	2,000	6,390	3,940	3,930	3,360	3,930	1,030	7,240	3,260	14,400	6,600	1,480
11	2,220	6,020	3,730	4,670	3,270	3,420	1,520	7,720	3,470	12,800	5,750	1,510
12	2,430	5,520	3,750	5,060	3,440	4,440	1,520	7,770	3,990	11,200	4,830	1,510
13	3,020	5,180	2,700	5,520	3,720	4,190	1,030	8,450	3,290	9,840	4,820	1,510
14	2,880	5,300	904	5,340	5,000	2,550	1,020	9,230	2,710	‡ 9,210	4,200	1,510
15	2,090	5,190	773	5,120	5,110	453	1,360	8,280	2,710	9,190	3,010	1,500
16	3,180	4,890	646	5,210	5,710	1,340	2,280	7,770	2,280	9,200	2,940	2,240
17	3,550	4,570	18.0	5,180	6,480	1,610	2,040	8,290	1,600	8,560	2,990	2,980
18	4,890	4,180	18.0	4,980	7,350	1,830	1,880	7,500	1,100	7,560	3,010	3,000
19	5,060	3,860	18.0	18.0	7,600	1,980	938	6,860	1,420	7,460	2,990	3,000
20	5,730	3,400	977	868	7,550	2,260	1,720	6,820	2,220	7,560	2,980	2,990
21	5,430	3,420	1,020	874	7,860	2,450	2,110	5,780	2,080	6,940	2,990	3,010
22	4,840	3,770	1,020	872	8,480	2,140	2,050	5,400	6,740	6,620	2,990	3,010
23	5,590	3,620	1,040	2,120	8,720	2,180	2,280	5,240	14,800	6,530	2,970	3,030
24	5,150	3,580	991	2,660	9,750	2,220	2,910	5,520	15,100	6,520	2,980	3,020
25	4,710	3,210	992	2,980	11,100	1,940	2,400	5,230	15,100	6,590	2,980	3,000
26	4,740	2,840	356	2,750	10,800	1,960	2,530	5,190	‡ 15,000	6,540	3,000	3,040
27	5,220	3,400	18.0	3,820	9,940	2,770	3,020	4,380	15,000	6,520	3,040	3,030
28	4,740	3,830	18.0	3,840	9,450	3,130	3,330	4,510	15,100	6,560	3,040	3,020
29	4,920		1,620	4,330	9,480	3,260	3,720	3,240	15,000	6,580	3,020	3,020
30	5,460		1,200	4,680	9,640	3,330	4,190	2,220	15,100	6,580	3,010	3,020
31	6,130		1,200		9,800		4,700	2,240		6,600		3,030
Sum	103,161.0	139,730	60,519.0	91,308.0	213,160	115,973	67,604.0	182,220	178,230	314,560	133,470	75,370

Month	Current Year 1974: Extreme Gage Feet High	Low	∅ Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period #1954-1974: Acre-Feet Average	Maximum	Minimum
Jan.			31	6,130	† 3	18.0	3,330	204,617	205,399	414,129	16,245
Feb.			2	6,920	26	2,840	4,990	277,150	163,125	367,384	16,600
Mar.			8	4,350	†17	18.0	1,950	120,038	125,271	347,000	2,390
Apr.			13	5,520	19	18.0	3,040	181,107	237,075	461,541	19,530
May			25	11,100	9	3,210	6,880	422,797	301,233	526,000	21,574
June			1	8,810	15	453	3,870	230,029	252,040	551,000	22,887
July			31	4,700	5	18.0	2,180	134,091	103,169	229,825	12,839
Aug.			14	9,230	30	2,220	5,880	361,428	135,097	361,428	25,900
Sept.			†24	15,100	18	1,100	5,940	353,514	191,204	1,030,871	1,428
Oct.			† 1	15,000	†24	6,520	10,100	623,921	271,290	1,997,000	27,100
Nov.			7	6,650	16	2,940	4,450	264,734	126,755	1,128,000	1,400
Dec.			26	3,040	10	1,480	2,430	149,494	112,648	465,000	8,761
Yearly				15,100		18.0	4,590	3,322,920	2,224,306	5,016,800	1,143,806

** Period 1954-1974 ‡ Discharge measurement made on this day ∅ Mean daily
# Values prior to 1958 are Chapeno discharge less arroyo inflow † And other days

RIO ALAMO AT CD. MIER, TAMAULIPAS

DESCRIPTION: Cableway, reinforced concrete weir of 177 second-foot capacity, gravity well, and water-stage recorder located on the right bank at a point called "El Paso del Cantaro", latitude 26°27'10", longitude 99°09'20", about 0.5 mile north of Cd. Mier, Tamaulipas, and 5.0 river miles from the confluence with the Rio Grande. This stream enters the Rio Grande at river mile 261.4, 12.4 river miles downstream from Falcon Dam, and 987.4 river miles downstream from the American Dam at El Paso, Texas. The weir is located about 300 feet downstream from the recorder. The zero of the gage is at mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 2 discharge measurements made at high flows during the year, the weir discharge table at low flows, and a continuous record of gage heights. High flow computations by shifting control methods. Records available: July 1923 through 1974.

REMARKS: Small reservoirs and irrigation diversions modify the flow of this spring-fed stream at this station. On June 11, 1952, the zero of the gage was raised 1.31 feet to make it coincide with the weir crest elevation. Prior to January 1, 1969, the zero of the gage was 188.35 feet above mean sea level, U. S. C. & G. S. datum.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 144,800 second-feet on September 11, 1948 with a gage height of 33.56 feet. Min. periods of no flow have occurred at times during all years of record except 1934, 1935, 1968 and 1972, and 1974.

Average Flow in Second-Feet**

Daily:	Max. 87,230	Sept. 11, 1948	Min. 0	Frequently
Monthly:	Max. 7,310	Sept. 1967	Min. 0	Frequently
Yearly:	Max. 837	1967	Min. 16.4	1929

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	134	142	89.7	84.8	40.6	27.9	40.6	26.1	12.0	47.3	47.3	43.8
2	181	129	89.7	84.8	40.6	48.7	37.1	23.3	5.0	42.4	47.3	43.8
3	181	126	89.7	80.5	38.8	54.4	37.1	18.7	4.2	43.8	45.6	45.6
4	181	129	89.7	75.9	51.9	31.8	68.5	13.1	2.5	42.4	40.6	47.3
5	178	126	91.8	71.3	105	27.9	103	17.3	67.8	42.4	40.6	47.3
6	178	120	91.8	71.3	164	27.9	119	15.9	35.7	38.8	42.4	47.3
7	175	115	84.8	71.3	71.7	24.7	51.6	1,490	21.5	38.8	47.3	45.6
8	175	112	‡ 87.2	71.3	56.9	21.5	43.8	129	18.7	37.1	47.3	50.9
9	175	107	87.2	69.2	54.7	21.5	40.3	41.7	15.9	31.1	47.3	50.9
10	172	102	89.7	69.2	54.7	23.3	37.1	35.3	18.7	23.3	47.3	50.9
11	168	104	91.8	67.1	47.3	‡ 533	37.1	33.9	18.7	21.5	47.3	54.7
12	165	104	102	67.1	152	159	37.1	27.9	15.9	20.1	47.3	54.7
13	168	99.6	104	67.1	181	66.4	37.1	24.7	214	18.7	43.8	54.7
14	168	96.8	99.6	65.0	79.8	70.3	37.1	21.5	417	18.7	43.8	54.7
15	158	96.8	102	61.1	63.2	102	37.1	18.7	210	17.3	42.4	47.3
16	172	96.8	279	61.1	61.1	76.6	33.9	18.7	87.2	17.3	43.8	45.6
17	172	96.8	1,380	63.2	59.0	61.1	33.9	15.9	78.0	17.3	43.8	45.6
18	172	94.3	245	73.5	56.9	59.0	35.3	12.0	42.4	17.3	43.8	43.8
19	172	94.3	145	99.6	47.3	59.0	37.1	8.1	37.1	17.3	45.6	43.8
20	165	94.3	120	84.8	42.4	66.7	33.9	8.1	35.3	15.9	45.6	45.6
21	162	96.8	112	80.5	40.6	65.7	33.9	9.2	39.2	13.1	43.8	45.6
22	162	94.3	104	73.5	40.6	61.1	33.9	8.1	261	13.1	43.8	45.6
23	160	94.3	99.6	67.1	40.6	56.9	33.9	6.0	228	55.4	43.8	45.6
24	154	94.3	94.3	63.2	38.8	54.7	31.1	8.1	344	193	107	45.6
25	154	94.3	94.3	54.7	33.9	47.3	27.9	13.1	381	3,020	43.8	45.6
26	154	91.8	96.8	47.3	31.1	47.3	24.7	9.2	194	805	43.8	45.6
27	165	91.8	96.8	45.6	27.9	47.3	21.5	9.2	71.3	89.7	43.8	45.6
28	165	89.7	99.6	45.6	33.9	54.7	21.5	10.6	63.2	43.1	45.6	45.6
29	160		96.8	40.6	33.9	47.3	15.9	8.1	59.0	29.3	47.3	45.6
30	154		91.8	42.4	27.9	40.6	13.1	9.2	54.7	32.5	45.6	45.6
31	142		87.2		26.1		21.5	18.7		45.6		43.8
Sum	5,202	2,933.0	4,638.9	2,019.7	1,844.2	2,085.6	1,216.6	2,109.4	2,964.0	4,913.6	1,403.5	1,463.7

Month	Current Year 1974								Period 1924-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
	High	Low	Day	High	Day	Low			Average	Maximum	Minimum
Jan.	189.67	189.47	1	184	31	142	168	10,324	3,345	34,920	0
Feb.	189.47	189.17	1	142	28	89.7	105	5,814	2,490	25,550	0
Mar.	191.60	189.14	17	1,960	7	84.7	149	9,196	2,551	19,830	0
Apr.	189.37	188.84	19	128	29	40.6	67.5	4,006	6,037	36,210	0
May	190.55	188.71	5	805	31	26.1	59.3	3,659	12,411	137,000	0
June	190.49	188.85	11	763	† 8	21.5	69.6	4,138	13,313	83,240	0
July	189.73	188.58	4	219	30	13.1	39.2	2,413	6,449	37,590	0
Aug.	192.59	188.48	7	3,530	23	6.0	68.2	4,191	16,599	205,700	0
Sept.	190.78	188.42	†14	1,020	† 3	2.5	93.9	5,882	40,854	434,387	135
Oct.	193.50	188.58	25	4,940	23	12.0	159	9,739	19,737	193,700	0
Nov.	189.99	188.85	24	367	† 4	40.6	47.0	2,794	4,231	25,165	0
Dec.	188.94	188.38	†11	54.7	† 1	43.8	47.3	2,902	3,444	15,982	0
Yearly	193.50	188.42		4,940		2.5	89.7	65,058	131,461	605,673.4	11,893.7

** Period 1924-1974 ‡ Discharge measurement made on this day † And other days

CONTRIBUTIONS FROM RIO SAN JUAN
FALCON DAM TO FORT RINGGOLD

DESCRIPTION: The Lower Rio San Juan Irrigation District in Mexico lies along the Rio Grande between Cd. Miguel Aleman and Rio Bravo, Tamaulipas and is irrigated with water impounded by Marte R. Gomez Dam situated on the Rio San Juan 12.4 river miles upstream from the confluence with the Rio Grande. The Rio San Juan enters the Rio Grande at river mile 237.8 and 1,011.0 river miles downstream from the American Dam at El Paso, Texas. Drain water from this irrigation district enters the Rio Grande between Falcon Dam and the Fort Ringgold Gaging Station through the Rio San Juan Channel, Rancherias Drain, and Los Fresnos Drain; and between this station and Anzalduas Dam through Puertecitos, Los Indios, Huizache, and Morillo Drains. Only the portion of water reaching the Rio Grande via channels located upstream from the Fort Ringgold Gaging Station is shown below. The portion of drain water from this irrigation district reaching the Rio Grande via channels located downstream from the Fort Ringgold Gaging Station is shown on page 68 in this bulletin.

RECORDS: Water entering the Rio Grande through the Rio San Juan Channel, included in the tabulation below and composed of spills and leakage from Marte R. Gomez Dam, and storm inflow and drainage below the dam, was measured at the Rio San Juan Gaging Station at Camargo, Tamaulipas 3.1 river miles upstream from the confluence with the Rio Grande. (See next page for station description and separate tabulation of discharge for this station.) The discharge through Rancherias Drain was determined by prorating between 45 current meter measurements made during the year. There was no drainage flow through Los Fresnos Drain in 1974. All storm water measured at these two drains was deducted and is not included in the tabulation below. Records available: 1953 through 1974.

REMARKS: In 1974 there were 161,982 irrigable acres in the Lower Rio San Juan Irrigation District.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,020	64.6	27.2	39.6	29.3	28.3	19.4	11.7	10.6	10.9	14.1	11.3
2	996	61.4	26.8	38.5	32.1	27.9	19.4	12.0	10.2	10.6	14.1	11.3
3	971	58.6	26.8	37.4	32.1	27.5	19.1	12.4	9.9	10.6	13.8	11.7
4	950	55.4	26.8	37.1	31.8	27.5	18.7	12.4	9.9	10.6	13.8	11.7
5	964	54.7	26.8	36.7	31.8	27.2	18.0	12.7	10.2	10.6	13.8	11.3
6	971	53.3	25.8	36.4	31.4	27.2	17.7	13.1	9.9	10.9	13.8	11.3
7	978	52.6	24.7	36.0	31.4	26.5	17.3	13.4	10.2	10.9	13.8	10.9
8	989	51.6	23.7	35.7	31.1	26.1	17.0	13.1	10.6	10.9	13.8	11.3
9	968	47.7	23.0	35.3	31.1	25.8	16.2	12.4	10.6	10.9	14.1	10.9
10	943	43.4	21.5	34.6	30.4	25.4	15.9	12.4	10.6	10.9	13.8	10.9
11	922	39.6	20.5	33.9	29.3	24.7	15.2	11.7	10.6	10.9	13.8	10.6
12	901	38.8	19.4	33.5	28.6	24.7	14.5	11.3	10.9	10.9	13.8	10.2
13	879	37.8	18.4	32.8	27.5	24.0	13.8	11.3	10.9	10.6	13.8	10.2
14	855	37.1	18.4	32.5	26.8	23.3	13.1	10.6	10.9	10.6	13.8	9.9
15	604	36.4	18.4	32.1	25.8	23.3	12.4	10.2	11.3	10.6	13.8	9.5
16	304	35.3	802	31.4	26.8	22.6	11.7	9.9	11.7	10.6	13.4	9.2
17	123	34.6	271	30.7	27.5	21.9	10.9	9.9	11.3	10.9	13.4	9.2
18	118	33.9	68.9	27.5	28.3	21.2	11.7	9.9	11.7	12.0	13.4	8.8
19	114	33.2	58.6	25.1	29.3	21.2	11.7	9.9	11.7	12.4	13.4	8.8
20	109	32.5	48.0	21.9	30.4	20.5	12.4	9.5	11.7	12.7	13.1	9.2
21	105	31.8	47.7	19.4	31.1	20.5	13.1	9.5	11.7	13.1	13.1	9.5
22	101	30.7	47.3	16.2	31.8	20.5	13.8	9.5	11.3	14.1	12.7	9.5
23	99.9	30.0	47.0	13.8	31.4	20.1	13.8	9.5	11.3	14.5	12.7	9.9
24	98.5	29.3	46.7	10.6	31.1	20.5	14.5	9.9	11.3	14.5	12.0	10.2
25	97.5	28.3	46.3	13.4	30.4	20.5	13.8	10.2	11.3	14.1	11.7	10.6
26	96.4	27.5	45.9	15.9	30.0	20.5	13.8	10.2	11.3	14.1	11.7	10.6
27	95.0	27.5	44.8	18.4	29.7	20.1	13.1	10.6	11.3	14.5	11.3	10.9
28	93.9	27.2	43.8	21.2	29.3	20.1	12.7	10.6	11.3	14.5	11.3	10.6
29	86.9		42.7	24.4	28.6	19.8	12.0	10.6	10.9	14.1	11.7	10.9
30	79.1		42.0	26.8	28.3	19.8	12.0	10.2	10.9	14.1	11.7	10.9
31	71.7		40.6		28.3		11.3	10.2		14.1		11.3
Sum	15,703.9	1,134.8	2,091.5	848.8	922.8	699.2	450.0	340.8	328.0	375.7	394.5	323.1

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	∅ Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Maximum	Minimum
Jan.			1	1,020	31	71.7	505	31,141	10,213	77,184	126
Feb.			1	64.6	28	27.2	40.6	2,251	4,393	40,778	246
Mar.			16	802	†13	18.4	67.5	4,148	3,337	24,706	250
Apr.			1	39.6	24	10.6	28.3	1,684	3,760	36,208	196
May			† 2	32.1	15	25.8	29.7	1,831	4,596	29,121	555
June			1	28.3	†29	19.8	23.3	1,387	25,128	335,396	476
July			† 1	19.4	17	10.9	14.5	892	32,219	341,927	312
Aug.			7	13.4	†20	9.5	10.9	676	28,454	274,079	202
Sept.			†16	11.7	† 3	9.9	10.9	651	131,116	1,678,782	298
Oct.			†23	14.5	† 2	10.6	12.0	746	109,325	901,800	229
Nov.			† 1	14.1	†27	11.3	13.1	782	32,157	230,400	154
Dec.			† 3	11.7	†18	8.8	10.6	641	15,666	98,974	200
Yearly				1,020		8.8	64.6	46,830	400,364	2,896,004	11,025

∅ Mean daily † And other days

RIO SAN JUAN AT CAMARGO, TAMAULIPAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank opposite Camargo, Tamaulipas at latitude 26°18'50", longitude 98°50'20", 3.1 river miles from the confluence with the Rio Grande, and 9.3 river miles downstream from Marte R. Gomez Dam. This stream enters the Rio Grande at river mile 237.8, 3.9 river miles upstream from the Rio Grande gaging station at Fort Ringgold, 36.0 river miles downstream from Falcon Dam, and 1,011.0 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is at mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 49 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Discharge prorated between measurements during times of extremely low flow. Records available: January 1954 through 1974.

REMARKS: Except for storm inflow, diversion, and drainage returns below Marte R. Gomez Dam, the flow at this station is controlled by spills from Marte R. Gomez Reservoir and leakage through the dam. Backwater from the Rio Grande frequently reaches this station. Flow passing this station, combined with drain water entering the Rio Grande through Rancherias and Los Fresnos drains, is also published under heading "Contributions from Rio San Juan - Falcon Dam to Fort Ringgold" (see previous page). Prior to July 1, 1968 the zero of the gage was 130.45 feet above mean sea level, U. S. C. & G. S. datum.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 115,000 second-feet on September 25, 1967 with a gage height of 42.03 feet. Min. 0.7 second-foot several days in April 1960.

Average Flow in Second-Feet

Daily:	Max. 115,000	Sept. 25, 1967	Min. 0.7	April 23, 24 & 25, 1960
Monthly:	Max. 31,600	Sept. 1967	Min. 2.1	November 1964
Yearly:	Max. 3,990	1967	Min. 14.6	1963

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,010	‡ 54.0	15.5	34.6	18.0	10.6	8.5	6.7	6.4	8.8	9.5	8.5
2	992	49.8	14.8	33.5	‡ 20.1	10.2	8.5	7.1	6.0	8.5	9.5	8.5
3	967	45.6	14.5	‡ 32.5	20.1	10.2	‡ 8.5	7.4	5.7	8.5	9.5	8.8
4	‡ 946	‡ 41.3	14.1	32.1	20.1	10.2	8.5	7.4	‡ 5.3	8.5	9.5	‡ 8.8
5	957	39.2	‡ 13.8	31.4	20.1	9.9	8.5	7.8	5.7	8.5	9.5	8.5
6	967	36.7	13.1	31.1	20.1	9.9	8.5	8.1	5.7	8.5	9.5	8.5
7	975	34.6	‡ 12.7	30.7	20.1	‡ 9.9	8.8	‡ 8.5	6.0	8.5	9.5	8.1
8	‡ 985	32.5	12.0	30.0	20.1	9.9	8.8	8.5	6.4	8.5	9.5	8.1
9	964	29.0	11.7	‡ 29.7	‡ 20.1	10.2	8.8	8.1	6.7	8.5	9.9	7.8
10	939	25.4	10.9	28.6	19.8	10.2	‡ 8.8	8.1	6.7	8.5	9.9	7.8
11	918	‡ 21.9	10.2	27.5	19.1	10.2	8.5	7.8	7.1	8.5	9.9	‡ 7.4
12	897	21.5	9.9	26.5	18.7	10.6	8.1	7.8	7.4	8.5	9.9	7.1
13	872	21.2	‡ 9.2	25.4	18.4	‡ 10.6	7.8	7.8	7.4	8.5	9.9	7.1
14	‡ 851	20.8	9.2	24.7	18.0	10.2	7.1	7.4	7.8	8.5	9.9	6.7
15	600	20.5	9.2	23.7	17.3	10.2	6.7	‡ 7.4	8.1	8.5	9.9	6.7
16	300	20.1	791	22.6	17.0	9.9	6.4	7.1	8.5	‡ 8.5	9.9	6.4
17	‡ 119	19.8	262	‡ 21.5	16.6	9.5	‡ 6.0	7.1	8.5	8.8	9.9	6.4
18	115	19.4	60.0	18.7	15.9	9.2	6.4	7.1	‡ 8.8	9.5	9.9	‡ 6.0
19	111	19.4	49.8	16.2	15.5	9.2	6.4	6.7	8.8	9.9	‡ 9.9	6.0
20	106	19.1	‡ 39.2	13.4	15.2	‡ 8.8	6.7	6.4	8.8	10.2	9.5	6.4
21	102	‡ 18.7	39.6	10.9	14.8	8.8	7.1	‡ 6.4	8.8	10.6	9.5	6.4
22	‡ 97.1	18.4	39.6	8.1	‡ 14.1	8.8	7.4	6.4	8.8	11.3	9.2	6.4
23	96.1	18.0	39.9	5.7	13.8	8.5	7.4	6.4	8.8	‡ 11.7	9.2	6.7
24	94.6	17.7	40.3	‡ 2.8	13.4	8.5	‡ 7.8	6.7	8.8	11.3	8.8	6.7
25	93.6	17.3	40.3	4.9	12.7	8.5	7.4	6.7	8.8	10.9	8.5	7.1
26	92.5	‡ 17.0	‡ 40.6	7.1	12.4	‡ 8.5	7.4	6.7	8.8	10.6	8.5	‡ 7.1
27	91.1	16.6	39.6	9.2	12.0	8.5	7.1	7.1	8.8	10.6	‡ 8.1	7.4
28	‡ 90.1	15.9	38.5	11.3	11.7	8.5	7.1	7.1	8.8	10.2	8.1	7.4
29	81.2		37.4	13.8	10.9	8.5	6.7	‡ 7.1	8.8	9.9	8.5	7.8
30	72.0		36.7	15.9	‡ 10.6	8.5	6.7	6.7	8.8	‡ 9.5	8.5	8.1
31	62.9		35.6		10.6		‡ 6.4	6.4		9.5		8.5
Sum	15,564.2	731.4	1,810.9	624.1	507.3	285.2	234.8	224.0	229.8	290.8	281.3	229.2

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Maximum	Minimum
Jan.			1	1,010	31	62.5	501	30,884	10,083	76,938	88.4
Feb.			1	54.0	28	15.9	26.1	1,450	4,172	40,536	203
Mar.	139.17		16	4,940	†13	9.2	58.3	3,592	3,148	24,513	212
Apr.			1	34.6	24	2.8	20.8	1,239	3,532	35,876	177
May			† 2	20.1	†30	10.6	16.2	1,007	4,139	28,709	245
June			† 1	10.6	†23	8.5	9.5	566	24,708	334,608	274
July			† 7	8.8	17	6.0	7.4	465	31,998	341,429	182
Aug.			† 7	8.5	†20	6.4	7.1	443	28,296	273,904	161
Sept.			†18	8.8	4	5.3	7.8	456	130,960	1,878,406	226
Oct.			23	11.7	† 2	8.5	9.5	576	109,153	901,500	193
Nov.			† 9	9.9	†27	8.1	9.5	559	31,995	230,100	126
Dec.			† 3	8.8	†18	6.0	7.4	454	15,530	98,547	163
Yearly	139.17			4,940		2.8	57.6	41,691	397,714	2,891,093	10,534

‡ Discharge measurement made on this day † And other days

DIVERSIONS FROM THE RIO GRANDE
UNITED STATES SIDE - FALCON DAM TO FORT RINGGOLD

Beginning June 1971, the Texas Water Rights Commission assumed control of the United States portion of the water in Falcon Reservoir and in the Rio Grande below Falcon Dam, the disposition of such waters being made by its Rio Grande Watermaster. Previous to that, since June 1956, such waters had been under the jurisdiction of the 93rd District Court of Texas administered by its Special Water Master.

During 1974, 5,605 irrigable acres and several towns and rural homes were allotted Rio Grande water in the river reach between Falcon Dam and the Fort Ringgold gaging station. Such irrigable area was 0.7% of the total irrigable acres below Falcon Dam allotted Rio Grande water.

The total diversion during 1974 in this river reach was 9,641 acre-feet, or 0.8% of the total water diverted from the Rio Grande below Falcon Dam. All records of diversions in this river reach, which were determined by means of flow meters, were furnished by the Rio Grande Watermaster. More than one crop per year is often grown on parts of this land.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet			
Daily:	Max. 77.0	May 1, 1962	Min. 0	Occasionally
Monthly:	Max. 43.8	June 1960	Min. 2.2	March 1957
Yearly:	Max. 20.3	1960	Min. 6.9	1968

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	7.4	4.8	30.6	9.3	22.0	13.6	10.6	19.0	18.3	6.7	6.9	3.9
2	6.4	3.0	20.2	10.9	21.7	13.9	10.9	18.0	18.0	8.8	7.9	3.9
3	6.2	15.4	13.2	23.2	16.5	26.9	15.6	14.4	16.9	13.0	1.7	4.5
4	6.7	24.1	28.8	25.6	17.4	27.1	9.4	13.0	11.1	17.0	4.4	4.5
5	7.8	15.0	23.7	27.4	13.0	29.5	8.5	12.2	11.0	12.7	4.4	4.5
6	4.4	17.8	27.2	25.6	10.0	27.1	8.7	17.0	9.6	12.6	4.7	5.2
7	8.7	8.8	22.2	20.8	9.9	25.2	.8	9.4	9.1	13.3	4.7	5.8
8	8.8	7.3	31.4	25.7	7.0	18.6	2.5	6.6	9.8	13.6	4.7	6.4
9	9.0	5.3	20.2	27.5	7.0	11.7	6.5	12.9	17.6	13.3	7.2	9.2
10	9.6	1.7	19.1	27.1	7.0	28.9	7.8	21.8	14.7	10.4	3.5	9.1
11	8.9	4.2	34.2	21.3	10.6	25.6	7.8	18.5	14.6	8.2	3.5	5.3
12	9.1	3.6	37.1	22.8	7.0	31.0	6.8	23.5	11.3	8.3	8.3	5.3
13	6.2	9.0	23.9	23.6	12.3	28.9	5.6	25.8	11.0	18.7	11.2	4.7
14	7.1	12.0	30.7	15.6	14.7	21.9	3.4	24.4	3.5	16.2	8.9	4.7
15	7.1	19.1	22.3	32.8	12.8	23.3	16.5	21.4	2.7	16.2	9.4	6.0
16	7.1	19.1	16.7	14.9	13.2	26.5	14.4	20.5	2.3	16.2	10.8	10.8
17	11.3	43.9	6.3	26.7	14.4	11.0	18.8	15.5	2.3	16.2	5.8	10.8
18	11.8	19.7	8.6	14.1	15.9	14.7	9.3	4.6	2.3	12.8	6.8	10.8
19	12.1	25.7	9.8	15.1	17.4	12.1	10.7	19.5	2.3	14.4	7.8	10.8
20	8.0	48.9	10.2	15.1	12.8	13.2	10.4	21.6	4.9	8.7	7.8	9.1
21	8.7	40.6	10.9	9.3	17.3	10.0	7.4	15.9	5.8	13.1	7.0	9.1
22	7.0	45.4	11.5	8.5	20.0	11.2	10.6	18.5	3.3	13.1	6.5	9.9
23	9.8	51.7	11.8	6.1	17.9	14.6	18.3	18.6	3.3	12.6	6.5	10.5
24	8.6	37.4	11.6	9.3	15.7	14.6	16.6	14.1	2.3	10.0	1.6	7.1
25	12.4	42.3	8.5	11.1	16.9	21.9	13.0	19.9	2.3	10.1	3.9	5.8
26	8.3	46.2	8.8	17.0	14.3	14.5	11.7	19.9	2.9	5.9	7.8	5.1
27	4.2	36.5	8.7	18.2	14.4	14.1	14.7	9.4	2.3	3.5	8.3	8.2
28	7.5	34.3	8.5	15.1	14.1	18.8	15.6	11.1	7.4	3.5	7.8	5.4
29	5.9		6.4	20.4	17.6	22.8	18.9	10.6	6.0	3.5	7.7	4.7
30	5.9		6.3	20.1	19.3	13.9	20.2	7.5	5.1	6.0	7.7	5.3
31	6.0		4.3		19.4		20.0	18.4		4.2		5.3
Sum	248.0	642.8	533.7	560.2	449.5	587.1	352.0	503.5	234.0	342.8	195.2	211.7

Month	Current Year 1974: Average Rainfall Inches** 1957-1974	1974	Ø Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1957-1974: Acre-Feet Average	Maximum	Minimum
Jan.	1.08	0.78	25	12.4	27	4.2	8.0	492	592	1,291	159
Feb.	1.24	.22	23	51.7	10	1.7	23.0	1,275	706	1,480	223
Mar.	.61	1.51	12	37.1	31	4.3	17.2	1,059	948	1,845	158
Apr.	1.46	.88	15	32.8	23	6.1	18.7	1,111	999	1,890	357
May	2.42	1.91	1	22.0	† 8	7.0	14.5	892	1,044	2,624	211
June	2.76	1.08	12	31.0	21	10.0	19.6	1,164	1,125	2,610	209
July	1.03	1.20	30	20.2	7	.8	11.4	698	740	1,620	278
Aug.	2.27	1.06	13	25.8	18	4.6	16.2	999	667	999	278
Sept.	5.33	2.29	1	18.3	†16	2.3	7.8	464	527	1,230	178
Oct.	2.27	2.44	13	18.7	†27	3.5	11.1	680	670	1,220	131
Nov.	1.15	.36	13	11.2	24	1.6	6.5	387	518	1,170	216
Dec.	.69	.25	†16	10.8	† 1	3.9	6.8	420	593	1,580	145
Yearly	22.31	13.98		51.7		0.8	13.3	9,641	9,129	14,754	4,989

** United States side - average of several stations in this reach Ø Mean daily

† And other days

RIO GRANDE AT FORT RINGGOLD, RIO GRANDE CITY, TEXAS

DESCRIPTION: Cableway, bubbler gage, gravity well, water-stage recorders (graphic and digital), and impulse-type transmitter located on the left bank at Fort Ringgold, latitude 26°22'05", longitude 98°48'20", and river mile 233.9; about 1 mile downstream from Rio Grande City, Texas, 3.9 river miles downstream from Rio San Juan, and 1,014.9 river miles downstream from American Dam at El Paso, Texas. The zero of the gage is 100.00 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 8 discharge measurements during the year, and a continuous record of gage heights. Computations by shifting control methods. Records available: January 1955 through 1974. Records composed of the addition of discharges of the Rio Grande at Roma, Texas, and the Rio San Juan at Santa Rosalia, Tamaulipas are available for May, June, and October 1914; September 1916; September and October 1917; October 1918; September and October 1919; August and September 1920; June 1922; September 1923; and 1924 through 1931. Records are also available for the station "Rio Grande near Rio Grande City", 3.0 miles downstream, for 1932 through 1954.

REMARKS: Reservoirs, diversions, and drainage returns modify the river flow at this station. Except for tributary inflows and intervening diversions below Falcon Dam, flow at this station is controlled largely by releases from Falcon Reservoir, 39.9 river miles upstream. The transmitter relays gage height data to the Anzalduas Dam office of the United States Section of the Commission and to the Anzalduas Dam control room via leased telephone circuits. The data is recorded automatically at both locations.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 220,000 second-feet on September 22 and 23, 1967 with a gage height of 61.40 feet. Min. no flow occurred several days in June and July 1953.

Average Flow in Second-Feet**

Daily:	Max. 207,000	Sept. 23, 1967	Min. 14.6	April 13, 1957
Monthly:	Max. 49,600	Oct. 1958	Min. 235	March 1957
Yearly:	Max. 9,140	1958	Min. 1,750	1970

Mean Daily Discharge in Second-Feet 1974 —— Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,940	5,730	3,950	1,410	5,040	9,520	3,460	4,460	2,590	15,600	6,300	3,380
2	1,900	6,420	3,460	1,370	4,750	8,050	3,730	4,520	2,320	15,500	6,370	3,300
3	1,550	7,090	4,160	1,160	6,290	7,630	3,780	4,730	2,570	15,400	6,310	3,390
4	1,380	6,680	4,000	1,100	6,190	7,310	3,730	5,200	3,130	15,400	6,250	3,360
5	1,190	6,850	3,850	1,050	6,930	6,430	3,590	4,970	‡ 2,760	15,400	6,220	2,770
6	2,320	6,150	‡3,400	1,530	6,340	6,160	569	4,910	1,930	15,500	6,270	1,880
7	3,210	6,290	3,600	3,090	6,190	6,240	423	7,000	2,350	15,500	6,240	1,800
8	3,170	6,530	3,780	3,060	5,310	5,720	540	5,960	2,440	15,500	6,350	1,770
9	3,190	6,310	4,600	2,740	4,270	5,840	722	6,070	2,310	15,500	6,300	1,790
10	3,340	6,660	4,750	3,210	3,600	6,000	1,560	6,730	2,530	15,500	6,420	1,790
11	3,310	6,220	3,850	4,270	3,730	3,690	1,770	7,190	3,470	14,100	6,130	1,790
12	3,450	6,100	3,830	4,940	3,810	3,850	1,650	7,560	3,740	12,200	4,930	1,810
13	3,830	5,840	3,850	5,330	3,830	4,560	1,670	7,530	4,140	10,300	4,820	1,820
14	4,090	5,510	2,850	5,570	4,130	4,350	1,100	8,640	3,900	8,970	4,790	1,800
15	3,990	5,820	1,370	4,970	5,800	2,940	1,020	8,700	3,380	8,650	4,150	1,820
16	2,910	4,770	1,580	5,170	4,550	725	1,320	7,380	3,070	8,600	3,280	1,790
17	3,740	4,900	3,000	5,230	5,890	1,300	2,490	7,740	2,590	8,570	3,230	2,660
18	‡4,390	4,350	1,460	5,210	7,160	1,730	2,270	7,560	1,870	7,380	3,230	3,370
19	5,230	4,130	452	4,910	7,010	1,970	2,120	6,780	1,160	6,940	3,230	3,390
20	5,990	3,860	301	574	7,030	2,160	996	5,990	1,510	6,990	3,430	3,370
21	5,750	3,610	834	738	7,090	2,500	1,860	6,320	2,370	6,940	3,120	3,390
22	5,340	3,550	1,260	905	7,660	2,660	2,280	5,610	2,870	6,340	3,270	3,420
23	5,080	3,650	1,250	901	8,500	2,530	2,240	5,160	10,800	5,770	3,350	3,410
24	6,190	3,800	1,240	2,210	8,690	2,370	2,450	5,250	14,700	6,650	3,440	3,430
25	5,160	3,460	1,200	3,030	9,640	2,480	3,010	5,280	‡ 15,100	11,500	3,220	3,690
26	4,850	3,200	1,200	‡ 3,320	10,800	2,100	2,380	5,000	15,100	8,740	3,280	3,200
27	5,700	3,050	583	3,130	10,800	2,150	2,760	4,750	‡ 15,200	6,650	3,320	3,370
28	5,200	3,280	405	4,220	10,100	‡ 2,980	3,530	4,540	15,300	6,220	3,370	3,390
29	4,970		226	3,980	9,700	3,310	3,300	4,500	15,400	6,220	3,340	3,630
30	5,400		1,370	4,570	9,740	3,590	3,990	3,230	15,500	5,280	3,380	3,260
31	6,460		1,330		‡ 9,970		4,730	2,480		6,280		3,370
Sum	124,220	143,810	72,991	92,898	210,540	122,845	71,040	181,740	175,880	325,090	137,340	86,390

Month	Current Year 1974								Period #1954-1974		
	Extreme Gage Feet		Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
				High		Low					
	High	Low	Day		Day				Average	Maximum	Minimum
Jan.	30.43	26.52	24	7,520	† 5	1,180	4,010	246,387	214,273	476,906	33,043
Feb.	30.61	26.85	3	7,860	28	1,490	5,140	285,243	174,143	376,607	25,500
Mar.	30.26	25.32	9	6,790	30	200	2,350	144,776	130,170	378,000	14,400
Apr.	30.09	25.42	14	6,910	21	244	3,100	184,260	243,335	447,815	75,100
May	32.24	26.59	26	11,900	†10	1,270	6,790	417,600	318,036	521,000	36,702
June	31.36	25.93	1	9,980	17	567	4,090	243,659	295,603	623,773	93,620
July	29.45	25.46	31	5,800	7	274	2,290	140,906	144,391	401,712	22,300
Aug.	31.19	26.32	15	8,960	31	938	5,860	360,476	172,283	522,593	25,000
Sept.	34.92	25.37	24	16,900	19	520	5,860	348,353	383,335	2,712,754	42,423
Oct.	34.37	28.75	1	15,700	23	4,680	10,500	644,807	406,140	3,047,000	30,000
Nov.	30.40	26.40	† 1	7,470	19	1,030	4,580	272,410	188,272	1,442,000	29,274
Dec.	28.93	25.97	3	5,040	6	599	2,790	171,352	129,241	540,000	36,100
Yearly	34.92	25.32		16,900		200	4,780	3,460,729	2,780,522	3,619,700	1,269,259

** Period 1955-1974 ‡ Discharge measurement made on this day # 1954 values are Rio Grande City less arroyo inflow

† And other days

CONTRIBUTIONS FROM RIO SAN JUAN FORT RINGGOLD TO ANZALDUAS DAM

DESCRIPTION: The Lower Rio San Juan Irrigation District in Mexico lies along the *Rio Grande* between Co. Miguel Aleman and Rio Bravo, Tamaulipas and is irrigated with water impounded by Marte R. Gomez Dam situated on the Rio San Juan 12.4 river miles upstream from the confluence with the Rio Grande. The Rio San Juan enters the Rio Grande at river mile 237.8 and 1,011.0 river miles downstream from the American Dam at El Paso, Texas. Drain water from this irrigation district enters the Rio Grande between Falcon Dam and the Fort Ringgold Gaging Station through the Rio San Juan Channel, Rancherias Drain, and Los Fresnos Drain; and between this station and Anzalduas Dam through Puertecitos, Los Indios, Huizache, and Morillo Drains. Only the portion of drain water from this irrigation district reaching the Rio Grande via drains located downstream from the Fort Ringgold Gaging Station is shown below. The portion of water reaching the Rio Grande via channels located upstream from the Fort Ringgold Gaging Station is shown on page 64 in this bulletin.

RECORDS: Drain water reaching the Rio Grande through Puertecitos, Los Indios, Huizache, and Morillo Drains was determined by prorating between frequent current meter measurements. In 1974, 44, 44, 32, and 2 meter measurements were made at Puertecitos, Los Indios, Huizache, and Morillo Drains, respectively. All storm water measured at these drains was deducted and is not included in the tabulation below. In 1974, 38 per cent of the drain water from this irrigation district reaching the Rio Grande between Fort Ringgold Gaging Station and Anzalduas Dam was contributed by Morillo Drain. Records available: 1953 through 1974.

REMARKS: In 1974 there were 161,982 irrigable acres in the Lower Rio San Juan Irrigation District. Since July 9, 1969 some water has been diverted from Morillo Drain directly to the gulf via the Morillo Drain Diversion Canal to reduce the salinity of Rio Grande waters. In 1974, 39,221 acre-feet were diverted.

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	21.2	74.5	43.4	30.0	76.3	214	33.9	21.5	25.8	75.6	82.6	14.8
2	21.2	86.1	41.7	29.3	86.9	214	33.2	23.3	24.4	75.6	82.3	14.1
3	21.2	85.8	40.3	29.0	181	173	32.8	24.7	23.3	75.2	82.3	13.4
4	21.5	87.2	39.2	28.6	116	107	31.8	26.5	22.6	75.2	82.3	12.7
5	21.2	88.3	37.8	28.3	157	93.6	30.0	27.9	22.2	74.9	82.3	13.1
6	21.2	87.6	37.4	27.9	143	83.7	29.0	29.7	21.9	74.9	82.3	13.4
7	21.2	93.6	37.1	27.5	94.6	77.0	27.5	31.1	21.5	74.5	81.9	13.8
8	20.8	93.2	36.4	26.8	113	65.0	26.5	32.8	21.5	74.5	81.9	14.1
9	21.2	98.9	36.0	26.8	101	60.4	24.7	34.3	21.2	74.2	81.6	14.5
10	21.2	90.1	35.7	27.2	93.2	58.6	23.7	33.5	20.8	74.5	81.6	14.8
11	21.9	90.1	35.0	27.9	80.9	76.3	23.3	33.2	20.5	74.5	81.6	15.2
12	23.3	81.9	34.6	28.3	68.2	57.2	23.3	32.5	19.8	74.9	81.2	15.5
13	24.0	78.4	34.3	29.0	62.5	90.7	23.0	31.4	19.4	74.9	81.2	15.5
14	25.1	77.0	34.3	28.6	71.7	191	21.9	31.1	19.1	75.2	81.2	15.9
15	25.8	73.5	33.5	29.0	71.0	185	21.5	30.4	19.1	75.2	21.2	15.9
16	27.2	68.2	60.0	32.5	70.3	180	21.5	29.7	18.7	75.6	21.2	16.2
17	27.9	63.2	56.5	43.4	82.3	110	21.2	29.0	18.4	76.3	20.8	16.2
18	29.0	61.4	36.7	100	83.0	62.9	21.2	27.9	17.7	77.0	20.8	16.6
19	29.7	56.5	32.8	88.6	81.9	56.1	20.8	27.5	17.7	77.7	20.8	16.2
20	31.8	54.7	32.8	77.7	83.7	56.5	20.8	26.8	17.7	78.8	20.5	15.9
21	46.6	53.7	32.8	97.1	79.1	53.3	21.2	25.8	17.7	79.1	20.1	15.5
22	50.1	52.6	32.5	83.0	80.5	49.8	21.2	25.1	17.3	80.2	19.8	15.2
23	49.1	51.2	32.5	88.6	88.3	46.3	20.8	24.4	36.0	80.5	19.1	14.5
24	57.9	49.8	32.5	69.6	92.5	43.4	20.8	24.7	75.6	81.2	18.4	14.1
25	67.1	48.7	32.1	56.9	93.6	39.9	20.8	25.8	17.3	81.2	15.0	13.8
26	68.5	47.3	32.1	56.2	117	36.7	20.5	26.5	17.7	81.6	17.7	13.4
27	72.7	45.9	31.8	62.5	159	36.4	20.5	26.8	17.7	81.9	17.3	13.4
28	81.9	44.8	31.1	52.3	164	35.7	20.5	27.5	17.7	82.3	16.6	14.1
29	67.8		30.7	78.0	107	36.0	20.5	28.3	17.3	82.3	15.9	14.1
30	64.3		30.7	63.6	147	34.2	20.1	27.2	75.6	82.6	15.2	14.1
31	66.0		30.4		214		20.1	26.5		82.6		14.1
Sum	1,169.6	1,984.2	1,124.7	1,474.2	3,259.5	2,623.7	738.6	873.4	723.2	2,404.7	1,449.7	454.1

Month	Current Year 1974: Extreme Gage Feet High	Low	∅ Extreme Second-Feet Day	High	Day	Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Maximum	Minimum
Jan.			28	81.9	8	20.8	37.8	2,320	1,994	4,745	466
Feb.			9	98.9	28	44.3	71.0	3,936	3,173	7,059	509
Mar.			16	60.0	31	30.4	36.4	2,231	2,553	5,291	582
Apr.			18	100	†8	26.8	49.1	2,924	3,022	6,111	899
May			31	214	13	62.5	105	6,463	6,887	30,179	1,557
June			†1	214	30	34.2	87.6	5,202	9,180	85,952	2,027
July			1	33.9	†30	20.1	23.7	1,465	5,236	48,782	1,037
Aug.			9	34.3	1	21.5	28.3	1,732	2,565	13,292	661
Sept.			24	75.6	†22	17.3	24.0	1,434	2,365	11,273	665
Oct.			†30	82.6	9	74.2	77.7	4,769	2,936	9,831	623
Nov.			1	82.6	30	15.2	48.4	2,876	2,341	10,461	520
Dec.			18	16.6	4	12.7	14.3	902	3,293	34,043	512
Yearly				214		12.7	50.1	36,254	45,545	179,432	13,462

∅ Mean daily † And other days

DIVERSIONS FROM THE RIO GRANDE
UNITED STATES SIDE – FORT RINGGOLD TO ANZALDUAS DAM

Beginning June 1971, the Texas Water Rights Commission assumed control of the United States portion of the water in Falcon Reservoir and in the Rio Grande below Falcon Dam, the disposition of such waters being made by its Rio Grande Watermaster. Previous to that, since June 1956, such waters had been under the jurisdiction of the 93rd District Court of Texas administered by its Special Water Master.

During 1974, 178,640 irrigable acres and several towns and rural homes were allotted Rio Grande water in the river reach between the gaging station at Fort Ringgold and Anzalduas Dam. Such irrigable area was 23.9% of the total irrigable acres below Falcon Dam allotted Rio Grande water.

The total diversion during 1974 in this river reach was 229,855 acre-feet, or 20.7% of the total water diverted from the Rio Grande below Falcon Dam. About 85% of the water diverted in this river reach was determined by the International Boundary and Water Commission through records of discharge obtained by means of flow meters, and by deflection meters developed by the Commission. The records for the rest of these diversions were furnished by the Rio Grande Watermaster and were determined from records of discharge obtained by means of flow meters. More than one crop per year is often grown on parts of this land.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet		
Daily:	Max. 1,220	June 21, 1960	Min. 0	Occasionally
Monthly:	Max. 1,010	June 1960	Min. 10.3	March 1957
Yearly:	Max. 417	1961	Min. 188	1966

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	173	386	759	138	279	305	581	658	276	81.8	70.3	116
2	322	202	523	160	258	259	586	614	422	97.5	32.4	204
3	244	119	366	351	213	679	600	347	452	102	14.5	238
4	222	219	704	420	94.5	744	338	288	389	104	129	214
5	123	436	728	369	28.8	753	133	634	426	74.1	101	189
6	61.0	461	766	231	64.0	774	57.5	723	518	56.3	104	145
7	281	513	788	177	162	726	71.4	688	326	149	93.7	95.0
8	352	423	662	439	148	526	116	646	184	181	99.2	79.4
9	362	272	479	479	92.7	323	189	473	649	174	70.4	188
10	298	228	330	502	78.3	585	237	303	720	196	57.4	177
11	264	490	760	551	84.5	684	224	214	776	143	92.9	151
12	126	539	758	461	55.4	725	246	648	763	112	96.3	154
13	75.0	498	696	260	140	690	157	717	559	68.8	195	173
14	298	540	522	153	220	438	107	736	155	303	192	95.3
15	395	455	446	521	278	301	226	781	104	260	174	87.0
16	393	355	244	614	349	175	255	761	157	223	107	179
17	426	249	68.3	618	272	429	327	572	183	185	104	220
18	392	592	134	492	210	500	374	270	210	282	240	219
19	246	720	132	66.5	188	542	378	690	169	179	255	239
20	125	730	226	47.6	400	502	195	729	166	119	231	234
21	364	711	234	12.2	502	432	148	752	71.0	132	226	95.7
22	428	607	274	111	519	297	431	785	38.0	106	230	100
23	450	496	130	131	582	188	466	774	2.5	98.6	128	159
24	387	445	100	107	596	437	462	500	0	109	81.8	110
25	342	720	185	185	422	510	499	282	2.1	58.9	255	21.3
26	152	714	138	202	291	478	466	645	9.3	28.2	234	140
27	119	789	104	39.2	632	515	315	668	80.1	0	260	152
28	175	738	168	15.1	698	476	244	658	44.9	37.3	122	84.4
29	383		149	71.4	744	350	585	631	25.3	3.9	123	63.9
30	415		87.5	203	697	275	667	552	54.0	107	149	153
31	415		87.5		543		676	349		29.1		161
Sum	13,657	8,813.0	11,748.3	8,127.0	9,841.2	14,618	10,356.9	18,088	7,931.2	3,800.5	4,267.9	4,637.0

Month	Current Year 1974: Average Rainfall Inches** 1957-1974	1974	ø Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1957-1974: Acre-Feet Average	Maximum	Minimum
Jan.	1.32	0.47	23	450	6	61.0	284	17,480	11,583	28,747	2,010
Feb.	1.17	.01	27	789	3	119	488	27,088	12,356	38,599	1,640
Mar.	.72	2.19	7	788	17	68.3	379	23,302	16,911	41,200	637
Apr.	1.38	2.17	17	618	21	12.2	271	16,120	23,409	36,074	5,760
May	2.28	1.74	29	744	5	28.8	317	19,520	22,487	48,400	3,177
June	2.82	.90	6	774	16	175	487	28,994	25,396	59,900	5,011
July	.99	1.82	31	676	6	57.5	334	20,543	20,500	45,400	6,753
Aug.	1.68	.81	22	785	11	214	583	35,877	20,946	35,877	11,440
Sept.	4.37	9.16	11	776	24	0	264	15,731	14,880	35,000	4,136
Oct.	2.63	4.07	14	303	27	0	123	7,538	14,539	30,400	2,830
Nov.	1.00	.13	27	260	3	14.5	142	8,465	13,012	21,932	2,930
Dec.	.89	.31	19	239	25	21.3	150	9,197	11,065	18,782	2,506
Yearly	21.25	23.78		789		0	317	229,855	207,084	302,180	136,460

ø Mean daily ** United States side-average of several stations in the reach

DIVERSIONS FROM THE RIO GRANDE, ANZALDUAS CANAL NEAR REYNOSA, TAMAULIPAS

DESCRIPTION: Cableway, gravity well, and water-stage recorder located on the left bank at latitude 26°08'05", longitude 98°20'10", 0.5 canal mile from the canal intake, and about 5 miles northwest of Reynosa, Tamaulipas. The canal intake is immediately upstream from Anzalduas Dam at river mile 171.6, 102.2 river miles downstream from Falcon Dam, and 1,077.2 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is 86.32 feet above mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 72 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1952 through 1974.

REMARKS: Diversions by this canal are for irrigation and domestic use in Mexico and for conveying water for storage in Culebron, Villa Cardenas, and Palito Blanco Reservoirs about 23 canal miles downstream from this station. During 1974, 490,200 acres were irrigated with water delivered through this canal. More than one crop per year was grown on parts of this land. Flow at this canal station is affected by backwater from the operation of canal gates 4.5 miles, 11.3 miles, and 22.5 miles below this station. During 1974, there was no water returned to the Rio Grande through Poniente Drain.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 10,950 second-feet on June 2, 1957 with a gage height of 16.01 feet. Min. no flow occurs frequently.

Average Flow in Second-Feet

Daily:	Max. 9,350	May 29, 1957		Min. 0		Frequently
Monthly:	Max. 5,090	April 1972		Min. 0		Several months
Yearly:	Max. 1,980	1959		Min. 150		1952

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.4	‡ 4,130	1,840	1.4	3,530	4,770	‡ 953	1,670	1,370	2,300	1.4	1.4
2	205	4,520	1,910	1.4	‡ 3,520	4,590	953	‡ 1,880	‡ 1,360	2,300	1.4	1.4
3	537	5,050	1,880	1.4	3,710	‡ 3,810	957	2,050	1,270	2,300‡	1.4	1.4
4	341	‡ 5,400	1,800‡	1.4	4,590	3,350	961	2,210	1,250	2,280	191	1.4
5	1.4	5,470	1,840	1.4	4,940	‡ 2,630	1,060	‡ 2,480	‡ 1,270	2,270	374	1.4
6	1.4	5,470	1,840	1.4	‡ 5,540	2,030	1,130	2,740	1,020	2,190	360	1.4
7	311	5,440	1,830	1.4	5,510	‡ 1,890	1,130	‡ 3,530	653	2,100	360	1.4
8	989	‡ 5,370	1,840	311	‡ 5,120	1,900	742	‡ 4,310	501	2,160‡	526	1.4
9	1,250	5,160	1,840	533	4,630	1,920	357	4,410	‡ 600	2,300	699	1.4
10	1,240	4,940	1,750	523	‡ 3,290	1,950	360	4,660	‡ 752	2,280	703	1.4
11	939	‡ 4,730	1,670‡	636	3,000	1,950	364	5,010	816	2,220‡	576	1.4
12	724	4,590	1,620	918	2,830	1,730	360	‡ 5,400	1,060	2,190	544	1.4
13	809	4,340	1,420	1,240	‡ 2,830	‡ 999	364	5,540	‡ 1,500	2,190	547	1.4
14	1,090	3,850	‡ 950	1,660	2,680	1,040	350	‡ 5,540	1,980	1,620	537	1.4
15	1,220‡	‡ 3,710	713	2,030‡	‡ 2,630	989	360	5,760	2,020	1,060	‡735	371
16	1,240	3,600	381	2,190	3,180	830	477	‡ 5,830	1,850	‡ 607	897	321
17	1,240	3,350	364	2,300‡	‡ 3,850	‡ 777	‡ 544	5,830	‡ 1,660	530	795	1.4
18	1,250	3,000	706	2,100	4,170	780	657	5,790	1,420	526	908	209
19	1,830	‡ 2,830	1,060	459	4,630	777	710	‡ 5,790	1,240	618	1,060	148
20	2,150	2,510	632	742	‡ 5,120	780	710	5,620	‡ 1,030	706	883	1.4
21	2,540‡	2,050	353	777	5,370	773	703	4,910	1,120	360	879	1.4
22	2,540	‡ 1,850	357	784	5,400	830	643	‡ 4,270	1,130	1.4	890	1.4
23	2,980	1,640	364	784	5,470	890	583	3,740	999	1.4	795	237
24	3,270‡	1,420	353	‡ 883	‡ 5,470	‡ 883	‡ 593	3,390	657	1.4	706	470
25	3,740‡	1,590	357	1,040	5,650	890	816	3,290	1,090	1.4	720	1.4
26	4,030	1,770	357	1,380‡	6,220	890	893	‡ 3,190	1,730	1.4	417	1.4
27	3,710	‡ 1,760	360	1,840	‡ 6,220	879	886	2,970	2,260	1.4	290	1.4
28	3,410‡	1,770	357	2,150	6,180	876	904	‡ 2,620	‡ 2,280	1.4	109	314
29	3,640		‡ 360	2,590‡	5,470	883	‡ 1,340	2,000	2,280	1.4	1.4	530
30	3,710		74.2	2,850	‡ 4,730	890	1,350	‡ 1,640	2,280	1.4	1.4	‡487
31	3,810‡		1.4		4,770		1,460	1,370		1.4		540
Sum	54,749.2	101,310	31,179.6	30,729.8	140,250	48,176	23,670	119,440	40,448	35,121.0	15,508.0	3,656.4

Month	Current Year 1974: Average Rainfall Inches** 1954-1974	1974	∅ Extreme Second-Feet High: Day	High	Low: Day	Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974 Acre-Feet: Average	Maximum	Minimum
Jan.	1.25	0.71	26	4,030	† 1	1.4	1,770	108,583	100,616	259,799	1,520
Feb.	1.46	0	† 5	5,470	24	1,420	3,600	200,974	99,336	251,519	1,086
Mar.	.75	2.48	2	1,910	31	1.4	1,010	61,790	39,991	147,900	1,128
Apr.	1.68	1.69	30	2,850	† 1	1.4	1,020	60,945	123,114	303,212	23,381
May	2.42	2.01	†26	6,220	15	2,630	4,520	278,185	192,881	285,477	29,169
June	3.09	3.70	1	4,770	21	773	1,610	95,570	120,998	270,700	15,256
July	1.42	2.60	31	1,460	14	350	763	46,959	43,530	162,400	5,730
Aug.	2.13	.83	†16	5,830	31	1,370	3,850	236,942	78,666	236,942	6,709
Sept.	5.00	3.46	†28	2,280	8	501	1,350	80,237	71,252	165,800	8,708
Oct.	2.81	3.94	† 1	2,300	†22	1.4	1,130	69,695	52,967	209,590	0
Nov.	1.31	.20	19	1,060	† 1	1.4	516	30,764	15,023	83,690	0
Dec.	1.00	.63	31	540	† 1	1.4	118	7,254	29,562	166,700	651
Yearly	24.32	22.25		6,220		1.4	1,770	1,277,898	967,936	1,434,920	551,946

‡ Discharge measurement made on this day ∅ Mean daily † And other days

** Average of several stations

RIO GRANDE BELOW ANZALDUAS DAM, TEXAS

DESCRIPTION: Cableway, gravity well, water-stage recorder, and selsyn-type transmitter, located on the right bank at latitude 26°08'00", longitude 98°20'05", and river mile 171.1; 0.5 river mile downstream from Anzalduas Dam, about 4.5 miles northwest of Reynosa, Tamaulipas, 12.2 river miles upstream from the international highway bridge between Hidalgo, Texas and Reynosa, Tamaulipas, and 1,077.7 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is at mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 81 discharge measurements during the year, 72 by the Mexican Section and 9 by the United States Section of the Commission, and a continuous record of gage heights. Computations by shifting control methods. Records available: 1952 through 1974.

REMARKS: Except during local storms, flow at this station is controlled largely by releases from Falcon Reservoir and by diversions into Anzalduas Canal. Excessive upstream flood flows are partly diverted into the Mission Inlet of the United States floodway system before reaching this station. Prior to January 1, 1968 the zero of the gage was 82.61 feet above mean sea level, U. S. C. & G. S. datum. The transmitter relays gage height data to the Anzalduas Dam control room.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 131,000 second-feet on September 24, 1967 with a gage height of 30.51 feet. Min. periods of no flow have occurred on several occasions in 1953, 1954, 1956, and 1957.

Average Flow in Second-Feet

Daily:	Max. 121,000	Sept. 25, 1967	Min. 0	Occasionally
Monthly:	Max. 37,830	Oct. 1958	Min. 5.5	March 1957
Yearly:	Max. 6,410	1958	Min. 158	1957

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,620	1,340	932	‡ 565	1,440	5,690	‡ 2,070	1,930	1,160	‡13,000	‡7,240	3,290
2	1,690	1,210	897	1,160	1,410	5,300	2,150	1,730	‡ 1,420	13,100	7,310	‡3,290
3	982	1,570	1,150	‡ 1,060	‡ 1,240	‡ 4,520	2,160	1,550	1,330	‡13,200	7,420	3,290
4	777	1,550	‡1,330	879	1,590	4,410	1,960	2,230	‡ 1,200	‡13,200	‡7,130	3,290
5	1,310	1,340	1,610	‡ 890	1,730	4,480	2,110	2,300	1,100	13,300	6,890	3,260
6	1,320	1,130	1,540	1,400	‡ 2,390	‡ 4,480	1,620	2,070	851	13,300	‡7,060	2,480
7	‡ 1,880	‡ 1,060	‡1,570	1,760	1,360	4,380	530	‡ 1,850	840	‡13,300	6,670	1,980
8	1,650	975	1,330	‡ 2,340	1,120	3,920	‡ 583	2,030	1,200	13,200	6,460	1,840
9	1,420	777	1,020	2,420	‡ 876	3,990	763	1,720	‡ 1,400	13,100	6,460	1,820
10	1,420	1,300	1,940	‡ 2,620	‡ 657	‡ 4,030	833	1,620	1,630	13,000	6,500	1,770
11	1,880	1,760	‡2,410	2,620	735	3,390	848	2,010	1,700	‡12,500	‡6,640	1,770
12	2,410	1,480	2,190	2,740	869	2,590	823	‡ 2,250	1,700	11,400	6,670	‡1,770
13	2,590	‡ 1,590	‡1,890	2,850	1,120	‡ 2,710	795	2,340	1,540	9,960	4,980	1,740
14	2,540	1,740	1,620	3,370	1,270	2,460	929	2,330	1,390	8,790	‡4,730	1,740
15	‡ 2,380	1,770	1,240	‡ 3,270	1,370	2,680	819	2,180	1,410	‡ 9,250	4,240	1,740
16	2,320	1,330	932	2,450	‡ 1,430	1,750	727	2,110	1,410	8,790	3,400	1,360
17	2,110	1,490	2,180	2,660	1,400	667	639	1,710	‡ 1,180	‡ 9,250	2,830	1,370
18	1,850	1,510	2,240	2,870	1,540	946	‡ 639	2,320	915	9,010	2,980	2,300
19	2,130	‡ 1,550	646	5,230	2,780	1,130	569	1,930	703	7,880	‡2,630	‡2,730
20	2,700	1,660	‡ 597	3,390	2,390	‡ 1,230	643	‡ 1,710	590	7,420	2,300	‡3,150
21	‡ 3,090	1,550	604	572	2,380	1,080	1,070	1,560	509	‡ 7,660	‡2,360	3,130
22	2,940	1,320	551	‡ 618	2,220	996	1,320	1,660	773	7,950	2,380	3,140
23	‡ 2,490	901	498	939	‡ 2,660	1,090	‡ 1,380	1,610	4,380	7,240	2,370	2,980
24	2,030	1,290	742	1,170	2,720	1,200	1,290	1,500	‡ 12,100	6,780	2,360	2,750
25	1,650	1,490	890	‡ 961	2,830	968	‡ 1,140	1,830	‡ 13,700	9,110	2,370	3,230
26	1,300	1,480	802	713	3,520	‡ 1,050	1,000	2,170	‡ 13,600	12,300	‡2,660	3,260
27	1,330	1,270	‡ 749	823	4,240	1,510	855	2,300	12,700	9,640	2,950	‡3,090
28	2,140	‡ 1,110	‡ 731	1,090	4,270	‡ 1,580	1,580	2,170	12,700	8,050	2,960	2,840
29	1,410		629	‡ 1,330	‡ 4,270	1,620	2,040	‡ 1,920	12,700	‡ 7,450	3,150	2,770
30	‡ 1,530		565	1,360	4,410	1,830	2,040	1,230	12,800	7,270	3,320	2,730
31	1,620		569		6,140		‡ 2,060	1,150		7,310		2,540
Sum	58,559	38,543	36,594	56,120	68,377	77,677	37,985	59,020	120,631	316,710	137,420	78,440

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Maximum	Minimum
Jan.	85.04	80.28	20	3,530	3	237	1,890	116,163	93,380	220,916	1,090
Feb.	82.61	80.84	15	1,790	9	685	1,380	76,419	70,028	241,900	830
Mar.	84.55	80.25	17	3,310	†19	404	1,180	72,581	72,961	235,500	339
Apr.	87.20	80.15	†19	5,650	21	399	1,870	111,309	93,128	178,181	3,160
May	88.06	80.38	31	6,390	10	512	2,210	135,699	114,383	202,400	35,360
June	87.56	80.16	1	6,040	17	417	2,590	154,051	160,547	368,852	7,850
July	84.25	80.28	6	3,220	7	487	1,230	75,334	95,727	449,747	2,000
Aug.	84.25	80.94	5	3,220	†30	875	1,900	117,109	76,805	393,970	943
Sept.	95.47	80.31	25	13,800	†20	509	4,030	239,268	254,811	1,862,856	3,920
Oct.	95.47	88.58	2	13,800	30	6,750	10,200	628,376	330,078	2,326,000	1,730
Nov.	89.44	83.46	† 1	7,630	19	2,250	4,590	272,582	152,459	1,438,000	1,430
Dec.	85.17	81.92	25	3,600	†15	1,280	2,530	155,634	92,988	540,100	1,500
Yearly	95.47	80.15		13,800		237	2,980	2,154,525	1,607,295	4,640,968	114,749

‡ Discharge measurement made on this day † And other days

RIO GRANDE FLOODWAY DISCHARGES
LOWER RIO GRANDE VALLEY

On the United States Side

Part of the excess water from floods entering the Lower Rio Grande Valley is diverted from the river through the United States floodway system, with the inlet located south of Mission, Texas approximately six miles upstream from the Anzalduas Dam.

Floodwater entering the system is measured first at the Mission Floodway Station on State Highway No. 336 bridge south of McAllen and again 18.5 miles downstream at the Main Floodway Station on Farm Road No. 88 bridge south of Weslaco. At a point 3 miles southwest of Mercedes the floodway divides, one channel going northeastward through the Arroyo Colorado Floodway to the Gulf of Mexico, and the other going to the gulf via the North Floodway, traveling first northward and then eastward to the gulf. At the point of division, a divisor dike which runs longitudinally in the Main Floodway, divides and controls the flows into the Arroyo Colorado Floodway and the North Floodway. The flow of the Arroyo Colorado is measured at El Fuste Siphon south of Mercedes and farther downstream at the bridge on U. S. Highway No. 83 south of Harlingen. The North Floodway flow is measured at the bridge on old U. S. Highway No. 83 west of Mercedes and farther downstream at the bridge on U. S. Highway No. 77 near Sebastian.

In 1974, no flood flow was diverted through this floodway system.

On the Mexican Side

Part of the excess water from floods entering the Lower Rio Grande Valley is diverted from the river through the Mexican floodway system, with inlets located approximately 38 miles (Retamal Heading), 51 miles (San Rafael), and 107 miles (Floodway No. 2), respectively, downstream from Anzalduas Dam. Floodway No. 3, 1.2 miles upstream from the Brownsville-Matamoros Bridge, is greatly obstructed and is considered to be inoperative.

Floodwater diverted through Retamal Heading is measured at a cableway station 0.9 mile downstream from the headgate. It flows through Retamal Canal into Culebron and Villa Cardenas Lakes from which it discharges through floodgates into Floodway No. 1 and flows southeastward into the Gulf of Mexico. Floodwater diverted at San Rafael is measured near the intake and flows through San Rafael Drain into Culebron and Villa Cardenas Lakes from which it discharges into Floodway No. 1. Floodwater entering Floodway No. 2 is measured at the Matamoros-Reynosa highway crossing and flows south and east into the Gulf of Mexico.

In 1974, no flood flows were diverted into this floodway system. There were no diversions for irrigation purposes through Retamal Canal in 1974.

DIVERSIONS FROM THE RIO GRANDE

UNITED STATES SIDE - ANZALDUAS DAM TO PROGRESO

Beginning June 1971, the Texas Water Rights Commission assumed control of the United States portion of the water in Falcon Reservoir and in the Rio Grande below Falcon Dam, the disposition of such waters being made by its Rio Grande Watermaster. Previous to that, since June 1956, such waters had been under the jurisdiction of the 93rd District Court of Texas administered by its Special Water Master.

During 1974, 140,669 irrigable acres and several towns and rural homes were allotted Rio Grande water in the river reach between Anzalduas Dam and the Progreso International Bridge. Such irrigable area was 18.9% of the total irrigable acres below Falcon Dam allotted Rio Grande water.

The total diversion during 1974 in this river reach was 229,915 acre-feet, or 20.7% of the total water diverted from the Rio Grande below Falcon Dam. About 95% of the water diverted in this river reach was determined by the International Boundary and Water Commission through records of discharge obtained by means of flow meters, and by deflection meters developed by the Commission. The records for the rest of these diversions were furnished by the Rio Grande Watermaster and were determined from records of discharge obtained by means of flow meters. More than one crop per year is often grown on parts of this land.

EXTREME FLOWS FROM RECORDS:

	Average Flow in Second-Feet					
Daily:	Max. 1,120	June 16 & 17, 1965	Min. 0	Occasionally
Monthly:	Max. 749	June 1969	Min. 13.3	May 1972
Yearly:	Max. 333	1961	Min. 167	1970

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	143	335	558	87.6	382	934	630	503	183	8.1	119	160
2	337	258	448	211	434	804	706	514	413	8.6	21.9	210
3	312	106	234	261	372	964	793	227	494	128	1.8	256
4	271	364	518	273	302	978	506	279	491	131	51.0	199
5	161	414	595	306	118	994	237	451	522	73.6	133	162
6	123	440	595	229	310	932	263	497	456	23.2	117	134
7	296	451	596	116	419	990	103	496	307	176	92.2	54.7
8	389	415	598	426	430	828	73.4	524	266	172	68.1	74.1
9	338	333	481	520	398	695	18.7	550	482	186	17.8	219
10	350	116	274	471	444	668	1.6	351	515	176	13.8	163
11	345	415	576	440	314	649	67.1	198	504	206	30.5	172
12	255	413	669	500	145	731	66.0	515	498	98.5	131	144
13	131	398	585	394	395	770	0	576	473	58.6	149	195
14	289	450	377	213	538	521	0	552	345	256	158	71.4
15	320	443	368	426	615	240	17.4	577	114	225	186	61.9
16	325	337	223	511	617	116	26.8	587	385	54.5	87.4	204
17	324	126	83.3	554	640	322	113	368	394	52.6	64.7	217
18	323	424	139	518	544	452	249	185	262	141	195	159
19	265	509	68.2	180	411	502	308	535	175	146	199	236
20	116	555	65.6	143	614	520	140	615	194	38.6	236	193
21	300	558	54.2	116	816	506	122	506	180	203	276	72.1
22	393	550	113	104	903	377	334	499	55.4	136	209	60.0
23	438	414	129	170	905	167	460	544	84.4	97.4	63.9	192
24	411	221	27.2	178	879	472	532	339	17.0	209	63.4	18.0
25	290	407	14.5	157	815	500	536	176	8.5	73.9	222	6.6
26	85.7	561	13.1	147	806	524	511	479	8.5	1.5	262	176
27	1.1	574	13.0	130	947	607	324	529	12.1	0	294	218
28	115	554	94.2	0	965	657	221	512	2.8	25.0	32.4	81.2
29	353		107	166	1,020	564	467	479	2.9	9.2	173	66.7
30	422		12.4	267	1,020	424	547	453	9.3	24.2	111	230
31	417		9.1		1,020		549	270		120		182
Sum	8,638.8	11,141	8,637.8	8,214.6	18,538	18,458	8,922.0	13,886	7,853.9	3,258.5	3,778.9	4,587.7

Month	Current Year 1974: Average Rainfall Inches** 1957-1974	1974	ø Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1957-1974: Acre-Feet Average	Maximum	Minimum
Jan.	1.45	0.86	23	438	27	1.1	279	17,135	11,439	34,959	723
Feb.	1.34	0	27	574	3	106	398	22,098	9,835	28,535	1,140
Mar.	.82	2.24	12	669	31	9.1	279	17,133	13,568	36,100	1,050
Apr.	1.48	3.15	17	554	28	0	274	16,293	17,829	26,074	3,630
May	2.65	1.09	†29	1,020	5	118	598	36,770	20,000	36,770	817
June	3.02	1.10	5	994	16	116	615	36,611	27,641	44,541	5,336
July	1.14	3.00	3	793	†13	0	288	17,697	21,769	41,100	6,597
Aug.	1.80	.21	20	615	25	176	448	27,542	15,675	27,542	7,452
Sept.	4.61	9.22	5	522	28	2.8	262	15,578	12,713	28,000	3,214
Oct.	2.94	5.25	14	256	27	0	105	6,463	13,419	29,215	2,059
Nov.	1.24	.16	27	294	3	1.8	126	7,495	10,394	22,818	1,015
Dec.	1.05	.46	3	256	25	6.6	148	9,100	9,673	17,500	1,978
Yearly	23.54	26.74		1,020		0	318	229,915	183,955	241,270	121,008

ø Mean daily † And other days ** United States side - average of several stations in the reach

RIO GRANDE NEAR PROGRESO, TEXAS

DESCRIPTION: Gravity well, water-stage recorder, and digital transmitter located on the downstream side of the center pier of the Progreso International Bridge at latitude 26°03'45", longitude 97°57'00", and river mile 123.8; 0.8 river mile downstream from the Progreso pumping plant, 2 miles south of Progreso, Texas, 47.3 river miles downstream from Anzalduas Dam, and 1,125.0 river miles downstream from the American Dam at El Paso, Texas. Meter measurements are made from the bridge. An auxiliary gage well and water-stage recorder located about 300 feet upstream from the bridge are used when the low-flow channel shifts to the left bank. The zero of the gage at both recorders is at mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 69 discharge measurements during the year, 63 by the Mexican Section and 6 by the United States Section of the Commission, and a continuous record of gage heights. Computations by shifting control methods. Records available: December 1952 through August 24, 1953; and December 1953 through 1974.

REMARKS: Except for diversions, tributary inflows, and drainage returns below Falcon Dam, flow at this station after August 25, 1953 was controlled largely by releases from Falcon Reservoir, 150 miles upstream. Excessive upstream flood flows are partly diverted through the Mission Inlet of the United States floodway system and through Retamal Heading of the Mexican floodway system before reaching this station. The transmitter relays gage height data upon interrogation by telephone via commercial circuits. Prior to January 1, 1969, the zero of the gage was 52.56 feet above mean sea level, U. S. C. & G. S. datum.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 60,700 second-feet on September 26, 1967 with a gage height of 24.84 feet. Min. no flow several days in June, July, and August 1953.

	Average Flow in Second-Feet				
Daily:	Max. 48,400	Sept. 26, 1967	Min. 0	Frequently 1953
Monthly:	Max. 22,400	Oct. 1971	Min. 5.1	June 1953
Yearly:	Max. 4,560	1971	Min. 666	1957

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,220	1,330	643	618	1,170	4,770	1,260	1,410	999	‡12,700	6,850	3,090
2	1,410	1,200	558	‡ 576	1,120	4,700	‡ 1,290	1,350	957	‡12,700	6,850	3,090
3	1,230	1,170	565	904	1,160	4,340	1,420	1,190	1,030	‡12,700	6,990	‡2,990
4	‡ 1,020	1,590	‡ 893	890	999	‡ 3,510	1,520	1,310	‡ 908	‡12,500	7,030	2,960
5	614	1,400	862	660	1,450	3,320	1,700	1,890	‡ 752	12,500	‡6,710	2,980
6	1,190	‡1,040	‡ 957	607	1,870	3,380	1,920	‡ 1,730	607	12,600	6,600	2,890
7	1,360	844	915	1,150	‡ 1,950	3,370	1,640	1,500	526	‡12,600	6,640	2,330
8	1,540	795	932	‡ 1,670	1,210	3,170	837	1,330	551	12,600	6,360	2,030
9	‡ 1,310	780	788	‡ 1,750	816	3,030	‡ 565	1,350	876	‡12,400	6,220	1,890
10	1,060	643	657	1,870	699	3,290	657	1,190	918	‡12,300	6,250	1,790
11	1,040	1,090	1,510	2,060	445	‡ 3,310	788	1,260	‡ 1,090	12,400	6,250	‡1,730
12	1,470	‡1,330	‡1,680	2,100	427	2,520	805	1,640	1,170	11,900	6,360	1,710
13	2,130	1,120	1,550	2,210	720	1,800	791	‡ 1,620	1,150	10,800	‡5,860	1,700
14	‡ 2,460	1,130	1,440	2,480	‡ 713	1,950	819	1,660	1,150	9,500	4,630	1,710
15	2,330	1,240	1,310	3,010	752	2,150	904	1,610	1,160	8,830	4,310	1,790
16	2,210	1,330	1,110	‡ 2,620	809	2,440	‡ 908	1,530	1,270	‡ 8,550	3,740	1,730
17	2,090	1,200	1,010	2,070	830	1,640	798	1,440	1,130	8,620	3,150	‡1,380
18	1,860	‡1,320	2,150	2,150	788	‡ 625	544	1,380	‡ 915	‡ 8,790	‡2,780	1,420
19	1,650	1,100	‡2,140	3,250	1,130	519	378	1,870	798	8,330	2,730	2,030
20	2,100	1,000	1,040	4,450	2,080	604	321	1,370	625	7,590	2,360	2,450
21	2,630	1,050	692	2,970	‡ 1,700	703	445	‡ 1,090	491	7,350	2,060	2,940
22	‡ 2,740	1,000	692	1,270	1,460	637	812	1,050	583	7,490	‡1,980	3,130
23	2,550	879	625	‡ 727	1,390	681	‡ 911	1,120	978	‡ 7,350	2,030	3,110
24	2,300	745	526	851	1,670	833	848	1,070	6,360	6,780	2,140	‡2,860
25	1,970	1,020	752	1,090	1,730	‡ 766	735	1,200	‡ 11,700	6,990	‡2,190	2,950
26	1,690	‡1,060	946	1,100	1,970	547	593	1,470	‡ 12,900	9,780	2,130	3,270
27	1,620	936	‡ 925	840	2,620	463	493	‡ 1,550	‡ 12,700	10,700	2,320	3,160
28	1,670	795	843	869	‡ 3,010	710	537	1,600	‡ 12,400	9,010	2,590	3,100
29	‡ 2,030		791	1,190	3,120	862	1,100	1,530	12,600	‡ 7,630	2,780	2,950
30	1,410		689	‡ 1,290	3,150	1,000	‡ 1,370	1,370	‡ 12,600	7,170	2,980	2,860
31	1,240		675		3,640		1,380	1,020		6,960		‡2,610
Sum	53,144	30,137	30,871	49,292	46,598	61,640	29,094	43,700	101,894	308,120	131,870	76,630

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	58.86	54.36	22	2,810	5	494	1,710	105,418	92,414	241,800	17,340
Feb.	57.09	55.02	4	1,670	10	600	1,080	59,812	70,350	371,900	12,620
Mar.	58.63	54.62	18	2,660	3	470	996	61,248	61,248	379,400	4,990
Apr.	61.42	54.89	20	4,590	2	554	1,640	97,776	83,409	157,497	32,060
May	60.39	54.53	31	4,520	12	325	1,500	92,425	102,097	153,028	33,164
June	61.32	54.86	1	4,910	27	445	2,060	122,271	131,652	279,383	50,884
July	57.81	54.69	6	2,250	20	290	939	57,697	91,993	466,649	16,970
Aug.	57.58	55.71	5	2,100	31	915	1,410	86,632	69,739	358,534	10,400
Sept.	70.24	54.92	26	13,000	† 7	459	3,400	202,102	188,355	837,532	21,650
Oct.	71.00	63.91	2	12,800	‡24	6,390	9,960	611,426	251,716	1,377,161	14,030
Nov.	64.67	57.91	4	7,060	22	1,970	4,380	261,563	114,008	735,000	18,000
Dec.	59.71	56.46	26	3,300	18	1,290	2,470	152,033	86,906	487,200	7,370
Yearly	71.00	54.53		13,000		290	2,640	1,910,403	1,343,887	3,291,271	482,410

‡ Discharge measurement made on this day † And other days

DIVERSIONS FROM THE RIO GRANDE

UNITED STATES SIDE - PROGRESO TO SAN BENITO

Beginning June 1971, the Texas Water Rights Commission assumed control of the United States portion of the water in Falcon Reservoir and in the Rio Grande below Falcon Dam, the disposition of such waters being made by its Rio Grande Watermaster. Previous to that, since June 1956, such waters had been under the jurisdiction of the 93rd District Court of Texas administered by its Special Water Master.

During 1974, 316,524 irrigable acres and several towns and rural homes were allotted Rio Grande water in the river reach between the gaging stations at Progreso and near San Benito. Such irrigable area was 42.4% of the total irrigable acres below Falcon Dam allotted Rio Grande water.

The total diversion during 1974 in this river reach was 489,627 acre-feet, or 44.1% of the total water diverted from the Rio Grande below Falcon Dam. About 99% of the water diverted in this river reach was determined by the International Boundary and Water Commission through records of discharge obtained by means of flow meters, by open channel rating stations, and by deflection meters developed by the Commission. The records for the rest of the diversions were furnished by the Rio Grande Watermaster and were determined from records of discharge obtained by means of flow meters. More than one crop per year is often grown on parts of this land.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet		
Daily:	Max. 2,750	June 15, 1965	Min. 0	Occasionally
Monthly:	Max. 2,080	June 1960	Min. 53.5	March 1957
Yearly:	Max. 726	1965	Min. 367	1968

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	777	687	470	312	731	2,310	937	1,040	338	215	120	40.7
2	686	557	346	417	703	2,100	1,100	996	567	222	109	94.9
3	513	332	121	668	652	2,320	1,210	1,010	646	298	95.8	120
4	523	402	355	762	564	2,350	1,140	708	634	336	152	260
5	511	594	438	750	418	2,410	1,040	1,040	619	267	120	349
6	270	664	616	510	828	2,380	949	1,310	464	227	116	322
7	516	524	635	229	875	2,290	576	1,160	289	285	148	105
8	918	338	717	821	665	2,190	637	1,000	218	500	116	39.1
9	1,230	351	676	1,160	470	1,830	732	1,130	511	600	98.2	158
10	1,120	249	364	1,290	446	1,920	753	884	616	561	68.4	142
11	1,080	538	789	1,360	412	1,560	737	822	645	310	133	266
12	993	881	1,140	1,330	432	1,860	704	1,090	887	229	324	387
13	853	993	1,190	1,320	409	1,490	583	1,230	1,010	199	416	400
14	1,370	940	1,070	1,300	436	837	496	1,260	837	314	403	250
15	1,500	503	1,000	1,570	513	676	577	1,340	710	470	380	215
16	1,510	666	826	1,650	497	657	591	1,290	792	544	202	437
17	1,560	501	672	1,560	653	816	541	1,400	746	345	79.0	689
18	1,590	701	832	1,610	569	438	483	1,300	651	250	97.4	712
19	1,330	809	784	988	566	478	435	1,050	569	249	93.6	888
20	1,160	766	674	789	991	528	313	909	487	216	298	826
21	1,470	724	426	536	1,230	470	207	937	196	191	577	329
22	1,630	798	239	769	1,230	348	335	724	101	159	748	81.8
23	1,590	434	208	657	1,270	156	587	671	302	148	470	349
24	1,210	191	203	452	1,390	324	724	839	104	81.5	359	394
25	906	464	251	396	1,390	403	652	775	60.0	51.6	256	96.0
26	618	638	421	431	1,440	402	584	1,210	147	92.0	152	138
27	195	600	344	395	1,950	400	399	1,220	206	125	265	91.1
28	530	562	180	361	2,100	618	173	1,350	202	262	285	56.4
29	723		220	403	2,150	742	910	1,140	205	362	202	50.2
30	752		170	587	2,160	767	1,050	1,000	220	103	4.1	256
31	722		155		2,250		1,100	544		88.7		372
Sum	30,356	16,407	16,532	25,383	30,390	36,070	21,255	32,379	13,979.0	8,300.8	6,887.5	8,914.2

Month	Current Year 1974: Average Rainfall Inches** 1957-1974	1974	ø Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1957-1974: Acre-Feet Average	Maximum	Minimum
Jan.n	1.61	1.22	22	1,630	27	195	979	60,210	37,903	97,130	4,872
Feb.	1.70	T	13	993	24	191	586	32,543	20,710	49,859	4,807
Mar.	.88	1.40	13	1,190	3	121	533	32,791	22,146	54,200	3,280
Apr.	1.44	1.78	16	1,650	7	229	846	50,346	42,098	74,653	12,900
May	3.06	1.51	31	2,250	13	409	980	60,278	50,011	74,629	9,277
June	3.40	2.32	5	2,410	23	156	1,200	71,544	71,230	123,000	14,674
July	1.54	2.09	3	1,210	28	173	686	42,159	38,479	77,132	11,307
Aug.	2.50	.76	17	1,400	31	544	1,040	64,223	27,257	64,223	12,736
Sept.	5.43	7.12	13	1,010	25	60.0	466	27,727	24,112	59,400	4,308
Oct.	3.19	5.67	9	600	25	51.6	268	16,464	21,853	58,164	5,146
Nov.	1.57	.42	22	748	30	4.1	230	13,661	19,409	44,359	4,853
Dec.	1.21	.69	19	888	3	39.1	288	17,681	21,276	37,500	6,663
Yearly	27.53	24.98		2,410		4.1	676	489,627	396,484	525,771	266,680

ø Mean daily ** United States side - average of several stations in the reach

RIO GRANDE NEAR SAN BENITO, TEXAS

DESCRIPTION: Cableway, concrete control weir, bubbler gage, water-stage recorders (graphic and digital), and impulse-type transmitter, located on the left bank at latitude 26°02'00", longitude 97°43'40", and river mile 96.5; 5.6 river miles downstream from San Benito pumping plant, about 9.5 miles southwest of San Benito, Texas, and 1,152.3 river miles downstream from the American Dam at El Paso, Texas. An auxiliary gage well is located 0.2 river mile upstream from the gage. The zero of the gage is at mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 24 discharge measurements during the year and a continuous record of gage heights. Computations for high flows by shifting control methods. Low and medium flow computations based on a stable control weir rating curve defined by meter measurements. Records available: November 26, 1952 through August 25, 1953, and December 1953 through 1974.

REMARKS: Except for diversions, tributary inflows, and drainage returns below Falcon Dam, flow at this station after August 25, 1953 was controlled largely by releases from Falcon Reservoir, 177.3 river miles upstream. Excessive upstream flood flows are partly diverted through the United States and Mexican floodway systems before reaching this station. The transmitter relays gage height data via leased telephone circuits to the Harlingen office of the United States Section of the Commission. The concrete control weir was constructed in December 1965 and the gage was moved to its present location just above the weir on January 4, 1967.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 25,000 second-feet on September 29, 1967 with a gage height of 61.05 feet. Min. no flow occurs frequently.

Average Flow in Second-Feet**

Daily:	Max. 24,300	Sept. 29, 1967	Min. 0	Frequently
Monthly:	Max. 14,300	Oct. 1971	Min. 39.5	December 1956
Yearly:	Max. 3,480	1973	Min. 200	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	567	466	208	396	412	1,630	281	279	503	11,700	5,560	3,110
2	622	499	187	198	343	2,060	350	372	458	11,900	5,480	3,090
3	822	587	223	192	‡ 386	‡1,880	200	277	372	‡ 12,000	6,550	3,000
4	805	774	397	‡ 168	390	1,140	297	301	‡ 348	11,900	‡6,630	2,890
5	329	847	393	177	553	774	499	‡ 534	251	11,900	6,490	2,760
6	549	448	343	86.2	947	741	615	596	204	12,100	6,200	‡2,700
7	789	‡ 292	‡ 288	242	1,010	834	1,110	324	236	‡ 12,200	6,210	2,500
8	‡ 721	351	227	793	812	771	‡ 474	332	323	12,100	‡6,110	2,160
9	465	362	159	580	450	852	142	256	396	11,900	5,900	1,880
10	123	357	117	479	396	1,060	47.5	241	348	11,700	5,780	1,660
11	95.2	322	375	543	261	1,680	40.9	306	346	‡ 11,700	5,650	1,590
12	164	433	585	670	122	937	62.5	458	426	11,600	5,530	1,330
13	971	238	392	722	112	395	97.4	454	233	10,800	5,290	1,270
14	1,310	137	306	874	295	761	243	364	252	9,570	4,670	1,330
15	775	217	297	1,050	249	1,380	284	369	406	8,390	‡4,110	1,500
16	607	422	300	958	255	1,630	292	266	422	7,990	3,620	1,490
17	488	607	334	593	222	1,260	259	214	462	7,360	3,520	827
18	336	554	654	344	182	385	221	291	351	‡ 8,110	3,150	‡ 553
19	211	406	1,530	1,280	319	143	‡ 119	417	320	7,930	3,240	921
20	532	200	705	2,660	351	60.4	80.6	645	307	7,210	2,830	1,410
21	903	222	267	2,730	640	103	150	243	303	6,870	2,170	2,150
22	1,010	247	339	1,050	329	233	316	188	465	6,810	1,680	2,740
23	934	217	413	222	‡ 189	358	421	299	632	6,930	1,830	2,730
24	858	441	348	191	211	532	221	272	2,410	6,590	2,140	2,470
25	1,120 ‡	493	340	441	291	411	173	236	7,100	6,500	2,170	2,450
26	817	385	499	548	409	308	147	348	10,400	8,240	2,250	2,830
27	1,300	324	558	417	455	161	126	263	11,500 ‡	10,200	2,270	2,830
28	1,010	273	525	352	651	98.2	283	319	11,700 ‡	9,250	2,500	2,780
29	1,100		568	429	715	97.7	331	330	11,600	7,780	2,680	2,700
30	819		475	654	691	177	245	345	11,600 ‡	7,000	2,930	2,550
31	414		489		828		253	354		6,770		2,230
Sum	21,566.2	11,121	12,841	20,044.2	13,976	22,852.3	8,380.9	10,593	74,684	293,500	127,340	66,431

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	37.11	34.43	14	1,580	11	77.2	696	42,776	45,251	227,000	2,920
Feb.	35.96	34.53	5	1,000	14	119	397	22,058	44,012	303,000	3,380
Mar.	37.24	34.43	19	1,660	10	106	414	25,470	39,710	360,000	2,560
Apr.	42.61	34.31	21	3,110	6	63.4	668	39,757	37,964	118,000	11,500
May	36.09	34.33	7	1,140	13	74.7	451	27,721	45,116	125,576	16,373
June	38.79	34.27	2	2,170	20	45.3	762	45,327	54,825	159,500	10,100
July	36.39	34.21	7	1,310	11	31.5	270	16,623	55,931	440,229	4,690
Aug.	35.70	34.54	20	837	22	160	342	21,011	40,761	316,869	3,100
Sept.	55.25	34.03	30	11,800	6	134	2,490	148,134	136,648	599,652	7,710
Oct.	55.43	48.13	† 6	12,200	25	6,300	9,470	582,149	197,410	880,859	3,840
Nov.	48.70	36.87	1	6,700	22	1,640	4,240	252,575	90,285	662,000	5,640
Dec.	41.43	35.28	1	3,150	18	499	2,140	131,764	64,167	479,000	2,430
Yearly	55.43	34.21		12,200		31.5	1,870	1,355,365	852,140	2,518,840	145,520

** Period 1954-1974 ‡ Discharge measurement made on this day † And other days

DIVERSIONS FROM THE RIO GRANDE
UNITED STATES SIDE - SAN BENITO TO BROWNSVILLE

Beginning June 1971, the Texas Water Rights Commission assumed control of the United States portion of the water in Falcon Reservoir and in the Rio Grande below Falcon Dam, the disposition of such waters being made by its Rio Grande Watermaster. Previous to that, since June 1956, such waters had been under the jurisdiction of the 93rd District Court of Texas administered by its Special Water Master.

During 1974, 100,470 irrigable acres and several towns and rural homes were allotted Rio Grande water in the river reach between the gaging stations near San Benito and Brownsville. Such irrigable area was 13.5% of the total irrigable acres below Falcon Dam allotted Rio Grande water.

The total diversion during 1974 in this river reach was 148,654 acre-feet, or 13.4% of the total water diverted from the Rio Grande below Falcon Dam. About 88% of the water diverted in this river reach was determined by the International Boundary and Water Commission through records of discharge obtained by means of flow meters, by open channel rating stations, and by deflection meters developed by the Commission. The records for the rest of these diversions were furnished by the Rio Grande Watermaster and were determined from records of discharge obtained by means of flow meters. More than one crop per year is often grown on parts of this land.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet		
Daily:	Max. 782	June 14, 1963	Min. 0	Occasionally
Monthly:	Max. 542	June 1965	Min. 18.5	February 1966
Yearly:	Max. 223	1965	Min. 102	1968

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	238	364	124	70.4	292	653	180	280	105	185	36.4	35.7
2	204	312	125	92.7	283	658	269	206	230	182	37.1	33.8
3	186	331	112	122	222	688	274	85.1	297	178	36.8	220
4	178	363	200	90.9	138	701	260	98.1	324	210	35.3	339
5	124	412	126	94.4	146	680	108	245	325	173	34.5	134
6	121	435	275	83.3	291	694	32.0	460	237	37.9	34.4	38.7
7	280	347	255	93.4	316	684	33.7	467	89.3	84.1	34.1	38.2
8	338	317	251	257	192	670	235	307	78.7	61.7	59.0	36.7
9	362	321	112	307	147	615	287	225	243	148	35.4	47.8
10	313	289	112	352	183	491	202	103	332	182	35.6	45.5
11	194	292	122	333	95.2	408	121	98.6	318	188	102	67.2
12	133	339	261	296	115	406	55.4	226	309	166	143	59.9
13	145	363	334	367	181	376	57.9	356	222	149	139	42.3
14	356	327	148	405	228	217	76.6	336	101	137	110	51.2
15	367	214	139	370	288	61.4	207	308	102	52.4	40.4	39.3
16	345	138	130	363	317	67.9	253	244	186	77.0	36.0	288
17	332	137	121	393	264	280	272	144	240	72.0	35.1	208
18	314	267	112	298	110	439	284	134	249	94.4	34.4	86.3
19	300	304	112	212	124	278	184	202	246	60.1	77.6	85.3
20	300	284	108	185	291	160	61.7	339	200	67.8	41.0	102
21	393	171	242	96.5	396	105	80.8	301	86.0	55.2	36.0	109
22	438	101	248	245	575	31.6	201	259	50.5	53.8	40.2	104
23	423	99.9	81.6	245	349	32.7	297	147	29.1	55.0	39.0	103
24	192	107	83.9	173	151	211	319	131	29.3	55.6	35.6	79.9
25	153	278	82.6	193	258	283	260	128	29.0	37.7	110	41.9
26	239	350	207	180	389	269	123	240	17.1	33.9	202	257
27	159	364	260	105	589	307	75.5	290	85.5	35.7	324	184
28	340	277	281	107	560	172	70.3	302	103	74.9	38.1	42.4
29	435		222	234	576	25.0	220	302	89.6	34.1	124	60.5
30	376		105	293	645	42.3	300	265	142	34.2	37.8	111
31	377		96.0		666		298	110		35.0		103
Sum	8,655	7,903.9	5,188.1	6,656.6	9,377.2	10,705.9	5,697.9	7,338.8	5,095.1	3,010.5	2,123.8	3,194.6

Month	Current Year 1974: Average Rainfall Inches** 1957-1974	1974	∅ Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1957-1974 Acre-Feet: Average	Maximum	Minimum
Jan.	1.80	1.02	22	438	6	121	279	17,167	11,051	24,568	1,290
Feb.	1.99	T	6	435	23	99.9	282	15,677	6,817	15,677	1,028
Mar.	.71	.34	13	334	23	81.6	167	10,290	6,121	15,200	705
Apr.	1.42	.84	14	405	1	70.4	222	13,203	11,232	21,828	2,180
May	2.84	1.21	31	666	11	95.2	302	18,599	14,743	27,670	2,561
June	3.44	3.22	4	701	29	25.0	357	21,235	18,578	32,279	6,690
July	1.45	1.54	24	319	6	32.0	184	11,302	11,265	23,145	3,687
Aug.	2.63	.91	7	467	3	85.1	237	14,556	8,063	14,556	4,061
Sept.	5.86	6.43	10	332	26	17.1	170	10,106	6,067	12,600	876
Oct.	3.14	3.48	4	210	26	33.9	97.1	5,971	5,557	11,300	1,591
Nov.	1.47	.72	27	324	7	34.1	70.8	4,212	4,722	9,021	2,320
Dec.	1.41	.68	4	339	2	33.8	103	6,336	6,191	11,200	2,163
Yearly	28.16	20.39		701		17.1	205	148,654	110,407	161,503	73,788

∅ Mean daily ** United States side - average of several stations in the reach

RIO GRANDE NEAR BROWNSVILLE, TEXAS

DESCRIPTION: Cableway, bubbler gage, and water-stage recorders (graphic and digital) located on the left bank at latitude 25°52'35", longitude 97°27'15", and river mile 48.8; 1,000 feet downstream from El Jardin pumping plant, 6.8 river miles downstream from the international highway bridge (Gateway) between Brownsville, Texas and Matamoros, Tamaulipas, and 1,200.0 river miles downstream from the American Dam at El Paso, Texas. The zero of the gage is at mean sea level, U. S. C. & G. S. datum.

RECORDS: Based on 23 discharge measurements during the year and a continuous record of gage heights. Computations by shifting control methods. Records available: 1934 through 1974.

REMARKS: Except for diversions, tributary inflows, and drainage returns below Falcon Dam, flow at this station after August 25, 1953 was controlled largely by releases from Falcon Reservoir, 225 river miles upstream. Excessive upstream flood flows are partly diverted into the United States and Mexican floodway systems before reaching this station.

EXTREME FLOWS FROM RECORDS: Momentary: Max. 31,700 second-feet on October 8, 1945 with a gage height of 31.48 feet. Min. no flow occurs frequently.

Average Flow in Second-Feet

Daily:	Max. 30,800	Sept. 14,1942; Oct. 8, 1945	Min. 0	Frequently
Monthly:	Max. 23,200	Oct. 1941	Min. 0	June, July 1953
Yearly:	Max. 9,010	1941	Min. 42.1	1956

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	339	208	81.8	489	225	78.8	86.2	41.6	207	11,400	6,940	2,990
2	359	184	119	370	134	746	82.7	33.1	296	11,300	6,780	3,140
3	533	217	113	193	‡ 77.8	‡1,220	115	62.3	197	‡11,200	6,750	3,110
4	684	269	111	141	152	987	83.0	184	99.7	11,300	‡6,760	2,840
5	695	420	187	‡ 141	246	456	85.4	‡ 178	‡ 53.8	11,300	6,690	2,740
6	400	429	255	125	352	157	333	230	18.5	11,500	6,520	‡2,800
7	458	‡ 189	‡104	108	531	90.7	571	131	12.1	‡11,700	6,340	2,730
8	543	113	59.3	115	659	139	801	36.4	94.2	11,700	6,240	2,480
9	493	109	80.7	293	593	137	‡ 311	35.0	138	11,700	6,080	2,180
10	286	137	107	177	319	339	122	86.0	76.4	11,500	5,950	1,910
11	‡ 101	154	88.1	87.7	211	788	82.6	133	53.9	‡11,400	5,820	1,730
12	76.3	132	163	166	180	1,100	71.2	167	51.5	11,400	5,680	1,590
13	108	148	227	263	91.9	645	71.3	146	80.4	11,100	5,570	1,430
14	659	97.6	137	207	54.6	283	79.6	105	107	10,300	5,290	1,330
15	738	51.1	176	333	57.3	891	117	66.5	130	9,210	‡4,700	1,370
16	563	64.6	173	605	45.0	1,270	103	69.5	225	8,410	4,280	1,380
17	394	285	186	440	33.8	1,430	87.1	76.0	195	7,880	3,920	1,100
18	294	456	214	165	36.7	779	71.4	81.3	193	‡ 7,750	3,550	867
19	192	325	568	151	67.3	211	‡ 53.8	113	145	7,900	3,230	‡ 685
20	108	200	1,030	1,120	120	92.9	51.1	142	116	7,730	3,070	919
21	185	102	619	2,450	465	64.9	60.8	253	133	7,230	2,740	1,360
22	455	114	144	2,290	202	66.1	65.3	101	207	6,920	2,270	2,030
23	584	152	166	805	‡ 40.9	154	76.4	42.7	383	6,880	2,090	2,430
24	671	144	344	207	24.2	236	103	71.3	588	6,910	2,130	2,430
25	‡ 802	229	318	93.3	20.6	243	80.7	146	3,070	6,790	2,220	2,300
26	862	162	293	121	20.1	176	66.8	125	6,610	6,950	2,230	2,380
27	754	92.5	260	332	15.0	116	68.6	93.4	9,350	8,490	2,110	2,360
28	952	‡ 61.7	294	304	16.5	61.8	77.4	44.7	10,800‡	9,600	2,270	2,600
29	619		283	227	9.0	46.5	110	28.5	11,300	8,980	2,540	2,630
30	631		429	136	19.4	61.2	119	29.2	11,500‡	7,930	2,690	2,510
31	531		422		28.3		91.2	97.9		7,220		2,320
Sum	15,069.3	5,245.5	7,806.9	12,655.0	5,052.4	13,065.9	4,307.6	3,149.9	56,430.5	291,580	133,450	54,671

Month	Current Year 1974: Extreme Gage Feet High	Extreme Gage Feet Low	Extreme Second-Feet High Day	Extreme Second-Feet High	Extreme Second-Feet Low Day	Extreme Second-Feet Low	Average Second-Feet	Total Acre-Feet	Period 1954-1974: Acre-Feet Average	Acre-Feet Maximum	Acre-Feet Minimum
Jan.	8.63	4.39	28	1,040	12	70.8	486	29,890	33,938	224,000	283
Feb.	6.48	3.59	6	518	16	38.6	187	10,404	38,434	362,000	1,060
Mar.	9.08	3.80	20	1,160	† 8	51.8	252	15,485	34,163	361,000	2,050
Apr.	14.12	4.09	†21	2,740	25	70.6	422	25,101	26,019	127,000	875
May	7.35	3.14	9	713	29	7.7	163	10,021	29,045	127,595	4,140
June	9.94	3.90	17	1,520	1	28.1	436	25,910	33,864	143,517	2,430
July	8.13	3.42	8	928	20	49.2	139	8,544	48,202	437,546	1,120
Aug.	5.44	3.08	21	302	24	19.6	102	6,248	32,003	304,501	218
Sept.	26.47	2.96	30	11,600	7	2.1	1,880	111,928	117,869	545,117	950
Oct.	26.77	21.49	8	11,800	†25	6,760	9,410	578,340	180,883	887,207	756
Nov.	21.78	11.00	1	7,060	†23	2,080	4,450	264,694	94,458	528,000	1,290
Dec.	14.40	6.75	† 2	3,170	19	630	2,090	128,273	50,887	480,000	524
Yearly	26.77	2.96		11,800		2.1	1,680	1,214,844	719,365	2,423,002	30,596

‡ Discharge measurement made on this day † And other days

DIVERSIONS FROM THE RIO GRANDE
UNITED STATES SIDE – BROWNSVILLE TO THE GULF

Beginning June 1971, the Texas Water Rights Commission assumed control of the United States portion of the water in Falcon Reservoir and in the Rio Grande below Falcon Dam, the disposition of such waters being made by its Rio Grande Watermaster. Previous to that, since June 1956, such waters had been under the jurisdiction of the 93rd District Court of Texas administered by its Special Water Master.

During 1974, 4,211 irrigable acres were allotted Rio Grande water in the river reach between the gaging station near Brownsville and the mouth of the Rio Grande. Such irrigable area was 0.6% of the total irrigable acres below Falcon Dam allotted Rio Grande water.

The total diversion during 1974 in this river reach was 3,159 acre-feet, or 0.3% of the total water diverted from the Rio Grande below Falcon Dam. All records of diversions in this river reach, which were determined by means of flow meters, were furnished by the Rio Grande Watermaster. More than one crop per year is often grown on parts of this land.

EXTREME FLOWS FROM RECORDS:

	Average Flow in Second-Feet					
Daily:	Max. 40.4	June 17, 1965	Min. 0	Frequently
Monthly:	Max. 23.4	June 1965	Min. 0	Occasionally
Yearly:	Max. 7.0	1965	Min. 0.9	1972

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	22.1	3.4	0	7.1	16.3	1.4	0	0.8	3.0	2.0	2.2
2	0	15.3	4.1	2.5	7.1	16.3	1.4	0	.8	3.0	2.0	2.2
3	0	17.2	.8	2.5	9.3	21.0	1.4	0	4.9	2.6	.2	0
4	0	20.6	4.0	9.7	7.5	16.7	1.4	0	4.9	2.6	.2	0
5	0	20.8	4.0	2.2	7.5	27.0	1.4	0	0	2.6	.2	0
6	0	21.2	6.3	2.2	14.8	28.0	1.4	0	0	2.6	.2	0
7	0	16.9	6.3	0	14.1	22.5	0	0	0	2.6	0	0
8	0	18.2	5.7	0	9.0	20.7	1.1	0	0	2.6	0	0
9	2.2	16.9	4.9	5.8	9.0	20.7	1.1	0	0	2.6	0	0
10	2.2	11.4	4.9	4.3	9.0	17.1	1.1	0	0	2.6	0	0
11	2.2	11.3	4.9	4.3	7.3	12.9	1.2	0	2.3	2.6	0	0
12	0	6.4	7.5	4.3	7.3	12.9	1.2	1.3	2.3	0	0	0
13	0	6.6	10.5	4.3	13.2	6.7	1.2	1.3	0	0	0	0
14	2.2	4.2	8.2	6.2	15.5	0	1.2	3.9	0	0	0	2.2
15	6.3	4.2	8.2	6.2	8.9	0	0	3.9	0	0	0	2.2
16	6.3	5.9	5.2	10.6	8.9	0	0	2.6	0	0	0	4.1
17	9.9	6.0	5.2	10.6	3.5	0	0	2.6	0	0	0	4.1
18	12.6	8.4	7.9	10.6	6.2	2.7	1.0	2.6	2.1	3.7	0	1.9
19	8.5	6.8	7.9	8.0	2.7	2.7	1.0	2.6	0	3.7	0	1.9
20	10.5	5.7	2.0	8.0	8.9	2.7	0	0	0	3.7	0	1.9
21	10.5	9.5	0	8.0	7.5	0	0	3.5	0	3.7	0	1.9
22	12.4	10.1	1.7	6.8	9.0	0	0	3.5	0	3.7	0	1.8
23	13.5	8.9	1.7	6.8	9.0	0	0	3.5	0	3.7	0	1.8
24	21.0	4.0	1.7	6.8	9.0	0	1.0	3.5	0	3.7	0	1.3
25	17.4	4.0	0	4.3	7.5	0	1.0	3.5	3.0	3.7	0	1.3
26	10.3	3.3	0	2.5	7.6	0	1.0	3.5	3.0	0	2.2	1.3
27	10.3	3.3	0	2.5	18.2	.5	1.0	.8	3.0	0	2.2	1.3
28	21.1	3.3	0	3.6	14.3	.5	1.0	.8	3.0	0	2.2	1.3
29	21.1		0	3.6	15.2	.5	1.0	.8	3.0	0	2.2	1.3
30	25.4		0	5.2	14.3	0	1.0	.8	3.0	1.9	2.2	4.7
31	22.5		0		14.3		0	.8		2.0		4.7
Sum	248.4	292.5	117.0	152.4	302.7	248.4	25.5	45.8	36.1	62.9	15.8	45.4

Month	Current Year 1974: Average Rainfall Inches** 1957-1974	1974	Ø Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1957-1974 Acre-Feet: Average	Maximum	Minimum
Jan.	1.86	0.71	30	25.4	† 1	0	8.0	493	440	1,275	0
Feb.	2.07	T	1	22.1	†26	3.3	10.4	580	229	668	0
Mar.	.68	.17	13	10.5	†21	0	3.8	232	141	634	0
Apr.	1.46	.36	†16	10.6	† 1	0	5.1	302	212	633	0
May	2.71	1.82	27	18.2	19	2.7	9.8	600	376	1,356	0
June	3.24	2.90	6	28.0	†14	0	8.3	493	477	1,393	9.7
July	1.27	1.12	† 1	1.4	† 7	0	.8	50.6	202	778	0
Aug.	2.43	.05	†14	3.9	† 1	0	1.5	90.8	133	317	13.7
Sept.	5.90	4.39	† 3	4.9	† 5	0	1.2	71.6	62.1	190	0
Oct.	3.04	2.72	†18	3.7	†12	0	2.0	125	60.3	218	0
Nov.	1.47	.83	†26	2.2	† 7	0	.5	31.3	74.3	252	0
Dec.	1.46	.74	†30	4.7	† 3	0	1.5	90.0	91.0	335	0
Yearly	27.59	15.81		28.0		0	4.4	3,159.3	2,497.7	5,036.3	665.0

** United States side - average of several stations in the reach Ø Mean daily

† And other days

DIVERSIONS FROM THE RIO GRANDE
UNITED STATES SIDE BELOW FALCON DAM

Beginning June 1971, the Texas Water Rights Commission assumed control of the United States portion of the water in Falcon Reservoir and in the Rio Grande below Falcon Dam, the disposition of such waters being made by its Rio Grande Watermaster. Previous to that, since June 1956, such waters had been under the jurisdiction of the 93rd District Court of Texas administered by its Special Water Master.

In 1974, 746,119 irrigable acres, several towns, and many rural homes were allotted Rio Grande water between Falcon Dam and the Gulf of Mexico. The total diversion from the river was 1,110,733 acre-feet. About 92% of the water diverted was determined through records of discharge obtained by means of flow meters, by open channel rating stations, and by deflection meters developed by the Commission. The records for the balance of the diversions were furnished by the Rio Grande Watermaster and were determined from records of discharge obtained by means of flow meters. Drainage from more than 90% of this area does not return to the Rio Grande but some of it is re-used within the area. More than one crop per year is often grown on parts of this land.

Diversion data pertaining to "Diversions from the Rio Grande-United States Side below Rio Grande City" for the period 1922 through 1957, may be found in previous issues of these Water Bulletins. The area irrigated below Rio Grande City is about 99% of the total acreage irrigated in the United States side below Falcon Dam.

A breakdown by river reaches of the total diversion below Falcon Dam shown in the tabulation below may be found in appropriate downstream order in preceding pages of this Water Bulletin. Because the mean daily discharges are rounded, the total acre-feet shown in the summary below may not equal the sum of the acre-feet of the individual reaches.

EXTREME FLOWS FROM RECORDS:

		Average Flow in Second-Feet		
Daily:	Max. 5,380	June 20 & 21, 1960	Min. 7.2	Sept. 29, 1967
Monthly:	Max. 4,350	June 1960	Min. 102	March 1957
Yearly:	Max. 1,590	1965	Min. 880	1970

Mean Daily Discharge in Second-Feet 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,340	1,800	1,940	617	1,710	4,230	2,340	2,500	921	500	355	358
2	1,560	1,350	1,470	894	1,710	3,850	2,670	2,350	1,650	522	210	549
3	1,260	921	847	1,430	1,480	4,700	2,890	1,680	1,910	722	151	838
4	1,200	1,390	1,810	1,580	1,120	4,820	2,250	1,390	1,850	801	372	1,020
5	927	1,890	1,910	1,550	731	4,890	1,530	2,380	1,900	603	393	838
6	579	2,040	2,290	1,080	1,520	4,890	1,310	3,010	1,680	360	376	645
7	1,380	1,860	2,300	636	1,800	4,740	785	2,820	1,020	710	373	299
8	2,010	1,520	2,270	1,970	1,450	4,250	1,060	2,480	756	931	347	236
9	2,300	1,300	1,770	2,500	1,120	3,500	1,230	2,390	1,900	1,120	229	622
10	2,090	895	1,100	2,650	1,170	3,710	1,200	1,660	2,200	1,130	179	537
11	1,890	1,750	2,290	2,710	924	3,340	1,160	1,350	2,260	858	362	662
12	1,520	2,180	2,870	2,610	762	3,770	1,080	2,500	2,470	614	703	750
13	1,210	2,270	2,840	2,370	1,150	3,360	805	2,910	2,280	494	910	815
14	2,320	2,270	2,160	2,090	1,450	2,030	684	2,910	1,440	1,030	872	475
15	2,600	1,640	1,980	2,930	1,720	1,300	1,040	3,030	1,030	1,020	790	411
16	2,590	1,530	1,440	3,160	1,800	1,040	1,140	2,910	1,520	915	443	1,120
17	2,660	1,060	956	3,160	1,850	1,860	1,270	2,500	1,560	671	289	1,350
18	2,640	2,010	1,230	2,940	1,460	1,850	1,400	1,900	1,380	784	574	1,190
19	2,160	2,370	1,110	1,470	1,310	1,810	1,320	2,500	1,160	652	633	1,460
20	1,720	2,390	1,090	1,190	2,320	1,730	720	2,610	1,050	454	814	1,370
21	2,550	2,210	967	778	2,970	1,520	565	2,520	539	598	1,120	617
22	2,910	2,110	887	1,240	3,260	1,060	1,310	2,290	248	472	1,230	358
23	2,920	1,500	562	1,220	3,130	558	1,830	2,160	421	415	707	815
24	2,230	1,010	427	926	3,040	1,460	2,050	1,830	153	469	541	610
25	1,720	1,920	542	946	2,910	1,720	1,960	1,380	105	236	847	173
26	1,110	2,310	788	980	2,950	1,690	1,700	2,600	188	161	860	717
27	489	2,370	730	690	4,150	1,840	1,130	2,720	389	164	1,150	655
28	1,190	2,170	732	502	4,350	1,940	725	2,830	363	403	488	271
29	1,930		704	898	4,520	1,700	2,200	2,560	332	413	632	247
30	2,000		381	1,380	4,560	1,520	2,590	2,280	433	276	312	760
31	1,960		352		4,510		2,640	1,290		279		828
Sum	56,965	50,036	42,745	49,097	68,907	80,678	46,584	72,240	35,108	18,777	17,262	21,596

Month	Current Year 1974: Average Rainfall Inches** 1957-1974	1974	Ø Extreme Second-Feet: High Day	High	Low Day	Low	Average Second-Feet	Total Acre-Feet	Period 1957-1974: Acre-Feet Average	Maximum	Minimum
Jan.	1.45	0.77	23	2,920	27	489	1,840	112,988	73,007	182,403	9,717
Feb.	1.47	.04	20	2,390	10	895	1,790	99,245	50,650	126,230	11,785
Mar.	.75	1.68	12	2,870	31	352	1,380	84,783	59,846	149,000	6,280
Apr.	1.43	1.72	†16	3,160	28	502	1,640	97,382	95,778	157,807	25,100
May	2.58	1.59	30	4,560	5	731	2,220	136,675	108,693	171,000	16,071
June	3.09	1.58	† 5	4,390	23	558	2,690	160,022	144,505	259,000	31,931
July	1.19	1.91	3	2,890	21	565	1,500	92,398	92,968	178,000	31,502
Aug.	2.12	.73	.15	3,030	31	1,290	2,330	143,286	72,734	143,286	36,208
Sept.	5.03	7.06	12	2,470	25	105	1,170	69,636	58,328	136,000	12,709
Oct.	2.86	4.19	10	1,130	26	161	606	37,244	56,112	124,598	12,991
Nov.	1.25	.31	22	1,230	3	151	575	34,239	48,122	97,969	12,674
Dec.	1.05	.45	19	1,460	25	173	697	42,835	48,897	84,500	14,034
Yearly	24.26	22.03		4,890		105	1,530	1,110,733	909,638	1,153,049	636,835

** United States side - average of several stations in the reach

Ø Mean daily

† And other days

OUTFALLS FROM SEWERS INTO THE RIO GRANDE

In Acre-Feet

EL PASO SEWAGE OUTFALL

This sewage enters the Rio Grande through the outfalls of the El Paso, Ascarate, and Ysleta Sewage Plants, located 7.1, 8.7, and 15.6 river miles, respectively, downstream from the American Dam. The outfall from the El Paso Plant consists of flows measured by a Parshall meter and estimates of amounts which bypass the meter. The effluent from the Socorro Plant, located 17.6 miles below American Dam, is discharged into ponds at the approximate rate of 10 c.f.s. When the ponds overflow, the effluent may enter either the Rio Grande or Riverside Canal. No record has been kept of the amount of this effluent entering the Rio Grande and it is not included in the table below. All of the plants are operated by the El Paso Water Utilities of the Public Service Board of the City of El Paso, Texas and the records are furnished by that agency.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly
1974	1,899	1,762	1,996	1,951	2,033	2,041	2,174	2,125	2,202	1,889	1,698	1,748	23,518
* Average	1,754	1,609	1,784	1,756	1,868	1,835	1,978	1,998	1,902	1,855	1,720	1,752	21,811

EAGLE PASS SEWAGE OUTFALL

This sewage outfall enters the Rio Grande 758.1 river miles downstream from the American Dam at El Paso, Texas and about 600 feet upstream from the Eagle Pass-Piedras Negras International Railroad Bridge. The records are based on weekly current meter measurements or gage height observations made by personnel of the International Boundary and Water Commission.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly
1974	95.0	99.8	111	111	138	138	125	144	188	240	239	292	1,920.8
* Average	62.1	60.5	62.1	55.1	58.4	55.9	59.2	70.0	75.2	88.0	89.8	92.0	828.3

LAREDO SEWAGE OUTFALL

This sewage outfall enters the Rio Grande 891.4 river miles downstream from the American Dam at El Paso, Texas and immediately upstream from the Laredo Gaging Station. The record is based on estimates by the Texas State Health Department.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly
1974	605	447	498	483	499	500	445	422	352	344	532	544	5,671
* Average	458	442	528	532	577	531	533	493	438	422	510	480	5,944

BROWNSVILLE SEWAGE OUTFALL

This sewage outfall enters the Rio Grande 3.4 river miles downstream from the Gateway Bridge between Brownsville, Texas and Matamoros, Tamaulipas; 3.4 river miles upstream from the Brownsville Gaging Station; and 52.2 river miles from the Gulf of Mexico. Records are furnished by the City of Brownsville.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly
1974	742	670	626	607	672	644	661	672	584	575	641	608	7,702
* Average	424	407	436	407	442	457	474	476	457	482	428	412	5,302

* Period averages are for past 10 years

MUNICIPAL AND INDUSTRIAL WATER USES

In Acre-Feet

Tabulated below are monthly and yearly amounts of water pumped from the Rio Grande directly into the municipal distribution systems of cities along the border, except for the city of Del Rio whose total supply is derived from San Felipe Springs. The city of El Paso derives its municipal supply mainly from the Franklin Canal and from wells some of which, near Canutillo, Texas, pump water into the Rio Grande to be conveyed 17 miles downstream to the point of diversion at the El Paso Water Plant. In 1974 this water amounted to 4,631 acre-feet and is included in the tabulation below. Ciudad Acuna, Coahuila, whose municipal diversion from the Rio Grande started in 1971 may, at times, use an alternate source from Arroyo Las Vacas which was its previous source of supply. Such use would be reflected in the tabulations below.

All Rio Grande water used by U. S. municipalities below Falcon Dam is also included in the figures shown under "Diversions from the Rio Grande - United States Side...." (by river reaches and total below Falcon Dam) on pages 66, 69, 73, 75, 77, 79, and 80 herein. Population data for all cities are estimates based on the 1970 official census except for Falcon Village (estimated by the International Boundary and Water Commission), and Del Mar and San Ignacio which are based on utilities connections.

In United States

Month	EL PASO (Pop. 369,000)				DEL RIO Ø (Pop. 25,500)			
	1974	Period 1965-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	0	0	0	0	416.7	356.2	424.6	279.1
Feb.	0	0	0	0	441.1	363.4	524.9	252.2
Mar.	440	430.7	831	37.9	498.9	519.7	714.9	350.1
Apr.	1,622	1,450	2,164	671.4	646.2	561.8	679.0	482.5
May	3,360	2,101.6	3,360	28.5	578.7	595.6	838.6	376.5
June	3,715	2,402.4	3,715	1,061.8	932.9	721.8	932.9	571.7
July	3,041	2,205.2	3,041	1,304	1,062.0	886.9	1,093.2	643.2
Aug.	3,255	2,316.9	3,255	1,668	745.7	791.4	967.8	500.8
Sept.	2,476	1,658.7	2,571	811	507.4	564.3	697.6	431.0
Oct.	0	431.0	1,016	0	467.9	453.7	650.6	376.8
Nov.	0	145.9	397	0	383.8	375.0	458.2	295.6
Dec.	0	40.2	131	0	392.3	355.1	413.4	268.1
Yearly	17,909.0	13,182.6	17,909.0	6,130.2	7,073.6	6,544.9	7,271.2	5,734.3

Month	EAGLE PASS (Pop. 18,000)				DEL MAR (Pop. 2,260)			
	1974	Period 1965-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	190.7	181.4	267.3	122.2	27.0	16.6	27.0	6.6
Feb.	188.2	168.2	229.8	120.7	30.6	18.1	30.6	5.9
Mar.	217.0	206.0	262.8	163.3	52.2	21.3	52.2	0
Apr.	274.3	223.3	306.8	161.0	55.1	32.0	55.1	0
May	298.0	251.7	400.1	144.3	63.8	31.9	63.8	0
June	386.6	283.0	386.6	214.8	71.4	35.7	71.4	0
July	410.2	327.4	410.2	265.1	70.3	33.6	70.3	0
Aug.	326.8	297.7	354.3	229.8	69.5	43.0	69.5	21.2
Sept.	228.3	224.4	279.2	164.8	39.9	33.0	51.2	18.9
Oct.	272.2	212.6	272.2	158.2	37.4	23.1	37.4	13.0
Nov.	223.8	190.4	238.4	142.0	27.0	24.0	32.1	11.4
Dec.	240.5	186.3	240.5	128.1	18.9	20.3	31.8	8.4
Yearly	3,256.6	2,752.4	3,256.6	2,138.6	563.1	332.6	563.1	89.3

Ø Includes Laughlin Air Force Base

MUNICIPAL AND INDUSTRIAL WATER USES

In Acre-Feet

In United States

Month	LAREDO (Pop. 68,200)				LAREDO POWER STATION			
	1974	Period 1965-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	1,100.5	832.2	1,109.1	587.8	51.0	49.1	72.3	29.6
Feb.	944.2	792.1	1,045.4	601.4	35.1	41.0	72.7	13.5
Mar.	1,087.5	1,027.8	1,402.4	786.4	47.3	44.5	79.3	10.7
Apr.	1,193.7	1,170.7	1,552.9	952.0	62.5	56.1	76.4	26.0
May	1,458.1	1,291.9	1,857.8	822.6	105.6	67.3	106.9	37.8
June	1,574.7	1,359.4	1,684.6	1,016.5	102.0	73.4	102.0	51.9
July	1,858.2	1,580.7	1,858.2	1,176.2	104.4	90.2	106.2	63.4
Aug.	1,659.7	1,465.5	1,708.5	1,228.8	98.2	88.5	98.2	73.4
Sept.	1,162.4	1,146.9	1,482.1	742.1	50.0	70.4	87.8	49.8
Oct.	1,231.6	1,069.8	1,326.2	815.5	58.6	54.5	87.8	37.9
Nov.	1,040.7	950.2	1,158.1	708.1	75.5	57.2	75.5	21.8
Dec.	964.4	870.3	1,100.5	591.5	65.4	53.4	71.3	32.2
Yearly	15,275.7	13,557.5	15,720.3	11,407.7	855.6	745.6	867.7	524.5

Month	SAN YGNACIO (Pop. 1,020)				NEW ZAPATA (Pop. 2,400)			
	1974	Period November 1965-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	2.3	2.0	3.0	0.8	33.5	27.6	43.0	20.2
Feb.	3.4	2.4	3.6	1.1	38.8	28.0	40.2	17.4
Mar.	3.4	3.2	5.2	2.1	44.4	33.8	44.4	25.0
Apr.	4.7	3.8	4.8	2.4	36.4	36.9	46.0	27.0
May	4.4	3.3	5.3	1.5	55.7	38.1	55.7	18.3
June	3.6	3.2	4.8	1.4	50.5	40.4	50.5	27.7
July	4.8	3.5	4.8	.8	65.2	47.5	65.2	34.4
Aug.	4.5	3.8	4.9	1.4	49.9	44.9	67.7	31.5
Sept.	4.2	2.8	4.2	1.5	43.0	31.9	50.4	21.1
Oct.	2.7	2.4	2.9	1.5	36.6	30.9	47.6	20.0
Nov.	3.2	2.4	3.2	1.4	33.8	28.5	44.3	18.9
Dec.	3.1	2.2	3.1	1.1	32.9	28.1	43.1	20.1
Yearly	44.3	35.0	44.3	21.3	520.7	416.6	579.9	276.0

Month	FALCON VILLAGE (Pop. 165)				ROMA * (Pop. 2,154)			
	1974	Period 1965-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	9.1	6.8	9.5	4.7	36.9	29.3	38.6	14.4
Feb.	8.9	6.8	9.4	4.4	39.0	27.5	39.0	14.4
Mar.	9.5	8.9	12.9	6.5	43.9	35.4	45.3	18.2
Apr.	10.2	9.6	13.0	6.5	47.8	37.5	48.7	17.0
May	11.2	9.5	11.6	6.5	56.0	40.4	56.0	19.9
June	13.0	10.6	14.3	7.8	60.4	40.9	60.4	21.1
July	13.3	12.2	14.7	9.2	57.4	44.2	57.4	21.9
Aug.	12.9	11.2	12.9	9.7	65.6	43.1	65.6	25.7
Sept.	10.8	8.7	11.0	5.8	53.3	36.5	53.3	18.6
Oct.	10.4	8.0	10.4	6.2	50.7	34.5	50.7	19.5
Nov.	9.3	7.4	9.3	5.1	41.0	31.8	44.0	15.7
Dec.	9.5	7.2	9.5	4.8	40.9	30.3	43.2	15.4
Yearly	128.1	106.9	128.1	88.1	592.9	431.4	592.9	228.2

Month	RIO GRANDE CITY (Pop. 5,720)				BROWNSVILLE (Pop. 63,000)			
	1974	Period 1965-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	76.9	69.0	88.7	52.8	967.0	781.7	967.0	620.4
Feb.	73.8	63.6	83.5	51.6	1,002.8	752.8	1,002.8	572.5
Mar.	72.7	72.5	96.6	59.8	1,244.8	888.2	1,244.8	641.6
Apr.	89.1	78.4	118.3	61.4	1,255.8	923.7	1,255.8	663.1
May	116.6	83.0	116.6	61.4	1,381.0	936.7	1,381.0	644.2
June	122.9	93.7	124.0	59.2	1,348.2	976.1	1,348.2	734.2
July	126.9	101.4	131.9	59.2	1,422.0	1,112.1	1,422.0	860.4
Aug.	132.8	104.9	156.2	83.9	1,628.1	1,048.4	1,628.1	790.2
Sept.	114.7	89.3	114.7	62.9	1,240.6	912.2	1,240.6	665.4
Oct.	112.3	83.8	112.3	58.0	1,200.8	898.5	1,200.8	698.7
Nov.	94.1	77.4	96.3	55.9	1,060.9	862.2	1,094.2	633.4
Dec.	89.5	75.3	89.5	54.9	962.6	834.1	1,036.0	577.6
Yearly	1,222.3	992.3	1,257.0	768.2	14,714.6	10,926.7	14,714.6	8,907.7

* Includes Los Saenz and Escobares, Texas

MUNICIPAL AND INDUSTRIAL WATER USES

In Acre-Feet

In Mexico

Month	CD. ACUNA, COAHUILA (Pop. 41,500)				PIEDRAS NEGRAS, COAHUILA (Pop. 69,769)			
	1974	Period 1971-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	79.2	33.6	79.2	0	273.2	228.4	317.5	163.8
Feb.	94.7	72.7	102.7	38.0	267.8	200.8	267.8	160.3
Mar.	97.1	116.7	150.4	76.8	344.4	241.4	344.4	184.6
Apr.	99.1	119.6	166.8	67.9	384.7	261.7	384.7	194.2
May	88.1	114.8	156.6	77.6	402.4	286.8	402.4	198.5
June	85.1	111.4	153.5	83.7	414.4	309.8	414.4	241.8
July	89.7	132.2	205.1	80.1	458.7	341.7	458.7	297.2
Aug.	93.0	147.2	222.4	83.7	435.4	326.4	435.4	248.2
Sept.	82.9	103.9	139.7	81.9	332.6	278.7	334.8	222.1
Oct.	81.6	95.5	145.8	68.3	403.0	273.0	403.0	208.5
Nov.	70.9	65.8	73.8	55.7	350.2	231.1	350.2	176.4
Dec.	67.6	49.0	67.6	0	340.4	229.0	342.2	171.1
Yearly	1,029.0	1,162.4	1,424.3	828.8	4,407.2	3,208.8	4,407.2	2,599.5

Month	NUEVO LAREDO, TAMPS. (Pop. 175,149)				NUEVA CD. GUERRERO, TAMPS. (Pop. 4,603)			
	1974	Period 1965-1974			1974	Period 1965-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	1,649.1	1,188.1	1,649.1	780.4	26.0	27.6	36.6	19.8
Feb.	1,488.5	1,115.2	1,488.5	765.7	24.7	25.3	33.2	19.1
Mar.	1,716.6	1,303.0	1,716.6	929.6	26.5	30.3	35.8	25.4
Apr.	1,686.8	1,410.0	1,829.0	1,054.3	24.7	29.8	35.8	19.9
May	1,844.6	1,481.3	1,975.5	956.3	30.0	34.5	48.9	28.0
June	2,129.4	1,576.9	2,129.4	915.0	26.9	30.7	37.5	21.2
July	2,137.4	1,699.5	2,329.5	997.7	25.1	30.9	37.0	25.1
Aug.	2,232.4	1,674.0	2,232.4	957.4	19.3	29.7	37.0	19.3
Sept.	2,047.3	1,511.1	2,047.3	913.2	15.7	28.4	34.9	15.7
Oct.	2,012.7	1,513.3	2,012.7	1,053.5	20.5	29.4	35.9	20.5
Nov.	1,905.0	1,386.2	2,111.0	890.5	22.9	28.1	34.6	20.9
Dec.	1,874.9	1,354.3	1,908.7	861.2	20.5	27.4	34.7	20.5
Yearly	22,724.7	17,212.9	22,809.6	11,252.2	282.8	352.1	420.0	282.8

Month	CD. MIER, TAMPS. (Pop. 8,163)				CD. MIGUEL ALEMAN, TAMPS. (Pop. 14,770)			
	1974	Period 1965-1974			1974	Period Aug. 1967-1974		
		Average	Maximum	Minimum		Average	Maximum	Minimum
Jan.	11.8	27.1	35.8	11.8	34.4	32.2	37.6	25.3
Feb.	14.9	24.1	33.1	10.5	34.5	32.7	40.5	25.9
Mar.	33.4	29.7	36.9	9.9	38.8	39.2	45.3	32.4
Apr.	14.9	28.4	37.5	9.1	39.8	40.4	50.8	31.0
May	20.3	30.5	39.3	9.1	44.6	41.5	46.9	36.5
June	27.5	32.3	36.7	24.8	48.2	44.5	49.1	37.4
July	28.6	33.6	39.4	27.2	47.5	49.9	62.8	40.6
Aug.	34.5	32.3	39.6	13.1	53.0	44.5	60.4	9.7
Sept.	29.0	28.6	36.9	15.2	41.7	40.4	59.2	26.0
Oct.	27.8	29.7	45.6	14.5	42.3	37.8	51.0	19.9
Nov.	23.2	28.8	35.0	13.3	48.4	39.5	48.4	29.3
Dec.	46.3	29.6	46.3	12.6	52.9	37.7	52.9	27.8
Yearly	312.2	354.7	412.0	191.3	526.1	480.3	543.9	420.6

STORED WATER IN LARGE RESERVOIRS OF THE RIO GRANDE BASIN

In Thousands of Acre-Feet

Data are presented below for all storage reservoirs in the Rio Grande Basin in the United States and Mexico that exceed 15,000 acre-feet in capacity, except San Esteban Reservoir on Alamito Creek which according to the Texas Water Development Board originally had a capacity of 18,800 acre-feet. There are no monthly storage data available for this reservoir. Also presented on pages 88 and 89 are data for International Amistad and Falcon Reservoirs on the Rio Grande. The monthly figures represent the water in storage on the last day of each month, in thousands of acre-feet. The capacities indicated are at spillway level. Storage figures greater than the capacity indicate that the water surface was above spillway level.

The reservoirs and the agencies providing the data are: Rio Grande, Continental, Santa Maria, Terrace, Mountain Home, and Platoro from the State of Colorado, Division of Water Resources; Sanchez from the Sanchez Ditch and Reservoir Company; Abiquiu and Cochiti from the United States Corps of Engineers; Costilla, Bluewater, Alamogordo, McMillan, and Avalon from the United States Geological Survey; Storrie from the State Engineer Office of New Mexico; Heron, El Vado, Elephant Butte, and Caballo from the United States Bureau of Reclamation; Red Bluff from the Red Bluff Water Power Control District; Lake Casa Blanca from the Webb County Office; Willacy from the Willacy County Water Control and Improvement District No. 1; La Boquilla, La Colina, and Rosetilla from the Federal Power Commission of Mexico; Francisco I. Madero, Chihuahua, Luis L. Leon, Centenario, San Miguel, Venustiano Carranza, Laguna de Salinillas, La Boca, Marte R. Gomez, Culebron, Villa Cardenas, and Palito Blanco from the Ministry of Hydraulic Resources of Mexico; Amistad Reservoir (International) and Falcon Reservoir (International) from the International Boundary and Water Commission.

In United States

Month	RIO GRANDE (Capacity 51.1)		CONTINENTAL (Capacity 22.7)		SANTA MARIA (Capacity 45.1)		TERRACE (Capacity 17.2)		MOUNTAIN HOME (Capacity 18.6)	
	1974	#Average 1927-1974	1974	#Average 1928-1974	1974	#Average 1928-1974	1974	#Average 1925-1974	1974	#Average 1924-1974
Jan.	26.1	14.0	1.9	4.8	7.0	6.6	8.5	3.6	3.6	3.6
Feb.	26.8	15.2	2.4	5.2	7.2	7.0	9.0	3.8	4.0	3.9
Mar.	27.6	16.6	3.1	5.6	7.6	7.9	10.0	4.2	4.4	4.3
Apr.	28.5	16.9	3.6	6.2	7.9	9.1	10.1	5.2	4.4	4.9
May	18.8	21.8	3.7	7.8	7.2	12.7	10.1	7.1	3.5	6.5
June	1.8	22.1	1.1	8.1	2.4	14.0	7.5	8.2	2.5	6.7
July	1.8	13.0	1.0	5.6	2.8	9.4	4.1	5.6	1.8	4.9
Aug.	1.8	6.8	1.0	3.6	2.8	5.0	2.5	3.5	1.5	3.1
Sept.	1.8	7.0	1.0	3.5	2.8	4.7	2.3	3.0	1.3	2.7
Oct.	1.8	8.2	1.0	3.4	2.8	5.0	2.8	3.1	1.4	2.7
Nov.	4.0	10.9	1.3	3.9	3.1	5.6	3.2	3.1	1.7	3.0
Dec.	5.2	12.6	1.7	4.4	3.4	6.1	3.7	3.4	1.8	3.3
Avg.	12.2	13.8	1.9	5.2	4.8	7.8	6.2	4.5	2.7	4.1
Max.	28.5	52.1	3.7	26.7	7.9	42.1	10.1	17.7	4.4	16.4
Min.	1.8	0	1.0	0	2.4	0	2.3	0	1.3	0

Month	SANCHEZ (Capacity 103.2)		PLATORO (Capacity 60.0)		COSTILLA (Capacity 15.7)		HERON (Capacity 401.3)		EL VADO (Capacity 196.5)	
	1974	#Average 1927-1974	1974	Average 1952-1974	1974	#Average 1922-1974	1974	Average 1971-1974	1974	Average 1935-1974
Jan.	15.9	11.1	36.3	7.1	6.4	4.4	156.6	63.9	127.3	31.7
Feb.	15.5	11.3	35.7	7.1	6.6	4.7	156.5	64.4	127.5	29.1
Mar.	15.2	11.9	35.0	7.4	7.1	5.3	156.8	66.2	128.0	29.0
Apr.	15.1	13.2	35.0	8.2	8.0	6.4	163.8	75.1	143.4	66.9
May	10.8	16.7	24.3	10.0	5.7	8.3	184.2	97.1	167.5	111.5
June	7.8	16.0	20.3	15.4	2.8	7.7	190.9	115.8	129.3	101.4
July	4.4	11.6	18.6	13.6	.4	5.0	190.9	119.8	99.1	82.3
Aug.	2.9	9.3	18.6	12.8	.1	3.4	192.0	119.9	68.8	61.0
Sept.	3.0	9.5	18.5	13.0	.4	3.0	190.6	119.1	63.8	49.9
Oct.	3.5	10.1	18.5	12.7	.9	3.3	190.3	123.6	62.4	46.2
Nov.	4.2	10.3	18.5	7.9	.3	3.6	189.5	124.0	62.6	36.0
Dec.	4.7	10.7	18.5	7.9	.6	3.9	149.8	100.6	86.4	32.5
Avg.	8.6	11.8	24.8	10.3	3.3	4.9	176.0	99.1	105.5	56.5
Max.	15.9	62.4	36.3	54.0	8.0	15.1	192.0	198.8	167.5	203.5
Min.	2.9	0	18.5	0	0.1	0	149.8	0.6	62.4	0

Some months missing

STORED WATER IN LARGE RESERVOIRS OF THE RIO GRANDE BASIN

In Thousands of Acre-Feet

In United States

Month	ABIQUIU (Capacity 1,216.0)		COCHITI (Capacity 498.1)		BLUEWATER (Capacity 43.5)		ELEPHANT BUTTE (Capacity 2,109.4)		CABALLO (Capacity 344.0)	
	1974	Average 1965-1974	1973	1974	1974	#Average 1927-1974	1974	Average 1915-1974	1974	#Average 1938-1974
Jan.	6.6	1.7		4.8	26.5	6.2	839.1	750.6	42.1	97.9
Feb.	4.0	1.5		4.0	26.2	6.9	846.6	752.5	69.0	123.8
Mar.	6.1	2.6		5.5	26.4	10.2	755.3	730.3	68.8	107.0
Apr.	4.0	4.2		4.9	24.2	13.3	687.3	725.5	75.2	101.1
May	4.0	33.7		4.2	21.2	11.8	595.0	818.0	85.7	102.0
June	4.0	29.8		3.7	18.2	9.7	473.9	847.2	80.2	84.2
July	4.4	22.5		4.6	16.1	8.4	375.0	789.6	95.2	64.8
Aug.	4.1	22.7		4.5	14.9	7.5	333.5	734.1	51.7	37.8
Sept.	3.8	23.7		3.6	13.6	7.1	320.9	707.6	23.8	27.9
Oct.	4.0	23.3		4.6	13.6	6.8	343.6	707.5	33.0	43.3
Nov.	4.1	14.4	5.3	4.7	13.3	6.6	370.5	722.8	36.2	58.3
Dec.	18.3	7.5	5.8	4.4	13.2	6.4	402.5	741.9	39.1	74.0
Avg.	5.6	15.6		4.5	19.0	8.4	528.6	752.3	58.3	76.8
Max.	18.3	194.0		5.5	26.5	47.1	∅ 886.0	∅ 2,302.8	∅ 109.2	∅ 346.6
Min.	3.8	0		3.6	13.2	0	∅ 315.7	∅ 3.3	∅ 18.9	∅ 0.1

Month	STORRIE (Capacity 23.3)		ALAMOGORDO (Capacity 110.7)		McMILLAN & AVALON (Capacity 38.0)		RED BLUFF (Capacity 310.0)		LAKE CASA BLANCA (Capacity 22.1)	
	1974	#Average 1939-1974	1974	#Average 1937-1974	1974	#Average 1908-1974	1974	#Average 1936-1974	1974	Average 1962-1974
Jan.	4.2	7.9	98.4	68.5	14.3	26.4	57.2	94.6	16.7	12.7
Feb.	4.2	7.9	101.4	72.4	14.0	26.5	56.6	96.2	16.2	12.4
Mar.	4.1	8.5	71.9	61.5	23.4	26.0	50.7	93.1	15.7	12.1
Apr.	4.1	8.7	71.2	54.1	8.3	17.4	47.2	79.4	15.5	12.2
May	2.3	9.2	39.7	55.8	14.0	19.8	37.8	83.2	15.1	12.7
June	1.2	7.9	20.6	49.7	2.0	19.0	29.3	84.5	15.2	13.3
July	.4	8.1	4.2	48.2	.9	18.0	27.0	75.1	15.5	12.7
Aug.	.4	9.0	8.0	52.1	6.8	17.2	26.3	71.2	15.7	12.8
Sept.	.4	8.4	12.6	54.1	35.4	18.5	109.0	74.6	15.3	15.1
Oct.	.4	8.0	23.5	57.8	38.3	20.6	150.7	85.3	14.6	14.0
Nov.	.4	8.2	30.3	59.6	37.9	22.1	159.8	88.3	14.0	13.8
Dec.	.4	7.5	36.3	64.2	38.1	25.1	166.0	92.5	14.4	13.5
Avg.	1.9	8.3	43.2	58.2	19.4	21.4	76.5	84.8	15.3	13.1
Max.	4.2	26.3	101.4	156.3	38.3	85.5	166.0	327.5	16.7	28.2
Min.	0.4	0	4.2	0.4	0.9	0	26.3	10.0	14.0	3.5

Month	WILLACY (Capacity 25.0)								TOTAL IN U. S. RESERVOIRS (Capacity 5,671.5)	
	1974	#Average 1939-1974							1974	Estimated ‡ Average
Jan.	18.4	15.0							1,517.9	1,237.1
Feb.	18.4	14.3							1,551.8	1,270.1
Mar.	17.2	13.4							1,439.9	1,228.6
Apr.	19.0	13.6							1,380.7	1,246.5
May	14.0	14.4							1,268.8	1,464.3
June	15.3	14.6							1,030.0	1,479.0
July	12.7	14.3							880.9	1,337.1
Aug.	18.6	13.2							776.5	1,210.5
Sept.	18.9	14.8							842.8	1,170.8
Oct.	18.2	15.1							929.9	1,204.6
Nov.	17.8	15.0							977.4	1,222.4
Dec.	18.2	14.6							1,026.7	1,237.7
Avg.	17.2	14.4							1,135.3	1,275.7
Max.	19.0	22.6							1,551.8	
Min.	12.7	0							776.5	

Some months missing ∅ Daily extremes ‡ Totals of period averages in all reservoirs

STORED WATER IN LARGE RESERVOIRS OF THE RIO GRANDE BASIN

In Thousands of Acre-Feet

In Mexico

Month	LA BOQUILLA (Capacity 2,417.5)		LA COLINA (Capacity 19.5)		ROSETILLA (Capacity 15.4)		FRANCISCO I. MADERO (Capacity 344.6)		CHIHUAHUA (Capacity 25.9)	
	1974	#Average 1914-1974	1974	Average 1940-1974	1974	Average 1940-1974	1974	#Average 1948-1974	1974	Average 1961-1974
Jan.	1,634.4	1,432.0	17.7	17.9	11.3	12.5	229.5	215.0	10.3	6.0
Feb.	1,538.5	1,398.9	18.4	18.2	10.5	12.8	228.5	213.1	10.3	5.9
Mar.	1,479.0	1,344.6	19.7	18.3	0	12.0	199.1	202.9	9.2	5.6
Apr.	1,371.3	1,271.6	19.9	18.7	7.0	11.7	151.6	172.4	8.4	5.3
May	1,255.9	1,209.9	19.8	18.5	7.7	11.6	109.7	147.0	7.5	4.9
June	1,138.7	1,129.2	19.9	18.6	5.1	11.9	54.9	129.9	6.6	4.5
July	1,112.9	1,163.9	19.9	18.7	8.8	11.6	61.4	141.8	6.2	4.8
Aug.	1,227.0	1,334.4	17.3	18.2	13.6	12.7	99.6	172.5	6.4	6.3
Sept.	1,632.4	1,499.8	18.3	18.0	15.7	13.0	350.8	211.7	26.5	8.2
Oct.	1,654.4	1,507.3	18.4	17.8	11.5	12.9	343.3	220.7	26.0	8.3
Nov.	1,679.5	1,471.7	13.4	16.3	11.0	12.2	342.6	220.8	25.5	8.2
Dec.	1,676.5	1,455.3	19.0	18.0	6.2	12.8	342.6	221.2	25.1	7.8
Avg.	1,450.0	1,351.6	18.5	18.1	9.0	12.3	209.5	189.1	14.0	5.4
Max.	1,679.5	2,544.7	19.9	20.5	15.7	19.4	350.8	366.6	26.5	26.5
Min.	1,112.9	16.9	13.4	11.6	0	0	54.9	1.4	6.2	0.2

Month	LUIS L. LEON (Capacity 689.1)		CENTENARIO and SAN MIGUEL (Capacity 19.9)		VENUSTIANO CARRANZA (Capacity 1,122.8)		LAGUNA DE SALINILLAS (Capacity 15.4)		LA BOCA (Capacity 33.2)	
	1974	Average 1968-1974	1974	Average 1934-1974	1974	Average 1930-1974	1974	Average 1931-1974	1974	Average 1963-1974
Jan.	446.7	321.6	14.7	13.3	887.5	392.0	8.4	7.1	32.0	25.8
Feb.	459.7	323.1	14.4	13.1	845.6	372.4	9.7	9.2	32.8	25.8
Mar.	473.5	316.0	8.1	9.8	821.7	351.7	10.4	7.0	32.5	25.4
Apr.	446.7	290.3	6.6	8.3	807.1	340.5	9.4	8.6	31.9	24.6
May	344.6	273.4	5.2	8.9	745.8	325.1	8.6	8.6	31.3	24.2
June	290.2	287.2	.6	7.5	676.9	310.7	8.4	7.5	30.1	24.3
July	315.4	314.1	1.1	7.2	640.9	317.8	8.8	7.2	28.5	24.6
Aug.	334.0	322.6	1.3	7.9	605.4	323.2	8.8	7.5	25.6	25.4
Sept.	650.2	413.3	5.6	10.0	732.9	375.7	8.3	8.5	32.8	27.2
Oct.	578.8	421.2	10.0	12.3	866.2	409.0	7.0	7.8	32.6	27.7
Nov.	578.0	419.1	13.1	12.6	917.2	415.4	6.2	7.1	32.5	27.9
Dec.	592.6	420.9	16.4	13.1	921.4	414.5	7.6	6.7	32.8	27.9
Avg.	459.2	343.6	8.1	10.3	789.1	362.3	8.4	7.7	31.3	25.9
Max.	∅ 675.3	∅ 675.3	16.4	20.7	921.4	∅ 1,167.8	10.4	15.8	32.8	33.6
Min.	∅ 286.2	∅ 3.8	0.6	0	605.4	* 1.0	6.2	0	25.6	0

Month	MARTE R. GOMEZ (Capacity 898.3)		CULEBRON and VILLA CARDENAS (Capacity 90.0)		PALITO BLANCO (Capacity 124.0)				TOTAL IN MEXICAN RESERVOIRS (Capacity 5,815.6)	
	1974	#Average 1943-1974	1974	#Average 1939-1974	1974	Average 1942-1974			1974	Estimated ‡Average
Jan.	826.2	596.5	7.0	36.1	18.3	37.4			4,144.0	3,113.2
Feb.	771.1	547.7	6.8	33.3	16.5	32.4			3,962.8	3,005.9
Mar.	795.3	516.8	6.8	31.4	16.1	32.5			3,871.4	2,874.0
Apr.	726.8	483.6	6.6	33.0	13.4	29.8			3,606.7	2,698.4
May	594.8	449.5	6.1	35.1	16.9	30.2			3,153.9	2,546.9
June	545.0	446.1	6.4	36.8	15.4	32.9			2,798.2	2,447.1
July	517.9	419.6	5.1	32.4	14.7	31.4			2,741.6	2,495.1
Aug.	427.2	479.4	4.9	32.7	16.0	28.4			2,787.1	2,771.2
Sept.	665.5	592.0	0	41.9	18.4	39.2			4,157.4	3,258.5
Oct.	730.9	644.0	0	43.6	18.7	44.3			4,297.8	3,376.9
Nov.	749.7	643.1	0	37.0	18.1	42.9			4,386.8	3,334.3
Dec.	753.6	640.3	0	40.8	16.7	42.2			4,410.5	3,321.5
Avg.	675.3	538.2	4.1	36.2	16.6	35.3			3,693.2	2,936.9
Max.	826.2	∅ 1,465.4	7.0	116.8	18.7	140.1			4,410.5	
Min.	427.2	** 17.8	0	0	13.4	0			2,741.6	

Some months missing ∅ Daily extremes * Minimum since full reservoir in 1932
‡ Total of period averages in all reservoirs ** Minimum since full reservoir in 1947

STORED WATER IN LARGE RESERVOIRS OF THE RIO GRANDE BASIN

International Amistad Reservoir

Amistad Dam is the second of the major international storage dams constructed on the Rio Grande as authorized by the Water Treaty of 1944 between the United States and Mexico. It is located at mile 567.5, 12.8 river miles upstream from Del Rio, Texas and Cd. Acuna, Coahuila, and 681.3 river miles downstream from the American Dam at El Paso, Texas.

Maximum storage for period of record: 4,859,900 acre-feet on September 22, 1974 with an elevation of 1,135.66 feet above mean sea level, U. S. C. & G. S. datum.

Storage Capacities

(1961 Survey)

Elevation	Description	At Indicated Elevation: Reservoir Capacity Acre-Feet	At Indicated Elevation: Reservoir Area Acres	Between Indicated Elevations: Storage Volume Acre-Feet	Between Indicated Elevations: Type of Storage
898.0	Original River Bed at Dam Axis	0	0		
				8,029	Silt and Dead
930.0	Lowest Outlet (United States Penstocks)	8,029	712		
				3,497,410	Silt & Conservation
1,117.0	Top of Conservation Storage *	3,505,439	64,860		
				1,744,222	Ordinary Flood
1,140.4	Top of Spillway Gates	5,249,661	84,358		
				407,116	Super Flood
1,145.1	Maximum Water Surface	5,656,777	88,984		

Storage in Thousands of Acre-Feet at 24:00 Hours 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3,848.6	3,892.4	3,871.5	3,841.7	3,877.0	3,813.4	3,771.6	3,712.6	3,773.0	4,542.9	4,383.3	4,096.0
2	3,849.3	3,893.1	3,865.9	3,841.7	3,869.4	3,813.4	3,768.2	3,711.2	3,771.6	4,543.7	4,372.8	4,085.2
3	3,949.3	3,893.1	3,860.4	3,841.7	3,865.2	3,816.2	3,766.2	3,709.9	3,766.9	4,551.4	4,363.8	4,075.8
4	3,850.0	3,893.1	3,856.2	3,839.6	3,860.4	3,817.5	3,763.4	3,707.2	3,763.4	4,565.2	4.352.5	4,063.6
5	3,850.7	3,895.2	3,851.4	3,837.5	3,852.8	3,821.0	3,760.0	3,705.8	3,754.6	4,565.2	4,339.1	4,055.7
6	3,851.4	3,897.2	3,845.8	3,834.1	3,841.7	3,823.1	3,756.6	3,705.8	3,746.4	4,561.4	4,325.6	4,045.0
7	3,852.1	3,897.2	3,839.6	3,833.4	3,832.0	3,823.7	3,753.2	3,709.9	3,739.7	4,557.5	4,315.9	4,035.7
8	3,852.8	3,897.2	3,834.1	3,831.3	3,823.7	3,824.4	3,751.2	3,708.5	3,730.8	4,552.2	4,301.8	4,024.3
9	3,856.9	3,897.2	3,829.9	3,829.9	3,829.9	3,824.4	3,747.8	3,707.2	3,722.7	4,544.5	4,289.9	4,010.7
10	3,858.3	3,897.9	3,825.8	3,827.9	3,830.6	3,823.1	3,745.8	3,706.5	3,714.6	4,533.7	4,278.8	4,005.7
11	3,859.7	3,898.6	3,821.0	3,826.5	3,829.9	3,821.0	3,744.4	3,707.9	3,705.8	4,522.2	4,271.4	4,006.5
12	3,860.4	3,900.7	3,815.5	3,825.8	3,827.9	3,821.0	3,744.4	3,740.3	3,697.8	4,509.2	4,264.0	4,009.3
13	3,861.8	3,902.8	3,827.9	3,825.1	3,827.2	3,819.6	3,744.4	3,745.8	3,689.0	4,497.7	4,259.5	4,010.0
14	3,864.5	3,904.9	3,834.8	3,821.7	3,826.5	3,817.5	3,743.7	3,746.4	3,678.9	4,486.3	4,250.7	4,013.6
15	3,864.5	3,906.3	3,838.9	3,819.6	3,826.5	3,816.2	3,743.7	3,746.4	3,671.6	4,471.1	4,241.8	4,014.3
16	3,866.6	3,907.0	3,840.3	3,818.2	3,825.1	3,812.7	3,743.0	3,746.4	3,674.2	4,456.6	4,236.6	4,015.0
17	3,868.0	3,907.0	3,842.4	3,816.2	3,824.4	3,810.7	3,742.4	3,745.8	3,845.8	4,440.7	4,228.5	4,015.7
18	3,870.8	3,910.5	3,845.1	3,815.5	3,822.4	3,808.6	3,741.0	3,743.7	4,281.7	4,425.5	4,219.7	4,016.4
19	3,872.9	3,909.8	3,846.5	3,814.1	3,821.0	3,806.5	3,739.7	3,742.4	4,328.6	4,411.2	4,213.8	4,017.8
20	3,875.0	3,910.5	3,852.1	3,814.8	3,821.0	3,804.5	3,738.3	3,739.0	4,605.4	4,396.1	4,205.8	4,019.3
21	3,876.3	3,910.5	3,846.5	3,817.5	3,823.1	3,802.4	3,736.9	3,736.9	4,816.8	4,403.6	4,195.5	4,020.0
22	3,879.1	3,909.1	3,847.2	3,818.2	3,821.7	3,799.7	3,735.6	3,734.9	4,856.7	4,396.1	4,186.7	4,020.7
23	3,879.8	3,907.7	3,847.2	3,818.2	3,820.3	3,793.3	3,734.2	3,734.2	4,808.0	4,393.1	4,179.4	4,021.4
24	3,879.8	3,903.5	3,845.1	3,818.2	3,817.5	3,794.9	3,732.2	3,747.1	4,764.4	4,408.9	4,170.7	4,023.5
25	3,880.5	3,895.8	3,843.8	3,816.9	3,816.9	3,792.1	3,729.5	3,751.9	4,691.1	4,424.0	4,158.3	4,028.5
26	3,880.5	3,886.8	3,842.4	3,816.9	3,816.2	3,788.7	3,727.5	3,757.3	4,627.9	4,420.3	4,148.8	4,028.5
27	3,883.3	3,882.6	3,842.4	3,815.5	3,812.7	3,785.3	3,725.4	3,758.7	4,598.4	4,416.5	4,137.2	4,027.8
28	3,884.0	3,876.3	3,843.8	3,816.2	3,812.0	3,781.2	3,723.4	3,761.4	4,579.9	4,411.9	4,127.0	4,027.8
29	3,886.8		3,843.1	3,816.9	3,812.7	3,778.5	3,720.7	3,779.1	4,563.7	4,405.2	4,117.6	4,027.8
30	3,883.2		3,843.1	3,831.9	3,813.4	3,775.0	3,718.0	3,781.2	4,547.5	4,399.9	4,106.8	4,030.0
31	3,890.3		3,843.1		3,814.1		3,714.6	3,777.8		4,392.3		4,030.7

Month	1974: MOMENTARY MAXIMUM Elevation	Storage	Day	MOMENTARY MINIMUM Elevation	Storage	Day	Average Storage	Period June 1968-1974: Mean Monthly Storage Average	Maximum	Minimum
Jan.	1,122.72	3,890.3	31	1,122.11	3,847.9	1	3,867.5	2,320.4	3,876.1	722.6
Feb.	1,123.01	3,910.5	†18	1,122.52	3,876.3	28	3,899.4	2,311.2	3,899.4	787.7
Mar.	1,122.52	3,876.3	1	1,121.64	3,815.5	12	3,843.0	2,287.1	3,930.5	861.7
Apr.	1,122.60	3,881.9	30	1,121.62	3,814.1	19	3,826.4	2,309.7	3,926.6	962.8
May	1,122.60	3,881.9	1	1,121.59	3,812.0	28	3,829.5	2,293.8	3,829.5	1,038.6
June	1,121.77	3,824.4	† 8	1,121.05	3,775.0	30	3,807.8	1,939.7	3,807.8	3.0
July	1,121.05	3,775.0	1	1,120.16	3,714.6	31	3,742.2	1,947.5	3,742.2	83.0
Aug.	1,121.14	3,781.2	30	1,120.03	3,705.8	† 5	3,735.8	2,117.5	3,814.0	176.2
Sept.	1,135.66	4,859.9	22	1.119.52	3,671.6	15	4,117.2	2,319.2	4,117.2	355.7
Oct.	1,131.91	4,565.2	† 4	1,129.64	4,392.3	31	4,471.2	2,517.6	4,471.2	661.0
Nov.	1,129.64	4,392.3	1	1,125.77	4,106.8	30	4,241.4	2,532.6	4,241.4	702.9
Dec.	1,125.77	4,106.8	1	1,124.36	4,005.7	10	4,029.7	2,533.0	4,029.7	706.1
Yearly	1,135.66	4,859.9		1,119.52	3,671.6		3,950.8	2,285.7	3,950.8	1,047.6

† And other days * When necessary, the Commission may set temporary conservation levels

STORED WATER IN LARGE RESERVOIRS OF THE RIO GRANDE BASIN

International Falcon Reservoir

Falcon Dam is the lowermost of the major international storage dams authorized for construction on the Rio Grande by the Water Treaty of 1944 between the United States and Mexico and was the first dam constructed. It is located 84.5 river miles downstream from Laredo, Texas and Nuevo Laredo, Tamaulipas, 975.0 river miles downstream from the American Dam, and 273.8 river miles upstream from the Gulf of Mexico.

Maximum storage for period of record: 3,490,600 acre-feet on October 19, 1958 with an elevation of 308.11 feet above mean sea level, U. S. C. & G. S. datum.

Storage Capacities

(1971-1972 Survey)

Elevation	Description	At Indicated Elevation: Reservoir Capacity Acre-Feet	At Indicated Elevation: Reservoir Area Acres	Between Indicated Elevations: Storage Volume Acre-Feet	Between Indicated Elevations: Type of Storage
175.0	Original River Bed at Dam Axis	0	0		
				67	Silt and Dead
203.33	Lowest Outlet (Mexican Penstock)	67	89		
				2,667,521	Silt & Conservation
301.2	Top of Conservation Storage *	2,667,588	86,843		
				509,505	Ordinary Flood
306.7	Top of Spillway Gates	3,177,093	98,512		
				801,323	Super Flood
314.2	Maximum Water Surface	3,978,416	115,406		

Storage in Thousands of Acre-Feet at 24:00 Hours 1974 — Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2,771.5	2,603.0	2,358.0	2,425.2	2,267.6	2,024.5	1,879.7	1,751.4	1,482.8	2,277.6	2,520.4	2,775.1
2	2,771.5	2,592.0	2,356.4	2,423.6	2,259.9	2,011.7	1,872.2	1,742.3	1,490.3	2,287.6	2,526.3	2,782.2
3	2,771.5	2,580.9	2.354.9	2,422.0	2,258.4	1,996.8	1,867.4	1,733.2	1,494.9	2,291.5	2,539.6	2,791.2
4	2,771.5	2,568.2	2,356.4	2,421.2	2,258.4	1,981.9	1,866.0	1,724.1	1,516.4	2,292.3	2,548.0	2,802.9
5	2,770.6	2,555.6	2,358.8	2,416.4	2,259.1	1,967.9	1,863.3	1,713.1	1,532.9	2,293.0	2,552.2	2,815.5
6	2,769.7	2,545.5	2,358.8	2,411.5	2,258.4	1,955.2	1,861.2	1,706.7	1,540.0	2,293.8	2,560.6	2,827.3
7	2,767.9	2,533.8	2,358.8	2,406.7	2,260.7	1,946.1	1,860.5	1,709.9	1,546.5	2,293.8	2,567.4	2,839.1
8	2,766.2	2,522.1	2,358.8	2,401.9	2,259.1	1,937.1	1,859.2	1,709.9	1,552.5	2,294.6	2,571.6	2,850.9
9	2,764.4	2,508.8	2,358.0	2,395.5	2,262.2	1,928.0	1,855.8	1,702.2	1,555.5	2,294.6	2,579.2	2,861.9
10	2,762.6	2,495.6	2,358.8	2,387.5	2,269.9	1,928.0	1,853.0	1,693.3	1,557.9	2,293.8	2,587.7	2,872.8
11	2,759.9	2,483.2	2,358.0	2,379.5	2,272.2	1,931.5	1,849.6	1,681.8	1,560.3	2,297.7	2,595.4	2,884.8
12	2,755.5	2,472.5	2,358.8	2,371.5	2,272.2	1,931.5	1,848.3	1,665.4	1,562.1	2,303.9	2,603.9	2,895.8
13	2,751.0	2,463.5	2,366.0	2,363.6	2,268.3	1,931.5	1,846.9	1,648.4	1,566.9	2,311.7	2,614.1	2,902.3
14	2,746.6	2,455.3	2,380.3	2,355.7	2,263.7	1,931.5	1,845.6	1,631.6	1,572.9	2,322.6	2,624.4	2,905.1
15	2,744.8	2,445.5	2,389.9	2,346.2	2,255.3	1,934.3	1,842.9	1,617.4	1,577.7	2,339.1	2,629.6	2,906.9
16	2,740.4	2,436.6	2,401.1	2,336.7	2,246.9	1,937.1	1,838.1	1,604.5	1,582.0	2,347.0	2,641.6	2,904.1
17	2,735.1	2,428.5	2,409.1	2,327.3	2,234.7	1,937.8	1,834.1	1,590.5	1,588.0	2,356.4	2,650.3	2,901.4
18	2,728.0	2,421.2	2,416.4	2,319.5	2,222.6	1,937.8	1,830.7	1,576.5	1,594.7	2,369.9	2,659.8	2,900.4
19	2,718.3	2,413.1	2,420.4	2,319.5	2,211.3	1,937.1	1,828.0	1,565.1	1,601.4	2,383.5	2,670.2	2,898.6
20	2,707.8	2,406.7	2,424.4	2,319.5	2,198.5	1,936.4	1,825.9	1,551.9	1,616.8	2,397.1	2,679.8	2,895.8
21	2,699.9	2,399.5	2,423.6	2,320.3	2,185.8	1,933.6	1,823.9	1,541.2	1,651.5	2,408.3	2,688.5	2,893.1
22	2,692.0	2,393.9	2,422.8	2,321.8	2,171.6	1,930.1	1,819.2	1,531.7	1,692.6	2,419.6	2,697.2	2,890.3
23	2,684.1	2,387.5	2,422.8	2,320.3	2,155.3	1,926.6	1,813.8	1,522.9	1,734.5	2,430.1	2,707.8	2,887.5
24	2,674.5	2,380.3	2,422.8	2,316.4	2,137.6	1,922.5	1,805.8	1,513.5	1,789.7	2,443.1	2,718.3	2,886.6
25	2,665.0	2,373.9	2,422.0	2,310.1	2,120.0	1,918.3	1,801.1	1,504.2	1,851.0	2,459.4	2,727.1	2,885.7
26	2,656.3	2,368.3	2,422.8	2,303.9	2,102.5	1,914.1	1,797.1	1,494.3	1,929.4	2,471.7	2,736.0	2,883.9
27	2,649.4	2,362.0	2,423.6	2,296.1	2,087.9	1,908.6	1,793.1	1,486.2	2,018.1	2,477.4	2,744.8	2,882.9
28	2,640.6	2,358.8	2,426.9	2,288.4	2,072.7	1,903.8	1,788.4	1,479.3	2,109.8	2,489.8	2,753.7	2,882.0
29	2,631.3		2,426.9	2,279.9	2,060.4	1,896.2	1,779.8	1,474.1	2,191.0	2,496.4	2,760.8	2,882.9
30	2,622.7		2,426.0	2,273.7	2,049.6	1,888.6	1,770.5	1,473.0	2,253.8	2,504.7	2,767.9	2,882.9
31	2,613.3		2,426.0		2,037.4		1,760.6	1,476.4		2,517.1		2,882.0

Month	1974							Period 1954-1974		
	MOMENTARY MAXIMUM			MOMENTARY MINIMUM			Average Storage	Mean Monthly Storage		
	Elevation	Storage	Day	Elevation	Storage	Day		Average	Maximum	Minimum
Jan.	302.38	2,771.5	† 1	300.57	2,613.3	31	2,719.5	2,077.5	3,070.8	218.7
Feb.	300.57	2,613.3	1	297.48	2,358.8	28	2,462.7	1,961.1	2,962.5	156.2
Mar.	298.33	2,426.9	†28	297.43	2,354.9	3	2,392.5	1,928.0	2,959.5	226.7
Apr.	298.32	2,426.0	1	296.39	2,273.7	30	2,352.7	1,819.9	2,954.6	325.6
May	296.39	2,273.7	1	293.20	2,037.4	31	2,201.3	1,704.0	2,869.9	490.1
June	293.20	2,037.4	1	291.08	1,888.6	30	1,938.9	1,600.6	2,673.3	273.7
July	291.08	1,888.6	1	289.18	1,760.6	31	1,831.7	1,711.9	2,685.9	209.9
Aug.	289.18	1,760.6	1	284.50	1,473.0	30	1,607.0	1,703.8	2,707.3	208.0
Sept.	296.13	2,253.8	30	284.56	1,476.4	1	1,677.7	1,832.2	2,871.1	256.2
Oct.	299.43	2,517.1	31	296.13	2,253.8	1	2,359.6	2,127.8	3,250.2	308.3
Nov.	302.34	2,767.9	30	299.43	2,517.1	1	2,640.8	2,189.7	3,124.5	390.9
Dec.	303.87	2,906.9	15	302.34	2,767.9	1	2,869.5	2,216.5	3,129.7	343.4
Yearly	303.87	2,906.9		284.50	1,473.0		2,254.7	1,906.1	2,764.2	544.3

† And other days * When necessary the Commission may set temporary conservation levels

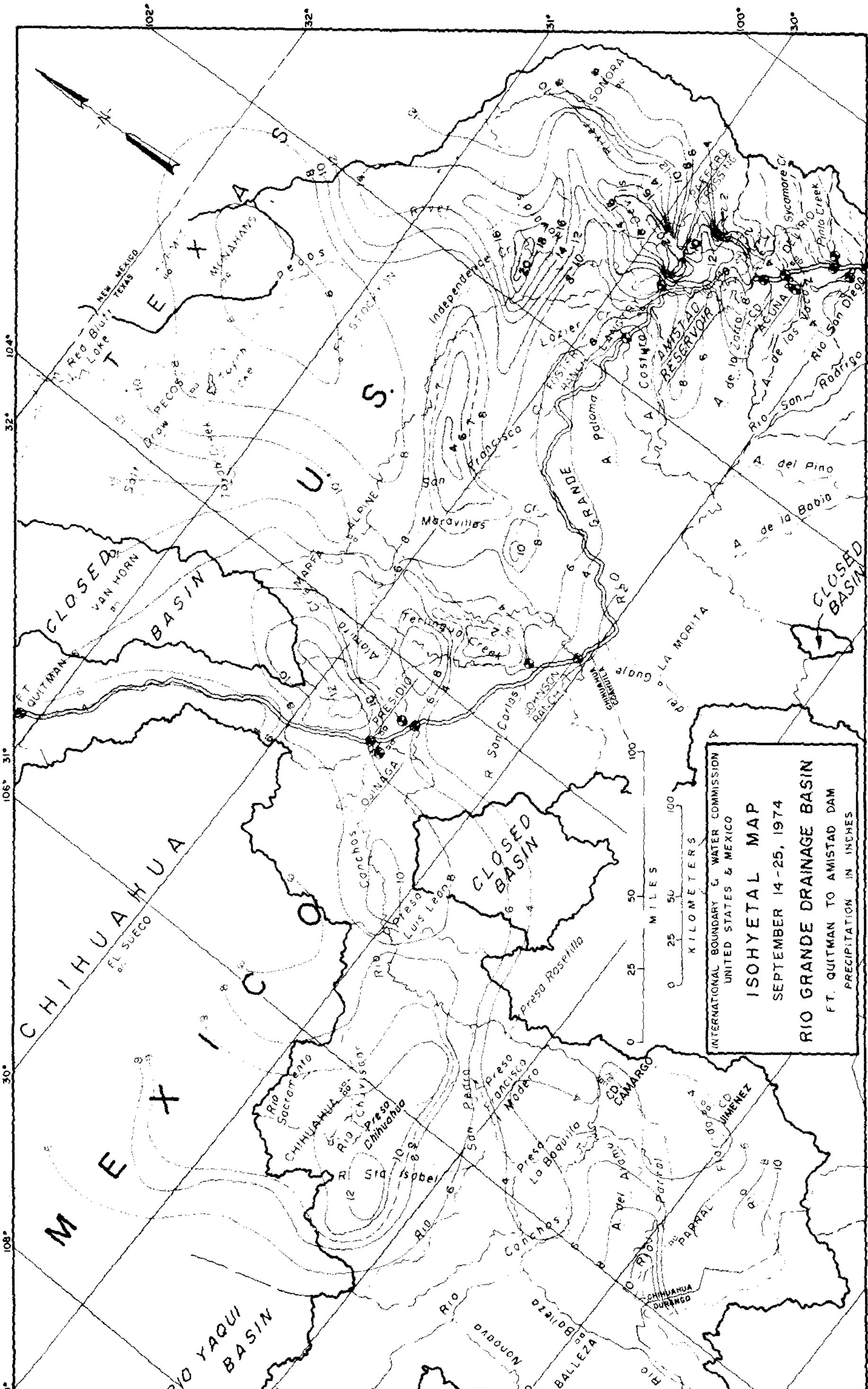
FLOODS OF 1974

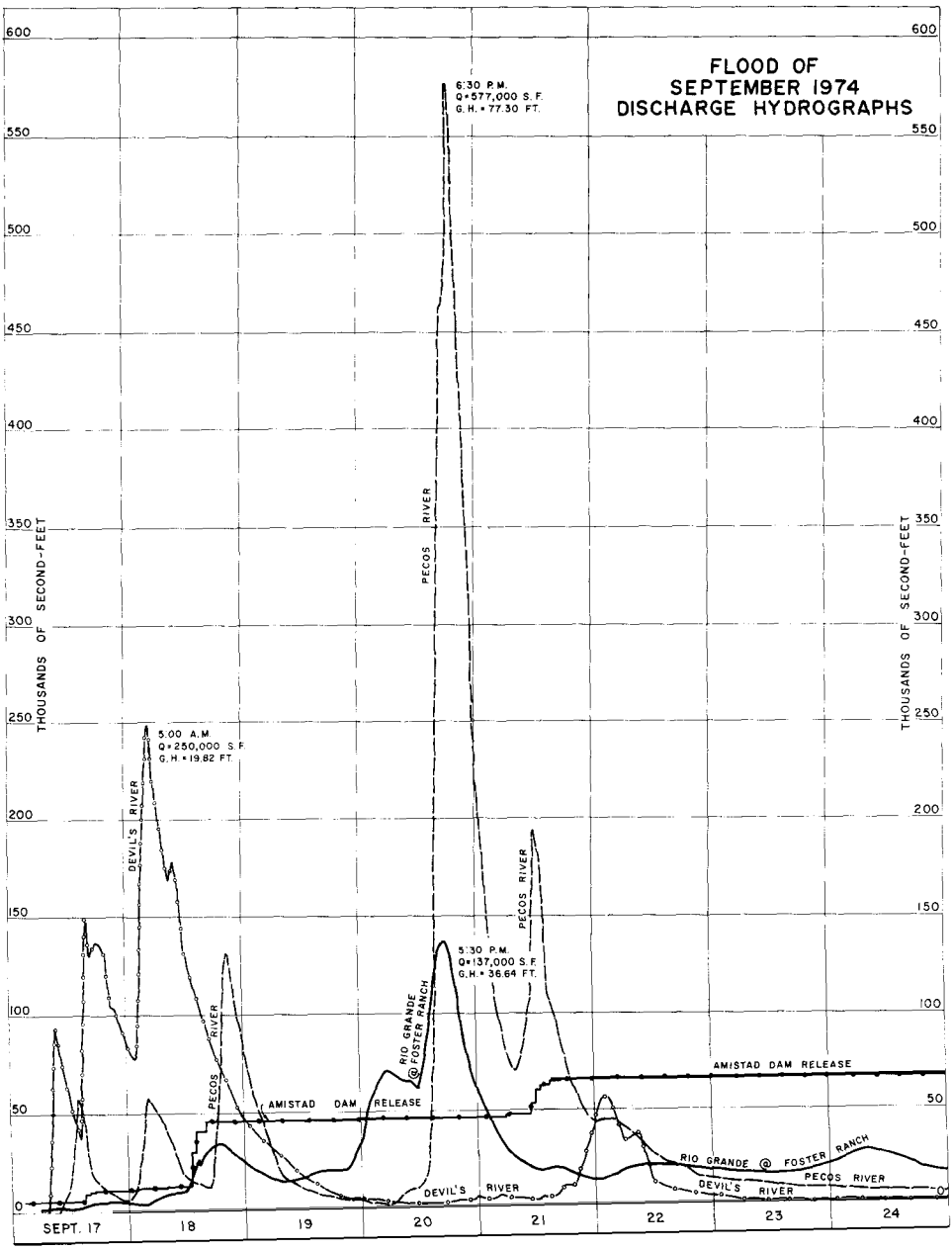
Heavy rains on large portions of the watershed above Amistad Dam during the twelve-day period, September 14-25, generated runoff into Amistad Reservoir at a rate sufficiently high to require the initiation of flood releases on September 17. This is the first time since Amistad Reservoir operations began in July 1968 that flood releases had to be made while flood flows into the reservoir were still in progress. Flood releases from this reservoir continued for most of the remainder of the year.

Rainfall during the period averaged about 8 inches on the entire watershed from Fort Quitman to Amistad Dam, including the Rio Conchos and Devils River watersheds and the Pecos River watershed below Red Bluff Dam. The rains were heavier on the Pecos River watershed below Red Bluff Dam, where the average exceeded 10.5 inches, and lighter on the Rio Conchos watershed, where the average was near 7 inches. On the Devils River watershed, rainfall averaged about 8.5 inches. Extremely heavy rains occurred on localized areas of both the Pecos River and Devils River watersheds. Continental Ranch on the Pecos River watershed recorded a total of 23.00 inches of rain in nine days of the storm period. On the Devils River watershed, a total of 21.58 inches of rain fell at the Walker Ranch during a six-day period, while at Bakers Crossing, nearly 12 inches of rain fell in a single day. On the Rio Conchos watershed, a maximum of 13.68 inches of rain during the period was recorded at San Lorenzo, Chihuahua.

The Pecos River reached a crest of 577,000 second-feet and a gage height of 75.30 feet September 20 at the gaging station near Langtry. This is the second largest flood recorded for the Pecos River since records for this stream began in March 1898 and possibly for many more years prior to this date. Volume during the eight-day period, September 17-24, amounted to 760,500 acre-feet. The Devils River at the Pafford Crossing gaging station crested on September 18 with a discharge of 250,000 second-feet and a gage height of 19.82 feet. Volume for the eight-day period was 484,200 acre-feet. At the Foster Ranch gaging station, the Rio Grande recorded a peak flow of 137,000 second-feet and a gage height of 36.64 feet on September 20. Volume during the same eight-day period was 408,900 acre-feet. The total net inflow into Amistad Reservoir during the eight-day period, September 17-24, was 1,788,600 acre-feet, of which 698,400 acre-feet of flood water was released from the reservoir. Over three million acre-feet of water flowed into Amistad Reservoir during the period September 17 to December 31, 2,648,700 acre-feet of which were released from the reservoir. The maximum rate of release was 62,200 second-feet on September 21. The Rio Conchos at Ojinaga reached a crest of 27,600 second-feet and a gage height of 18.60 feet on September 22. The Rio Grande below Rio Conchos had a peak discharge of 30,700 second-feet and a gage height of 10.58 feet on September 23. A much higher crest, near the magnitude of the 1958 flood, would have occurred later in the month had Luis L. Leon Dam been unable to impound large volumes of flood flows. A maximum mean daily inflow to the reservoir of 66,500 second-feet was recorded on September 26.

Flood waters caused damage to homes, mobile homes, and other improvements located in the unprotected flood plain along the left margin of the river in the reach Amistad Dam to the Del Rio bridge. Damage to property in other areas downstream was minor.


INTERNATIONAL BOUNDARY & WATER COMMISSION
UNITED STATES & MEXICO
ISOHYETAL MAP
SEPTEMBER 14-25, 1974
RIO GRANDE DRAINAGE BASIN
FT. QUITMAN TO AMISTAD DAM
PRECIPITATION IN INCHES
MILES
KILOMETERS
TEXAS
U. S.
MEXICO
CHIHUAHUA
CLOSED BASIN
RIO YAQUI BASIN
AMISTAD RESERVOIR
PRESIDIO
OJINAGA
JOHNSON RANCH
RIO GRANDE
PECOS
SONORA
VAN HORN
FT. QUITMAN
CD. CAMARGO
CD. JIMENEZ
ACUNA


FLOOD OF
SEPTEMBER 1974
DISCHARGE HYDROGRAPHS
THOUSANDS OF SECOND-FEET
600
550
500
450
400
350
300
250
200
150
100
50
0
6:30 P.M.
Q=577,000 S.F.
G.H.=77.30 FT.
PECOS RIVER
5:00 A.M.
Q=250,000 S.F.
G.H.=19.82 FT.
DEVIL'S RIVER
PECOS RIVER
5:30 P.M.
Q=137,000 S.F.
G.H.=36.64 FT.
RIO GRANDE @ FOSTER RANCH
PECOS RIVER
AMISTAD DAM RELEASE
AMISTAD DAM RELEASE
RIO GRANDE @ FOSTER RANCH
PECOS RIVER
DEVIL'S RIVER
DEVIL'S RIVER
SEPT. 17
18
19
20
21
22
23
24

RAINFALL ON AND ADJACENT TO THE RIO GRANDE WATERSHED FOR THE PERIOD SEPTEMBER 14-25, 1974
IN INCHES

IN THE UNITED STATES

NAME OF STATION	RAINFALL IN INCHES SEPTEMBER 1974												
	14	15	16	17	18	19	20	21	22	23	24	25	14-25
WATERSHED: FORT QUITMAN TO ABOVE RIO CONCHOS													
Adobes Ranch	#	0.31	1.37	0.60		0.13	2.00	2.32	#	2.90			9.63
Candelaria	.22	.21	.62	.03	.08	.03	.28	1.01	.46	.55	.92		4.41
Fort Quitman		.12	.02	.09	.07	T		.14	1.63	2.05			4.12
La Nutria Station													6.50
Shannon, Bill Ranch													9.00
Sierra Blanca	.21	.07		1.05	.53	2.38		.56	.32	2.50	1.95		9.57
Van Horn *		.35	.61	.47	.17	.39	1.32	1.28	.68	1.36	1.96		8.59
WATERSHED: ABOVE RIO CONCHOS TO JOHNSON RANCH													
Bloys Camp	.03	.42	.75	2.04	.05	.50	.61	1.18	.36	.52	1.49	.20	8.15
Castolon		.01	.26	1.46	.47	.64	.11	.09	.12	.17	.52	.03	3.88
Fletcher, H. T. Ranch		#	#	#	#	#	#	#	6.80	1.70	4.00		12.50
Greenwood, H. M. (Cienega Ranch)		.20	.90	3.00							.40		4.50
Hammond, Earl Ranch			.43	1.56	3.00	.45	.23	3.20	.30	.90	.65		10.72
Johnson Ranch													2.30
Lajitas			.80	1.30	.19	.15	.40		.72	.15			3.71
Loma Vista Ranch			.30	.90	.85	.50	2.00				1.70		6.25
Marfa #2	T	.20	1.12	1.49	.09	.65	1.05	1.84	.15	.84	.82		8.25
Maverick Ranger Station			.25			2.30							2.55
Mitchell, Kerr Ranch		.20	1.00	1.93	.15	.30	1.10	1.65	.20	1.85	.30		8.68
Nitaville Mercantile			.55			2.00							2.55
02 Ranch	1.10	.40	1.50				3.10			1.00	1.10		8.20
Presidio		.20	.95	.63	.27	.07	1.91	1.85	.40	.65	.54		7.47
Quebec Ranch *		#	1.20	#	#	2.50	#	#	#	#	3.00	.70	7.40
Redford													6.20
Shafter		.30	1.10	.50	.30		1.80	1.80	2.20	2.00	3.80		13.80
Terlingua Creek Station													3.45
Villa de la Mina			.35	1.30		.43		.39		.17	.32		2.96
WATERSHED: JOHNSON RANCH TO LANGTRY													
Arledge, W. A. Ranch	#	#	#	#	3.55	#	#	#	3.55	#	1.00		8.10
Boquillas Ranger Station				1.06	.65	1.17	.23	T			.33		3.44
Black Gap Game Refuge			1.75	.52	3.47	1.27	1.43		1.59	.98			11.01
Bricker Ranch				1.85	1.90		1.75	.51	.25	.92	.27		7.45
Buttrill Ranch			1.50	1.80			2.02			1.55	.45		7.32
Chisos Basin				1.49	1.62	.41	.88	.34	.05	.41	.48	.02	5.70
Dove Mountain Ranch			.50	1.05	2.00	.40	1.10			2.00			7.05
Dryden			3.55	.30	.90	2.22	1.47	1.40	.52	#	.90		11.26
Foster, Ross Ranch			T		1.30	.08	.70	#	.40	.60	.25		3.33
Hardgrave, E. W. Ranch				1.48	1.56	#	5.04	.70	1.01	.90	.25		10.94
James, Lewis Ranch				.57	1.73		3.60	.35	.75	.90	.17		8.07
Kokernot Ranch - Headquarters			1.97			1.24						2.00	5.21
Langtry			.05	1.55	2.10	.10	T	.68	.41	.27	.37	.08	5.61
Marathon	T	.12	1.20	1.52	.01	.20	1.67	1.52	.60	.41	1.34	.39	8.98
McGonagill Ranch - East Mill			.50	1.50	1.90	#	1.60	#	#	3.00			8.50
McGonagill Ranch - Headquarters			1.00	1.50	1.90	#	1.60	#	#	3.70			9.70
McLean Ranch ‡		.30		2.20	.50	1.90	1.20	2.20	.40	1.10	.40		10.20
Mouth of Maravillas Creek			1.80	.52	#	#	#	#	3.80				6.12
Panther Junction				1.07	2.35	1.21	.12	.46	.38	.25	.56	.12	6.52
Persimmon Gap Ranger Station						1.48	.35	.55	1.20	.42	.47	.66	5.13
Potter, A. M. Ranch			1.65	.70					1.80		1.10		5.25
Sheep Pasture			1.75	1.93		1.90				2.50			8.08
Stillwell Crossing				1.20	.88		2.75		1.90				6.73
Stumberg, Steve Ranch			.60	.39		.10	.14	.52	.10	.92	.20		2.97
Woodward, J. F. Ranch		.29	1.85	.43	.44	.34	1.32	1.67		2.00	.41		8.75
Wynne, Harold Ranch Hdq.			2.60		.40	.20	.90			.90	.20		5.20
Yarbrough Ranch		.35	1.26	1.07			1.70	1.38	1.00	1.66	.97		9.39
WATERSHED: LANGTRY TO AMISTAD DAM													
Brotherton Ranch				3.27	2.17		1.22	.55		.80	.22		8.23
Buoy No. 11				#	#	#	#	#	#	#	#	6.40	6.40
Comstock			.57	5.81	2.95	.04	1.11	1.82		.21	.10		12.61
Cow Creek near Comstock				#	#	7.60	#	#	#	#	.45		8.05
Feely				#	#	#	#	#	#	#	#	7.20	7.20
Goodenough Spring Raft				#	#	#	#	#	#	#	#	5.50	5.50
Kelly, P. W. Ranch			1.60	.42	2.50	4.23	1.00	3.82	.11	.10	.45		14.23
King, Martin Ranch			1.68	3.42	1.05		.73	.71	.13	.30	.13		8.15

* Adjacent to watershed # Rainfall cumulated with following day ‡ Formerly Ray Willoughby Ranch
T Trace

RAINFALL ON AND ADJACENT TO THE RIO GRANDE WATERSHED FOR THE PERIOD SEPTEMBER 14-25, 1974
IN INCHES

IN THE UNITED STATES

NAME OF STATION	RAINFALL IN INCHES												
	SEPTEMBER 1974												
	14	15	16	17	18	19	20	21	22	23	24	25	14-25
WATERSHED: PECOS RIVER BELOW RED BLUFF RESERVOIR													
Alpine		0.28	0.58	1.59	0.70	0.38	1.86	1.65	1.03	1.27	1.73	0.03	11.10
Bakersfield				.10	.28	1.55	3.57	.51	1.11	.85	.91	.55	9.43
Balmorhea			.76	.64	1.56	.41	1.54		3.25	1.70	2.00	.25	12.11
Big Lake #2			.09	1.56	3.30	2.45	2.23	.93	.17	.38	.83	.57	12.51
Continental Ranch			.65	8.95	5.70		1.10	5.50		.80	.30		23.00
Crane		.23	.90	.18	.54	1.57	.80	.07	.41	.77	1.10	.01	6.58
Dead Mans Canyon near Comstock			#	#	9.15			#	#	#	2.93		12.08
Fort Davis	.01	.26	.53	1.00	.24	.60	.59	.62	.15	1.55	.99		6.54
Fort Stockton			.50	.35	.15	1.39	1.40	.85	.70	.46	1.06	.43	7.29
Girvin		.40	.80	.50	.60	5.65	.69	.72	.40	.86	.66		11.28
Grandfalls 3 SSE			1.00	.04	.13	.32	1.10	.15	.33	.43	1.02	.42	4.94
Imperial		1.25				.65	1.25			1.10	1.15		5.40
Kent 5 E		1.56	.61	2.50	.34	.40	1.00	1.36	.63	2.16	.07		10.63
Latham Ranch			1.00	2.20	3.50		1.00	1.00		1.00			9.70
Mertzon *				1.17	1.68	.19	1.32	1.19	.08	.81	.64		7.08
Monahans *			.14		.02	.40	2.00	.50	.43	1.10	1.76	.50	6.85
Mount Locke		.50	1.10		.95	.45	1.93	.10	.10		2.03		7.16
Odessa *		.48	.03	1.00	.39	1.31	1.50	.02	.05	1.24	1.30	T	7.32
Pandale			2.05	2.25			3.90	4.02	.86	T	.80		13.88
Pecos		.10	.56	.02	.27	.71	.60	.03	2.29	.67	1.71	.72	7.68
Pecos River near Lantry Station			.20	4.70	#	#	#	#	2.05	.41	.20		7.56
Penwell *			.85	.03	.16	.34	.80	.15		.75	1.75	.73	5.56
Prosser Ranch #1			#	#	#	#	#	17.80		#	.40		18.20
Prosser Ranch #3			#	#	#	#	#	17.31		#	.38		17.69
Ranchita (Continental)			1.57	3.40	2.60		1.10	1.60		.60			10.87
Rankin		.10	.25	.25	1.25	8.02	1.20	.40	.15	1.10	2.50	.10	15.32
Sheffield			.21	#	#	#	#	7.30	.90	1.20	.55		10.16
Terrell Plant				1.51	2.28	2.75	4.70	6.54	2.40	.25	.68		21.11
Toyah		1.01	.08	.45	2.15	.35	.25	5.24	.70	1.00	.55		11.78
Wink FAA *		1.29	.13	T	1.21	.55	.12	.77	1.38	1.82	1.09	.02	8.38
WATERSHED: DEVILS RIVER													
Baker, A. A. Ranch		0.07	0.53	7.01	4.00		0.27	.04					11.92
Bakers Crossing		1.35		3.85	11.95	.70		1.73	.36	.14	.50	.08	20.66
Big Satan Creek Station		1.50		.30	.38		3.82	.22	.03	.52	.30	.38	7.50
Brite, J. G. Ranch			.04	4.78	.02	.01	.91	1.59	.05	.30	.02		8.62
Carta Valley			.11	.73	.01	T	1.47	.32	.10	.21	.16	.02	3.13
Devils Lake			.69	.26	5.64		.50	1.10	.35				8.54
Eldorado 11 NW				1.80	3.10	.15	.65	.90	.55	.50	.10	.30	8.05
Eldorado 19 SW			.60	3.34	2.62		.59	.61	.13	.45	.45	.12	8.91
Erekson Ranch							1.53	.85	.35	.20	.22		3.15
Evans Creek near Comstock			#	#	#	#	#	#	#	#	7.45		7.45
Fawcett, H. K. Ranch		1.60		.32	.40		4.08	.24	.03	.56	.32	.40	8.00
Gillis Ranch				.87	6.45		1.10	2.24	.26	.31			11.23
Goldwire Ranch			T	1.00		#	#	#	#	#	#	5.00	6.00
Harlow Ranch				1.00	#	#	#	#	#	#	#	12.20	13.20
Hinds "AT" Ranch				1.72	9.95		2.00	1.86					15.53
Hutto Ranch No. 1			.18	.03		.02	.14	.08	.10	.37	.03		.95
Hutto Ranch No. 2			.54	.13	1.92		.11	.13	.18	.41	.10		3.52
Juno	.59		.23	4.51	11.16	.45		1.20	.58	.20	.51	.03	19.46
Lock Store			2.03	4.18	2.40	.47	.72	.86	1.00	.59	.66	2.91	15.82
Long Ranch				.40	1.60	2.12		.26	.23	.18	.37	.09	5.25
Lowry, Cliff Ranch			.54	.06	.05		.87	.21	.15	.26	.15		2.29
Lowry Ranch No. 2			.11	.55	2.08		.21	.05	.10	.19	.15	.10	3.54
Middle Fork San Pedro			.54	#	#	#	#	#	#	#	#	1.26	1.80
Miers, H. T. Ranch Headquarters			T	.55	2.00	#	#	#	#	#	#	1.70	4.25
Miers, H. T. Ranch No. 2			.67	.15	.18		1.70	.10	.03	.22	.15	.15	3.35
North Fork San Pedro			.52	#	#	#	#	#	#	#	1.03		1.55
Ozona			T	2.50	3.00	.50	1.17	2.00	.72	.22	.90	.22	11.23
Ozona 8 WSW			1.80	1.80	4.70	.50	7.30	.70	.30	.90	.30		18.30
Pafford Crossing			T	1.00	9.30	#	#	#	#	#	#	2.00	12.30
Prosser Ranch No. 2			#	#	#	#	#	17.98	#	#	.40		18.38
Rocksprings *			.32	.12			.47	1.75			.19		2.85
Rough Canyon near Del Rio				#	#	#	#	#	#	#	#	4.87	4.87
Sawyer, W. E. Ranch			.45	3.30	1.75		.44	.62	.44	.60			7.60
Sellers Ranch			#	#	#	#	#	#	#	#	8.90		8.90
Sonora			.12	3.60	.70		.53	.59		.32	.17	.10	6.13
Stewart Ranch			.58	.28	.45		.13	.09	.06				1.59
Vinegarone				5.50	#	#	#	#	#	#	#	2.20	7.70
Walker Ranch			#	#	#	#	#	21.56	#	#	.48		22.06
Whitehead Bros. Ranch				#	#	#	#	#	#	#	#	10.20	10.20
Whitehead, Tuffy Ranch			.62	.35	4.66		.95	1.53	.18	.22	.13		8.64

* Adjacent to watershed # Rainfall cumulated with following day T Trace

RAINFALL ON AND ADJACENT TO THE RIO GRANDE WATERSHED FOR THE PERIOD SEPTEMBER 14-25, 1974
IN INCHES

IN THE UNITED STATES

NAME OF STATION	RAINFALL IN INCHES SEPTEMBER 1974												
	14	15	16	17	18	19	20	21	22	23	24	25	14-25
WATERSHED: AMISTAD DAM TO EAGLE PASS													
Amistad Dam			T	0.88	4.07	T	T	0.97	0.71	0.10	0.37	0.01	7.11
Coal Mine			.15					.50		.32	.03		1.00
Eagle Pass			.01				.23	T	.01	T	.46	.02	.73
Gillis Headquarters Ranch				.66			.72		#	#	.63		2.01
Laughlin Air Force Base			.22	.10	.01			.02	.14	.08	.34		.91
Lewis, Billie C., Jr. Ranch	.50						.80					.42	1.72
Maverick County Canal Headgate					.80					.40	.20		1.40
Maverick Power Plant				.18				.06	.02	.48			.74
Normandy					.08				.99	.04	.47		1.58

IN MEXICO

WATERSHED: FORT QUITMAN TO AMISTAD DAM													
Amistad Reservoir nr. Tlakc, Coah.				.92	4.44			1.11	0.74	0.09	0.37	0.10	7.77
Banderas, Chihuahua		.24					.75		.32	.91	1.10		3.32
El Mulato, Chihuahua	.08	.12	.24	1.57		.16	.47	.08	.24	.16	.59		3.71
Hacienda San Miguel, Coahuila		1.73	1.73	1.73									5.19
Mina La Borrada, Coahuila				1.58	1.18	.59	.12	.08	.16	.12	.08		3.91
Rancho La Chiparrosa, Coahuila			#	#	#	#	#	#	#	#	#	10.25	10.25
San Fernando, Coahuila			1.18	1.58	.39	1.58			2.36	.87	.32		8.28
Santa Elena, Chihuahua			.32	1.73	1.14	.08	.08			.79	.08	.08	4.30
Santa Rosa, Coahuila			#	#	#	#	#	8.87					8.87
WATERSHED: RIO CONCHOS													
Abraham Gonzalez, Chihuahua	0.51	0.67		0.20	0.43	0.28		0.32	0.28	0.67	2.13	0.12	5.61
Avalos, Chihuahua	.79	.59	.63	1.30	.35	.24	.95	.75	.71	1.10	2.28	.04	9.73
Bufalo, Chihuahua	.55	.39	1.22	.51	.08	.16				.39			3.30
Camargo, Chihuahua	.32	.43	1.50	1.58	.28	.04		.12		.04	.04		4.35
Chihuahua, Chihuahua	.71	.87	.35	.35	.35	.12	.16	1.34	1.22	1.97	2.24	.04	9.72
Coyame, Chihuahua	.12	.32	.63	.51	.12	.24	1.46	1.97	.59	.71	1.14	.08	7.89
Delicias, Chihuahua	.08	.20	1.02	.59	.12			1.02	.04	.39	.71		4.17
El Oro, Chihuahua		.94	1.65	1.50	3.31	.20	.43	1.26	1.02	1.10	.20		11.61
Jimenez, Chihuahua	.79	.43	.51	1.14	.12	.63	.35			.12			4.09
Km. 99, Chihuahua	.32	.47	.63	.71	.16			.47			.20	.79	3.75
Km. 135, Chihuahua	.39	.24	1.22	.47	.71		1.50	4.37	.20	.90	1.58		11.58
La Boquilla, Chihuahua	.79	.87	1.81	.63	.28	.04	.35			.39	.08		5.24
La Junta, Chihuahua *	.04	.90	.04	.43	.47			.20	.87	1.38	.04		4.37
La Prieta, Chihuahua	.16	.99	.16	1.10	.12	.20	.32	1.26	.32	.39	.20		5.22
La Trasquila, Chihuahua *	.39	3.43	.04	.47	.12	.04		.20	.79	1.81	1.18		8.47
Las Burras, Chihuahua	.20	.20	1.65	.35	.39	.04	1.30	2.76	1.10	.43	1.22		9.64
Las Virgenes, Chihuahua	.71	.28	1.58	.71	.20		.08	2.76	.04	.32	.83		7.51
Maclovio Herrera (Falomir), Chih.	.35	1.58	2.13	.55	1.10	.20	.39	2.67	.71	.79	1.10		11.57
Ojinaga, Chihuahua		.20	.83	.71		.24	1.50	1.42	.51	.35	.75	.08	6.59
Ojo Caliente, Chihuahua	.43	.51	1.18	.59	.55	.04		.12	.04	.08	.08		3.62
Parrita, Chihuahua *	1.73	.67	.20	.16	.20	.39	.28	1.10	2.05	.67	1.69		9.14
Presa Chihuahua, Chihuahua	1.26	.98	.47	.24	.28	.16	.12	1.06	1.42	2.36	2.56	.08	10.99
Presa El Rejon, Chihuahua	.98	.79	.43	.20	.87	.20	.16	.95	1.30	1.97	2.01	.43	10.29
Presa El Tintero, Chihuahua *	.35	.63		.47	.83				.87	1.81	1.10	.16	6.22
Presa Luis L. Leon, Chihuahua	.32	.24	1.62	.67	.12	.43	.91	.59	1.50	.63	.55	.20	7.78
Presa Tarahumara, Chihuahua	.04	.16	.75	.67		.24	1.46	1.93	.59	.43	.79	.08	7.14
Rancho Guadalupe, Chihuahua	.20	1.13	.12	.35	.16		1.06	.47	.28	.24	1.18		5.19
Rosetilla, Chihuahua	.08	.20	.47	.59	.28			1.02	.08	.24	.47		3.43
San Francisco de Borja, Chih.	.87	.79	.51	.47	1.46	.08		2.05	.24	.98	1.77		9.22
San Lorenzo, Chihuahua	2.76	.71	1.69	.55	1.18	1.50		1.62	.71	.79	2.17		13.68
Santa Barbara, Chihuahua	.24	.28	.43	.32	.20	.47	.24	1.22	.71	.79	.20		5.10
Torreoncillos, Chihuahua	.35	.08	.08	.04		.32	2.36	1.62		.59	.24		5.68
Valle Allende, Chihuahua	.51	1.06	1.38	.32	.20	.35	.24	.08		.32	.04		4.50
Valle de Zaragoza, Chihuahua	.79	.35	.59	1.10	.39			.12		.32	.24		3.90
Villa Coronado, Chihuahua	.79	.32	.28	.35	.16	1.30	.04			.08			3.32
Villalba, Chihuahua	.43	.35	.87	.90	.12			1.46	.08	.75	1.42	.04	6.42
Villa Lopez, Chihuahua	.95	.24	.67	.55	.16	.79				.24			3.60
WATERSHED: AMISTAD DAM TO EAGLE PASS													
Cd. Acuna, Coahuila					3.27			0.43	0.47	0.08	0.63		4.89
Chupadero, Coahuila					1.10				.20	2.64		.63	4.57
Jimenez, Coahuila								.28	.28		.47	.08	1.11
Palestina, Coahuila					.75			.16	1.10	.04	.79		2.84
Piedras Negras, Coahuila								.03	.08		.55		.71
Presa Cabeceras, Coahuila			.12		.20	.08	.12	.32	2.29	.12	.71	.12	4.08
Presa Centenario, Coahuila					3.55			.24	.79	.08	.63		5.29
Presa San Miguel, Coahuila					.16			.08	3.86	.08	.87		5.05

* Adjacent to watershed # Rainfall cumulated with following day T Trace

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

SUPPLEMENTARY LIST

Information pertaining to precipitation stations not listed in a tabulation that normally appears in this publication under this title, pages 144 to 150, is given below. All United States stations on the list are in Texas, while those in Mexico are located in the State of Chihuahua, as shown.

IN THE UNITED STATES

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	WATERSHED SUBDIVISION	OBSERVER
Alpine	R	30° 21'	103° 40'	4,480	Pecos River below Red Bluff Res.	Wayne Hale
Bakersfield	S	30° 53'	102° 18'	2,530	Pecos River below Red Bluff Res.	Clyde Graves
Balmorhea	S	30° 59'	103° 45'	3,220	Pecos River below Red Bluff Res.	Soil Conservation Serv.
Big Lake #2	S	31° 12'	101° 28'	2,690	Pecos River below Red Bluff Res.	Dwain Carr
Boquillas Ranger Station	S	29° 11'	102° 58'	1,880	Johnson Ranch - Langtry	Big Bend National Park Service
Candelaria	S	30° 09'	104° 41'	2,875	Fort Quitman - Above Rio Conchos	Miss Frances E. Howard
Carta Valley	R	29° 48'	100° 40'	1,898	Devils River	Audrey W. Varga
Chisos Basin	S	29° 16'	103° 18'	5,300	Johnson Ranch - Langtry	U. S. National Park Service
Crane	R	31° 23'	102° 20'	2,630	Pecos River below Red Bluff Res.	J. C. Newland
Eldorado 11 NW	S	30° 58'	100° 42'	2,490	Devils River	Jack Wade
Eldorado 19 SW	S	30° 43'	100° 52'	2,360	Devils River	H. C. Walker
Fort Davis	S	30° 36'	103° 53'	4,800	Pecos River below Red Bluff Res.	Barry Scobee
Fort Stockton	S	30° 52'	102° 54'	3,000	Pecos River below Red Bluff Res.	Fort Stockton Radio KFST
Girvin	S	31° 05'	102° 24'	2,302	Pecos River below Red Bluff Res.	Paul J. Zeitler
Grandfalls 3 SSE	S	31° 18'	102° 50'	2,440	Pecos River below Red Bluff Res.	Mrs. Charles W. Potts
Imperial	S	31° 16'	102° 42'	2,360	Pecos River below Red Bluff Res.	Mrs. Louella M. Johns
Juno	S	30° 09'	101° 07'	1,800	Devils River	William M. Cross
Kent 5 E	S	31° 04'	104° 09'	4,180	Pecos River below Red Bluff Res.	Lloyd Topliss
Langtry	R	29° 48'	101° 34'	1,290	Johnson Ranch - Langtry	Jack R. Skiles
Marathon	S	30° 12'	103° 14'	4,040	Johnson Ranch - Langtry	J. W. T. Harrington
Marfa #2	R	30° 18'	104° 01'	4,710	Above Rio Conchos - Johnson Ranch	Harry W. Firstbrook
Mertzon *	S	31° 16'	100° 49'	2,170	Pecos River below Red Bluff Res.	G. D. Fuller
Monahans *	S	31° 35'	102° 45'	2,640	Pecos River below Red Bluff Res.	City of Monahans
Mount Locke	R	30° 40'	104° 00'	6,790	Pecos River below Red Bluff Res.	McDonald Observatory
Odessa *	S	31° 53'	102° 24'	2,910	Pecos River below Red Bluff Res.	City of Odessa
Ozona	S	30° 43'	101° 13'	2,430	Devils River	Johnie Hokit
Ozona 8 WSW	R	30° 41'	101° 20'	2,550	Devils River	K. W. Karr
Pandale	S	30° 11'	101° 34'	1,664	Pecos River below Red Bluff Res.	Henry Mills
Panther Junction	R	29° 19'	103° 13'	3,740	Johnson Ranch - Langtry	Big Bend National Park Service
Pecos	S	31° 25'	103° 30'	2,610	Pecos River below Red Bluff Res.	Leon V. McCracken
Penwell *	S	31° 44'	102° 35'	2,940	Pecos River below Red Bluff Res.	Shirley Been
Presidio	S	29° 34'	104° 23'	2,590	Above Rio Conchos - Johnson Ranch	F. Daly
Rankin	R	31° 14'	101° 57'	2,605	Pecos River below Red Bluff Res.	Fred W. Welling
Rocksprings *	S	30° 01'	100° 13'	2,400	Devils River	Mrs. Bessie Becker
Sheffield	R	30° 42'	101° 50'	2,170	Pecos River below Red Bluff Res.	Opal Evans
Sierra Blanca	R	31° 11'	105° 21'	4,590	Fort Quitman - Above Rio Conchos	Doyle L. Ziler
Sonora	S	30° 34'	100° 39'	2,140	Devils River	Pat Brown
Toyah	S	31° 18'	103° 48'	2,822	Pecos River below Red Bluff Res.	Joe C. Kahn
Van Horn *	S	31° 03'	104° 50'	4,030	Fort Quitman - Above Rio Conchos	Edward J. Smith
Wink FAA *	S	31° 47'	103° 12'	2,807	Pecos River below Red Bluff Res.	U. S. Federal Aviation Agency

IN MEXICO

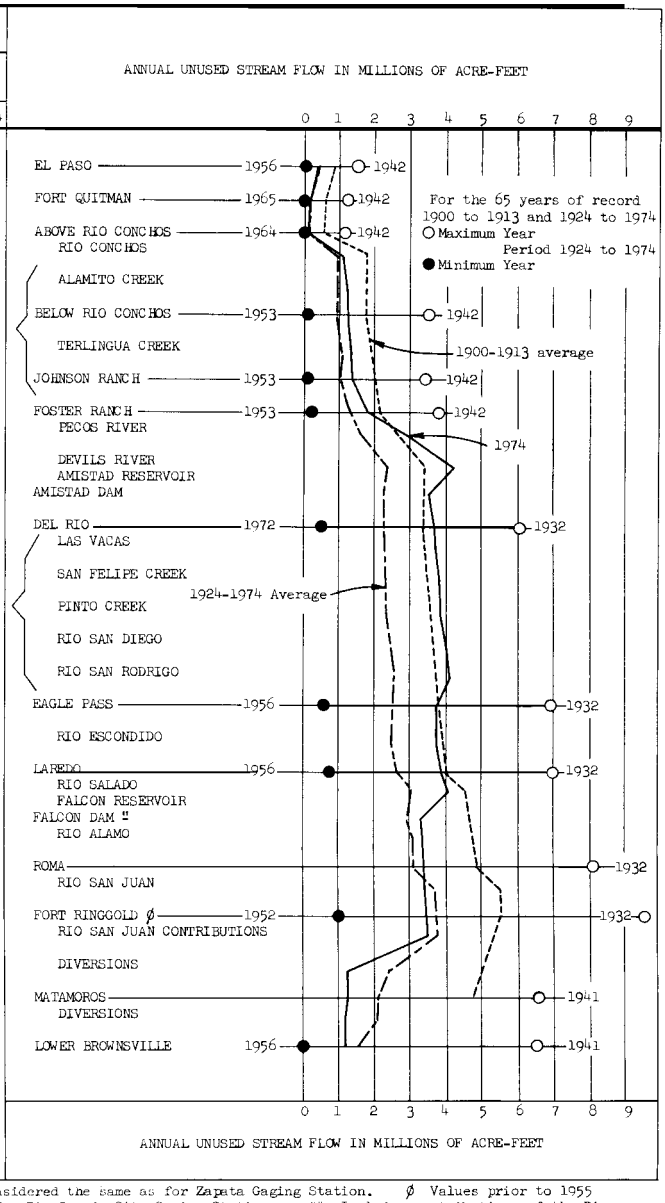
Abraham Gonzalez, Chih. *	S	28° 58'	107° 28'	6,070	Rio Conchos	Hydr. Resources
Avalos, Chihuahua	S	28° 37'	106° 01'	4,760	Rio Conchos	Hydr. Resources
Bufalo, Chihuahua	S	27° 16'	105° 12'	4,350	Rio Conchos	Hydr. Resources
El Malato, Chihuahua	S	29° 23'	104° 11'	2,530	Above Rio Conchos - Johnson Ranch	Meteor. Service of Mexico
El Oro, Chihuahua	S	26° 52'	105° 51'	6,400	Rio Conchos	Hydr. Resources
La Junta, Chihuahua *	S	28° 26'	107° 20'	6,560	Rio Conchos	Hydr. Resources
La Prieta, Chihuahua	S	26° 56'	105° 40'	†	Rio Conchos	Hydr. Resources
Presa El Rejon, Chihuahua	S	26° 37'	105° 06'	†	Rio Conchos	Meteor. Service of Chihuahua
Presa El Tintero, Chih.	S	29° 33'	107° 24'	†	Rio Conchos	Hydr. Resources
Presa Tarahumara, Chih.	S	29° 32'	104° 30'	2,660	Rio Conchos	Hydr. Resources
Rancho Guadalupe, Chih.	S	29° 12'	105° 34'	4,200	Rio Conchos	Hydr. Resources
San Francisco de Borja, Chihuahua	S	28° 09'	106° 28'	†	Rio Conchos	Meteor. Service of Chihuahua
Santa Elena, Chihuahua	S	29° 07'	103° 31'	2,130	Johnson Ranch - Langtry	Hydr. Resources
Torreoncillos, Chihuahua	S	29° 30'	104° 43'	†	Rio Conchos	Hydr. Resources
Valle de Zaragoza, Chih.	S	27° 27'	105° 48'	4,430	Rio Conchos	Hydr. Resources
Villa Lopez, Chihuahua	S	27° 00'	105° 03'	4,680	Rio Conchos	Hydr. Resources

* Adjacent to watershed S Standard R Recording † Not available

SOURCES OF RIVER FLOW

The graph and the column of figures on this page represent data on the annual yield of drainage areas tributary to various stream-gaging stations in the Rio Grande watershed. The graphic values are for the entire tributary area, while the column figures are reduced to the yield from one average square mile of the tributary area. There were no reservoirs of consequence on the area from 1900 to 1913; therefore, the figures in the first column correspond to those for that period in the graph. Because about 17,000,000 acre-feet of reservoir capacity have been developed on the watershed since 1913, in which large volumes of unused runoff are stored in some years and released in later years as unused stream flow (thus reducing the unused stream flow in some years and adding thereto in others), it is significant to differentiate between the unused runoff and unused stream flow.

Average Annual Unused Water Acre-Feet per Square Mile			
RUNOFF		STREAM FLOW	
1900-1913	1924-1974	1924-1974	
29.7	14.0	14.6	EL PASO — 1956 — 1942
19.6	3.8	4.4	FORT QUITMAN — 1965 — 1942
16.4	3.2	3.8	ABOVE RIO CONCHOS — 1964 — 1942
42.6	32.0	31.6	RIO CONCHOS
			ALAMITO CREEK
19.8	18.0	18.0	BELOW RIO CONCHOS — 1953 — 1942
			TERLINGUA CREEK
			JOHNSON RANCH — 1953 — 1942
25.9	16.2	16.3	FOSTER RANCH — 1953 — 1942
12.4	9.1	9.0	PECOS RIVER
104.3	105.9	105.9	DEVILS RIVER
			AMISTAD RESERVOIR
26.9	19.0	18.4	AMISTAD DAM
			DEL RIO — 1972 — 1932
			LAS VACAS
			SAN FELIPE CREEK
110.8	51.6	51.5	PINTO CREEK
			RIO SAN DIEGO
			RIO SAN RODRIGO
29.2	20.1	19.5	EAGLE PASS — 1956 — 1932
32.4	39.2	39.2	RIO ESCONDIDO
29.3	20.9	20.3	LAREDO — 1956 — 1932
23.1	15.7	14.9	RIO SALADO
			FALCON RESERVOIR
			FALCON DAM ‡
			RIO ALAMO
			ROMA — 1932
**48.4	**50.0	**48.8	RIO SAN JUAN
			FORT RINGGOLD Ø — 1952 — 1932
			RIO SAN JUAN CONTRIBUTIONS
			DIVERSIONS
			MATAMOROS — 1941
			DIVERSIONS
			LOWER BROWNSVILLE — 1956 — 1941



‡ Values prior to 1953 considered the same as for Zapata Gaging Station. Ø Values prior to 1955 considered the same as for Rio Grande City Gaging Station. ** Includes contributions of the Rio San Juan entering the Rio Grande above and below Rio Grande City.

SUSPENDED SILT IN THE RIO GRANDE AND TRIBUTARIES

The following tables are based on determinations of gravimetric percentages of dry silt in water samples taken at each station by one of the following three methods:

A. By lowering an open small-neck bottle in one or more verticals in the stream cross section, being careful to approach but not strike bottom, thus securing an integrated sample throughout the depth. By taking from each sample an amount of water volumetrically proportional to the river flow represented by that sample, a composite, representative of the monthly river flow, is made and its gravimetric percentage of silt determined.

B. By sampling at the stream surface with a separate bottle at each of three points, spaced 1/6, 1/2, and 5/6 of the stream width. The gravimetric percentage in each sample is determined, a coefficient of 1.10 is applied to the average of the three, and the product applied to the volume of stream flow represented by that set of samples.

C. By sampling at 2-hour intervals, the water pumped directly from the river to the Laredo, Texas Water Treatment Plant. From daily composites of these samples, a monthly composite, representative of the river flow, is made as stated in Method A and its gravimetric percentage of silt determined.

For ease of comparison, the assumption is made that one cubic foot of silt weighs 66.7 pounds, or one acre-foot of silt weighs 1,452 tons.

Month	1974							Period of Record		
	Tons		No. of Samples	Gravimetric Percentages			Acre-Feet at 1,452 Tons Per Acre Foot			
	Water	Silt		Average	Maximum Sample	Minimum Sample		Average	Maximum	Minimum
Rio Grande at El Paso, Texas										
Period: Sept. 1947-1974										
Jan.	5,801,000	200	22	0.003440			0.14	0.18	1.4	0
Feb.	5,076,000	223	18	.004400			.15	.23	2.2	.01
Mar.	66,843,000	22,000	18	.03288			15.2	20.9	55.9	.89
Apr.	48,702,000	6,620	27	.01360			4.6	10.6	45.2	2.2
May	49,546,000	6,120	29	.01236			4.2	8.0	63.3	.03
June	74,826,000	10,000	30	.01336			6.9	20.0	152	.86
July	83,310,000	94,300	26	.1132			64.9	34.4	124	1.1
Aug.	81,242,000	59,600	29	.07336			41.0	36.1	112	2.0
Sept.	48,705,000	16,500	24	.03384			11.4	21.7	123	1.1
Oct.	30,079,000	23,000	19	.07640			15.8	5.3	51.0	.01
Nov.	16,503,000	1,310	18	.007960			.90	.31	1.5	.01
Dec.	9,826,000	476	21	.004840			.33	.28	2.1	.01
Yearly	520,459,000	240,349	281	0.04618			165.52	158.00	436.87	34.37
Samples and analyses by U. S. Section, Method A										
Rio Conchos near Ojinaga, Chihuahua										
Period: 1956-1974										
Jan.	32,043,000	0	13	0	0	0	0	0	0	0
Feb.	26,146,000	0	12	0	0	0	0	.24	4.5	0
Mar.	35,387,000	9,630	14	.0272	.3022	0	6.6	.35	6.6	0
Apr.	59,148,000	14,800	13	.0250	.2144	0	10.2	.84	10.2	0
May	168,184,000	44,200	15	.0263	.8646	0	30.4	37.0	145	0
June	124,718,000	0	12	0	0	0	0	170	688	0
July	50,056,000	54,300	15	.1085	1.0824	0	37.4	282	1,450	0
Aug.	46,219,000	58,100	13	.1258	.3684	0	40.0	506	2,650	0
Sept.	417,860,000	3,434,000	15	.8219	1.0828	0	2,370	1,230	9,330	0
Oct.	308,342,000	63,200	13	.0205	.0394	0	43.5	747	12,400	0
Nov.	87,086,000	0	13	0	0	0	0	5.9	70.2	0
Dec.	42,629,000	0	13	0	0	0	0	1.1	14.0	0
Yearly	1,397,818,000	3,678,230	161	0.2632	1.0828	0	2,538.1	2,980.43	21,903.3	284.7
Samples and analyses by Mexican Section, Method B										
Rio Grande below Rio Conchos near Presidio, Texas										
Period: 1955-1974										
Jan.	32,870,000	655	5	0.001992			0.45	4.0	22.2	0.45
Feb.	26,571,000	648	5	.002440			.45	3.9	22.2	.14
Mar.	35,348,000	47,200	9	.1334	1.203	0.01010	32.5	6.9	70.9	.15
Apr.	59,772,000	10,700	6	.01792			7.4	5.8	95.7	.12
May	168,587,000	36,900	8	.02187			25.4	40.5	215	.21
June	121,244,000	13,400	4	.01108			9.2	118	465	.29
July	53,937,000	204,000	8	.3777	1.777	.01040	140	284	1,420	2.0
Aug.	54,234,000	63,100	10	.1163	.6681	.01870	43.5	370	1,360	2.9
Sept.	489,230,000	1,222,000	17	.2498	2.165	.01600	842	583	3,160	14.9
Oct.	455,839,000	51,500	7	.01129			35.5	352	4,770	.76
Nov.	125,490,000	13,300	6	.01056			9.2	9.1	45.2	.26
Dec.	59,890,000	4,190	5	.007000			2.9	3.6	13.7	.42
Yearly	1,683,012,000	1,667,593	90	0.09908			1,148.5	1,780.8	8,793.44	172.78
Samples and analyses by U. S. Section, Method A										

SUSPENDED SILT IN THE RIO GRANDE AND TRIBUTARIES

Month	1974							Period of Record		
	Tons		No. of Samples	Gravimetric Percentages			Acre-Feet at 1,452 Tons Per Acre Foot			
	Water	Silt		Average	Maximum Sample	Minimum Sample		Average	Maximum	Minimum

Rio Grande at Johnson Ranch near Castolon, Texas

Period: Oct. 1951-1974

Jan.	34,114,000	860	5	0.002520			0.59	4.0	25.5	0.40
Feb.	27,316,000	1,060	5	.003880			.73	13.6	253	.21
Mar.	38,791,000	88,100	6	.2270	0.7665	0.01090	60.7	5.3	60.7	.14
Apr.	46,873,000	15,900	5	.03400			11.0	46.0	692	.01
May	158,741,000	306,000	7	.1926	1.541	.03000	211	129	426	0
June	131,115,000	31,800	4	.02428			21.9	374	1,570	2.3
July	61,944,000	181,000	5	.2920	.6825	.008300	125	767	4,030	51.6
Aug.	116,974,000	1,570,000	10	1.342	2.409	.008800	1,080	908	3,840	2.8
Sept.	550,654,000	2,065,000	5	.3750			1,420	958	8,990 *	98.5
Oct.	505,574,000	261,000	5	.05168			180	760	13,500 "	1.5
Nov.	139,102,000	21,700	6	.01560			14.9	13.4	151	.28
Dec.	67,149,000	1,800	5	.002680			1.2	6.2	48.3	.41
Yearly	1,878,347,000	4,544,220	68	0.2419			3,127.02	3,984.5	23,869.62	803.27

Samples and analyses by U. S. Section, Method A * Partly estimated " Estimated

Rio Grande at Foster Ranch near Langtry, Texas

Period: 1969-1974

Jan.	54,557,000	1,090	5	0.002000			0.75	8.9	34.9	0.61
Feb.	45,775,000	916	4	.002000			.63	3.1	13.0	.57
Mar.	87,380,000	23,200	4	.02660	0.1554	0.004800	16.0	8.0	16.0	.72
Apr.	107,126,000	32,100	5	.03000 "			22.1	6.5	22.1	.22
May	164,086,000	258,000	4	.1572	.4805	.05010	178	52.2	178	.60
June	137,894,000	85,200	3	.06180			58.7	252	657	40.8
July	70,373,000	74,100	5	.1053	.1340	.01330	51.0	500	736	51.0
Aug.	176,399,000	1,590,000	4	.9012	2.661	.02750	1,100	650	1,320	21.8
Sept.	801,902,000	2,406,000	2	.3000 "			1,660	1,004	1,660	285
Oct.	539,082,000	459,000	3	.08520			316	374	1,070	50.6
Nov.	165,487,000	37,800	29	.02284			26.0	23.3	91.6	.76
Dec.	92,031,000	5,520	31	.006000			3.8	4.6	16.1	.62
Yearly	2,442,092,000	4,972,926	99	0.2036			3,432.98	2,886.6	3,951.48	1,739.3

Samples and analyses by U. S. Section, Method A " Estimated

Pecos River near Langtry, Texas

Period: Nov. 1954-1974

Jan.	12,724,000	392	4	0.003080			0.27	0.25	0.62	0.05
Feb.	11,244,000	355	4	.003160			.24	.23	.70	.05
Mar.	12,778,000	378	4	.002960			.26	.27	.79	.05
Apr.	18,882,000	566	5	"003000			.39	10.2	167	.06
May	14,269,000	748	4	.005240			.52	20.8	407	.07
June	7,418,000	341	3	.004600			.23	2.5	41.7	.09
July	5,829,000	110	4	.001880			.08	1.9	22.2	.05
Aug.	14,509,000	389	4	.002680			.27	1.7	23.8	.04
Sept.	1,093,326,000	76,500	1	"007000			52.7	27.8	359	.09
Oct.	154,813,000	7,740	1	"005000			5.3	7.2	59.8	.07
Nov.	81,183,000	3,600	2	.004440			2.5	.41	2.5	.03
Dec.	51,453,000	1,540	2	.003000			1.1	.24	1.1	.05
Yearly	1,478,428,000	92,659	38	0.006267			63.89	73.50	577.44	1.87

Samples and analyses by U. S. Section, Method A " Estimated

Rio Grande below Amistad Dam near Del Rio, Texas

Period: July 1968-1974

Jan.	14,477,000	197	13	0.001360			0.14	0.45	1.2	0.05
Feb.	54,658,000	831	11	.001520			.57	1.1	2.3	.13
Mar.	184,748,000	2,360	13	.001280			1.6	.63	1.6	.06
Apr.	79,118,000	1,580	13	.002000			1.1	.83	1.3	.20
May	284,399,000	6,600	13	.002320			4.5	2.1	4.5	.25
June	157,208,000	1,070	12	.0006800			.74	.95	2.1	.23
July	108,437,000	1,080	14	.001000			.74	3.1	16.4	.28
Aug.	142,795,000	2,340	13	.001640			1.6	1.8	4.5	.20
Sept.	1,731,149,000	116,000	9	.006680			79.9	12.4	79.9	.20
Oct.	1,104,375,000	19,900	11	.001800			13.7	3.0	13.7	.05
Nov.	682,654,000	10,900	12	.001600			7.5	1.6	7.5	.05
Dec.	293,948,000	3,410	12	.001160			2.3	.91	2.3	.02
Yearly	4,837,966,000	166,268	146	0.003437			114.39	28.87	114.39	5.01

Samples and analyses by U. S. Section, Method A

SUSPENDED SILT IN THE RIO GRANDE AND TRIBUTARIES

Month	1974							Period of Record		
	Tons		No. of Samples	Gravimetric Percentages			Acre-Feet at 1,452 Tons Per Acre Foot			
	Water	Silt		Average	Maximum Sample	Minimum Sample		Average	Maximum	Minimum

Rio Grande at Laredo, Texas

Period: #1953-1974

Jan.	67,646,000	1,350	31	0.002000			0.93	8.7	28.0	0.93
Feb.	53,310,000	2,240	28	.004200			1.5	19.2	109	.88
Mar.	251,329,000	14,000	31	.005560			9.6	10.9	26.8	.78
Apr.	81,869,000	4,320	30	.005280			3.0	158	1,920	.47
May	296,404,000	32,600	31	.01100			22.5	297	3,540	2.3
June	145,032,000	9,220	30	.006360			6.3	888	12,400	.56
July	79,194,000	3,930	31	.004960			2.7	526	3,440	1.3
Aug.	144,422,000	7,910	30	.005480			5.4	450	1,960	4.2
Sept.	1,653,658,000	1,017,000	30	.06148			700	1,002	5,010	9.0
Oct.	1,300,576,000	144,000	31	.01108			99.2	745	7,520	7.6
Nov.	796,796,000	30,600	29	.003840			21.1	87.5	1,190	1.6
Dec.	418,008,000	10,700	31	.002560			7.4	11.3	67.6	.83
Yearly	5,288,244,000	1,277,870	363	0.02416			879.63	4,203.60	19,257.72	143.94

Samples by Laredo Water Plant and analyses by U. S. Section, Method C # Some months missing

ø Rio Grande below Falcon Dam, Texas–U. S. Tailrace

Period: July 1955-1974

Jan.	278,089,000	3,780	12	0.001360			2.6	1.7	5.4	0.14
Feb.	376,666,000	1,660	12	.0004400			1.1	1.9	9.1	.06
Mar.	163,140,000	3,200	13	.001960			2.2	1.2	4.3	.15
Apr.	246,137,000	2,660	13	.001080			1.8	3.1	12.2	.25
May	574,611,000	11,500	14	.002000			7.9	3.7	8.1	.19
June	312,626,000	6,130	12	.001960			4.2	3.5	18.7	.21
July	182,239,000	3,570	14	.001960			2.5	.98	2.5	.12
Aug.	491,206,000	9,430	13	.001920			6.5	1.4	6.5	.22
Sept.	480,450,000	10,400	13	.002160			7.2	2.2	12.9	0
Oct.	847,952,000	14,200	13	.001680			9.8	3.9	37.5	.18
Nov.	359,792,000	7,050	11	.001960			4.9	1.3	5.5	.02
Dec.	203,173,000	3,660	13	.001800			2.5	1.6	14.7	.11
Yearly	4,516,081,000	77,240	153	0.001710			53.2	26.48	92.15	7.24

Samples and analyses by U. S. Section, Method A ø Discharge based on record of total releases from Falcon Reservoir

Río Alamo at Cd. Mier, Tamaulipas

Period: #1934-1974

Jan.	14,031,000	0	0	0 "			0	1.6	21.8	0
Feb.	7,902,000	0	0	0 "			0	2.7	48.6	0
Mar.	12,498,000	0	0	0 "			0	5.9	91.2	0
Apr.	5,444,000	0	0	0 "			0	26.4	229	0
May	4,973,000	696	4	.014	0.0451	0	.48	42.4	281	0
June	5,624,000	1,350	4	.024	.0881	0	.93	66.7	471	0
July	3,279,000	0	3	0	.0011	0	0	18.9	143	0
Aug.	5,696,000	3,870	4	.068	.0947	0	2.7	118	1,610	0
Sept.	7,994,000	879	7	.011	.0275	0	.61	211	2,920	0
Oct.	13,236,000	9,270	5	.070	.0947	0	6.4	80.1	753	0
Nov.	3,797,000	0	0	0 "			0	2.3	40.7	0
Dec.	3,944,000	0	0	0 "			0	1.4	33.7	0
Yearly	88,418,000	16,065	27	0.01817	0.0947	0	11.12	577.4	3,156.57	11.12

Samples and analyses by Mexican Section, Method B # Some months missing " Estimated

Rio Grande at Fort Ringgold, Rio Grande City, Texas

Period: May 1959-1974

Jan.	334,857,000	7,230	7	0.002160			5.0	10.1	32.6	0.43
Feb.	387,665,000	11,200	7	.002880			7.7	5.2	13.7	.35
Mar.	196,761,000	6,690	6	.003400			4.6	4.7	26.7	.39
Apr.	250,422,000	21,000	8	.008400			14.5	18.3	51.0	6.0
May	567,548,000	28,400	9	.005000			19.6	47.5	259	4.0
June	331,150,000	9,540	5	.002880			6.6	51.4	94.4	4.7
July	191,501,000	6,430	6	.003360			4.4	23.4	90.9	2.1
Aug.	489,912,000	18,200	5	.003720			12.5	57.6	510	1.2
Sept.	474,116,000	22,000	7	.004640			15.2	146	798	4.8
Oct.	876,338,000	136,000	6	.01548			93.7	72.2	552	2.6
Nov.	370,224,000	10,200	6	.002760			7.0	4.2	11.4	1.3
Dec.	232,879,000	3,820	7	.001640			2.6	3.5	12.1	.92
Yearly	4,703,373,000	280,710	79	0.005968			193.4	444.1	1,691.1	72.12

Samples and analyses by U. S. Section, Method A

SUSPENDED SILT IN THE RIO GRANDE AND TRIBUTARIES

Month	1974							Period of Record		
	Tons		No. of Samples	Gravimetric Percentages			Acre-Feet at 1,452 Tons Per Acre Foot			
	Water	Silt		Average	Maximum Sample	Minimum Sample		Average	Maximum	Minimum

‡ Rio Grande near Los Ebanos, Texas

Period: May 1956-1974

Jan.	334,857,000	14,600	13	0.004360			10.1	18.8	107	0.50
Feb.	387,665,000	32,700	12	.008440			22.5	7.4	22.5	.68
Mar.	196,761,000	32,100	14	.01629			22.1	8.0	40.2	.65
Apr.	250,422,000	21,600	13	.008640			14.9	57.6	635	3.0
May	567,548,000	58,300	14	.01028			40.2	72.8	289	5.3
June	331,150,000	19,100	12	.005766			13.2	60.9	209	3.2
July	191,501,000	14,700	14	.007680			10.1	15.0	79.9	.74
Aug.	489,912,000	34,800	13	.007103			24.0	85.7	1,150	2.0
Sept.	474,116,000	51,000	11	.01075			35.1	111	459	3.5
Oct.	876,338,000	58,200	13	.006640			40.1	49.6	314	3.2
Nov.	370,224,000	14,400	13	.003880			9.9	8.7	75.1	.62
Dec.	232,879,000	5,940	13	.002550			4.1	4.5	16.3	1.0
Yearly	4,703,373,000	357,440	155	0.007600			246.3	500.0	1,788.7	80.0

Samples and analyses by U. S. Section, Method A ‡ Discharge based on record of flow at Fort Ringgold

Rio Grande below Anzalduas Dam, Texas

Period: May 1956-1974

Jan.	157,874,000	5,940	31	0.003760			4.1	8.0	49.0	0.51
Feb.	103,859,000	2,580	28	.002480			1.8	2.7	11.9	.24
Mar.	98,643,000	2,290	31	.002320			1.6	3.4	27.3	.25
Apr.	151,277,000	4,050	30	.002680			2.8	34.9	279	2.0
May	184,424,000	8,410	31	.004560			5.8	26.8	79.9	1.4
June	209,366,000	10,700	30	.005120			7.4	45.0	414	1.2
July	102,384,000	2,290	31	.002240			1.6	26.5	333	.83
Aug.	159,159,000	7,130	31	.004480			4.9	33.3	502	.73
Sept.	325,182,000	163,000	30	.05004			112	148	1,480	.59
Oct.	854,007,000	271,000	31	.03168			187	99.6	676	.34
Nov.	370,458,000	19,400	30	.005240			13.4	18.9	274	.51
Dec.	211,518,000	3,980	30	.001880			2.7	9.8	135	.41
Yearly	2,928,151,000	500,770	364	0.01710			345.1	456.9	2,541.0	28.37

Samples and analyses by U. S. Section, Method A

Rio Grande near San Benito, Texas

Period: April 1955-1974

Jan.	58,136,000	2,990	3	0.005141			2.1	10.8	121	0.13
Feb.	29,978,000	767	2	.002560			.53	7.9	97.8	.15
Mar.	34,616,000	2,780	6	.008040			1.9	4.1	50.6	.11
Apr.	54,033,000	4,190	6	.007760			2.9	5.5	17.9	.11
May	37,675,000	3,450	8	.009160			2.4	23.2	265	2.2
June	61,603,000	8,080	6	.01312			5.6	12.0	39.4	.72
July	22,592,000	884	5	.003913			.61	9.6	91.6	.11
Aug.	28,555,000	1,150	6	.004040			.79	7.3	48.5	.07
Sept.	201,324,000	27,700	6	.01378			19.1	53.9	218	.30
Oct.	791,181,000	68,000	1	.008600			46.8	65.1	636	.25
Nov.	343,267,000	33,000	3	.009600			22.7	19.5	247	.17
Dec.	179,076,000	8,450	5	.004720			5.8	12.0	163	.06
Yearly	1,842,036,000	161,441	57	0.008764			111.23	230.9	894.82	9.54

Samples and analyses by U. S. Section, Method A

Rio Grande near Brownsville, Texas

Period: April 1955-1974

Jan.	40,623,000	975	2	0.002400			0.67	5.5	67.4	0.02
Feb.	14,140,000	373	3	.002640			.26	9.3	80.6	.04
Mar.	21,045,000	1,230	6	.005840			.85	5.0	70.2	.08
Apr.	34,114,000	2,430	8	.007131			1.7	3.3	27.7	.04
May	13,619,000	405	8	.002972			.28	7.9	58.5	.28
June	35,222,000	4,590	8	.01303			3.2	10.0	58.4	.21
July	11,612,000	386	8	.003320			.27	25.8	292	.08
Aug.	8,491,000	285	6	.003360			.20	7.8	50.6	.01
Sept.	152,118,000	63,600	7	.04180			43.8	47.0	255	0
Oct.	786,005,000	266,000	6	.03386			183	60.9	242	.03
Nov.	359,738,000	67,600	5	.01880			46.6	24.5	283	.12
Dec.	174,332,000	22,900	4	.01312			15.8	12.0	142	.02
Yearly	1,651,059,000	430,774	71	0.02609			296.63	219.0	1,072.26	1.97

Samples and analyses by U. S. Section, Method A

CHEMICAL ANALYSES OF WATER SAMPLES FROM THE RIO GRANDE AND TRIBUTARIES - 1974

The following tables are based on chemical analyses of composites representative of the river flow at Rio Grande and tributary stations. The monthly composites were made by the United States Section of the Commission by taking from each independent water sample an amount of water volumetrically proportional to the river flow represented by that sample. The chemical analyses were made by the U. S. Geological Survey, Water Resources Division, Austin, Texas. All other data were computed by the United States Section of the Commission.

To convert milligram equivalents to parts per million by weight, multiply each ion by its appropriate conversion factor. These factors are: Ca, 20.04; Mg, 12.16; Na, 22.99; (CO_3 plus HCO_3) expressed as CO_3, 30.00; SO_4, 48.03; Cl, 35.45; NO_3, 62.00. To convert tons per acre-foot to parts per million, multiply tons per acre-foot by 735.5. Electrical conductivity, reported in the tables as $EC \times 10^6$ at 25°C, is a relative measure of the total salt concentration.

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	$EC \times 10^6$ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Rio Grande at El Paso, Texas															
Sampling by U. S. Section															
Jan.	22	2.20	9,390	2,400	0.45	7.9	66	32	5.99	2.47	16.10	5.02	12.08	8.18	0.01
Feb.	18	2.31	8,630	2,500	.48	8.1	65	35	6.49	2.63	16.96	5.18	11.87	9.03	.01
Mar.	18	.80	39,300	941	.16	7.7	47	26	3.74	1.15	4.35	3.18	3.75	2.46	.03
Apr.	27	.92	33,000	1,040	.18	7.6	50	24	3.94	1.32	5.22	3.48	4.16	2.43	.00
May	29	.93	33,900	1,090	.18	7.5	49	24	4.09	1.40	5.22	3.61	4.58	2.60	.01
June	30	.84	46,200	964	.28	7.4	47	22	3.69	1.15	4.31	3.57	4.16	2.12	.00
July	26	.86	52,700	972	.19	8.7	49	23	3.94	1.07	4.78	3.48	3.96	2.20	.03
Aug.	29	.88	52,600	995	.17	7.7	47	22	4.24	1.23	4.78	3.61	4.37	2.23	.02
Sept.	24	1.21	43,400	1,350	.20	8.1	51	26	4.84	1.73	6.96	4.16	6.25	3.67	.03
Oct.	19	1.55	34,300	1,750	.28	8.2	56	30	5.49	2.22	10.00	4.36	7.91	5.36	.04
Nov.	18	2.01	24,400	2,280	.36	8.1	60	32	5.99	2.88	13.48	4.79	10.83	7.34	.02
Dec.	21	2.04	14,700	2,300	.43	8.1	61	33	6.49	2.63	14.36	4.98	10.41	7.62	.02
Mean ●	∅281	1.02	∅ 392,520	1,170	0.22	7.9	51	25	4.27	1.42	5.95	3.71	5.05	3.00	0.02
Period Avg.		1.10	442,000	1,220			52	29	4.39	1.57	6.56	3.53	5.50	3.65	
Tons of Constituents, 1974									44,600	8,990	71,300	58,000	126,000	55,400	
Avg. Tons, Period 1930-1974									48,000	10,400	82,300	57,800	144,000	70,500	
Rio Grande at Fort Quitman, Texas															
Sampling by U. S. Section															
Jan.	2	5.97	9,910	6,600	0.71	7.9	64	59	16.47	7.82	43.50	5.97	20.82	39.49	0.12
Feb.	2	8.83	5,770	9,060	.93	8.0	68	65	21.96	11.52	69.60	5.70	29.15	64.88	.00
Mar.	3	6.54	13,500	7,330	.81	7.9	67	62	17.96	8.23	52.20	4.62	24.98	47.96	.03
Apr.	3	5.73	11,000	6,440	.67	8.1	65	62	14.97	7.40	42.20	4.66	19.57	39.49	.04
May	2	6.41	5,780	7,440	.73	7.3	64	63	18.96	8.23	47.85	4.95	22.90	47.96	.00
June	2	8.89	2,140	9,760	.83	7.7	66	69	21.46	12.34	65.25	2.75	29.15	70.52	.02
July	2	1.89	18,600	2,180	.30	8.2	59	46	6.49	2.06	12.18	4.03	7.29	9.59	.07
Aug.	2	4.13	49,200	4,710	.55	8.1	65	64	11.48	4.94	30.45	4.13	13.53	31.03	.04
Sept.	1	4.90	184,000	5,480	.56	7.9	66	61	12.97	5.92	36.54	4.20	17.49	33.85	.01
Oct.	17	2.45	82,400	2,880	.36	8.0	60	50	8.48	3.29	17.40	4.59	9.99	14.67	.16
Nov.	1	3.84	74,500	4,350	.50	8.3	62	51	11.98	4.94	27.84	5.84	16.66	23.42	.28
Dec.	30	3.84	71,700	4,280	.50	8.3	63	54	11.48	4.61	27.40	5.57	14.99	24.26	.36
Mean ●	∅67	3.82	∅ 528,500	4,320	0.49	8.1	64	57	11.19	4.74	27.87	4.73	14.44	25.13	0.14
Period Avg.		2.50	308,000	2,820			61	55	7.96	3.24	17.75	3.69	9.27	16.15	
Tons of Constituents, 1974									42,200	10,900	121,000	26,700	131,000	168,000	
Avg. Tons, Period 1930-1974									26,700	6,600	68,300	18,500	74,500	95,800	

● Weighted mean ∅ Total ** Percent of total cations *** Percent of total anions

CHEMICAL ANALYSES OF WATER SAMPLES FROM THE RIO GRANDE AND TRIBUTARIES - 1974

Rio Grande above Rio Conchos near Presidio, Texas

Sampling by U. S. Section

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Jan.	5	4.65	1,830	5,190		7.9	67		11.48	5.76	35.67	3.61		31.03	
Feb.	1	4.75	2.8	5,320		8.1	68		11.98	5.92	37.41	3.70		31.03	
Mar.	4	.62	144	689	0.10	7.6	32	14	4.14	.46	2.18	2.16	3.75	.96	0.05
Apr.	No	Flow													
May ‖	0	.62	2.1	691			35		3.96	.43	2.40	2.14		.98	
June	No	Flow													
July	No	Flow													
Aug.	4	.63	576	693		7.6	38		3.79	.40	2.61	2.10		.99	
Sept.	7	.77	16,500	836	.10	7.9	42	15	4.14	.49	3.39	1.97	5.00	1.21	.04
Oct.	6	1.62	75,100	1,930		8.0	58		5.99	1.89	10.88	3.48		8.18	
Nov.	5	2.87	61,700	3,350		8.1	60		8.98	3.62	18.70	4.06		17.49	
Dec.	5	3.97	42,100	4,590		8.2	64		11.48	4.94	29.14	4.39		25.95	
Mean ●	∅37	1.95	∅197,954.9	2,280		8.0	59		6.80	2.28	12.87	3.36		10.55	
Period Avg.		1.89	198,000	2,120			59		# 8.77		12.61	3.13		10.78	
Tons of Constituents, 1974									18,800	3,820	40,800	13,900		51,600	
Avg. Tons, Period 1935-1974											41,400	13,400		54,600	

Rio Conchos near Ojinaga, Chihuahua

Sampling by Mexican Section

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Jan.	13	1.15	27,100	1,240		8.0	53		4.54	1.23	6.52	3.38		2.20	
Feb.	12	1.19	22,900	1,260		8.1	53		4.89	1.32	6.96	3.70		2.40	
Mar.	14	1.12	29,200	1,210	0.29	7.6	49	17	4.99	1.23	6.09	2.85	7.50	2.09	0.04
Apr.	13	1.01	44,000	1,120		7.8	52		4.19	1.07	5.66	3.08		1.52	
May	15	.98	121,000	1,080		7.8	47		4.19	1.15	4.78	3.12		1.24	
June	12	1.07	98,200	1,160		8.0	54		4.04	1.15	6.09	3.25		1.61	
July	14	1.09	40,100	1,150		8.1	47		4.99	.99	5.22	3.02		1.58	
Aug.	13	1.05	35,700	1,110		8.1	44		4.99	1.07	4.78	2.72		1.66	
Sept.	15	.86	264,000	862	.08	7.9	23	6	5.99	.68	2.00	1.80	6.46	.56	.06
Oct.	13	.79	179,000	873		7.9	48		3.74	.79	4.18	2.88		1.10	
Nov.	12	.90	57,700	995		7.9	48		4.09	.99	4.78	3.18		1.64	
Dec.	13	1.16	36,400	1,260		8.1	51		4.89	1.32	6.52	3.12		3.10	
Mean ●	∅159	0.93	∅ 955,300	992		7.9	42		4.73	0.92	4.15	2.68		1.22	
Period Avg.		0.76	571,000	803			41		# 4.78		3.42	2.72		1.17	
Tons of Constituents, 1974									133,000	15,600	133,000	112,000		60,500	
Avg. Tons, Period 1935-1974											80,300	83,200		42,200	

Rio Grande at Johnson Ranch near Castolon, Texas

Sampling by U. S. Section

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Jan.	5	1.29	32,400	1,400		7.7	53		4.99	1.48	7.40	3.54		2.68	
Feb.	5	1.33	26,700	1,370		8.0	52		5.49	1.32	7.40	3.54		2.76	
Mar.	6	1.10	31,400	1,230	0.27	7.7	46	16	5.49	1.15	5.66	3.23	7.50	2.00	0.06
Apr.	5	1.08	37,200	1,200		7.7	51		4.69	1.15	6.09	2.95		1.78	
May	7	1.01	118,000	1,090		7.3	48		4.59	1.07	5.22	3.33		1.16	
June	4	1.06	102,000	1,140		7.7	55		3.94	1.07	6.09	3.02		1.41	
July	5	1.07	48,800	1,130		8.0	47		4.99	.80	5.22	2.95		1.64	
Aug.	10	.90	77,500	948		8.0	42		4.69	.76	3.96	2.95		.90	
Sept.	5	.75	304,000	763	.08	8.0	28	8	4.99	.61	2.18	2.33	4.79	.59	.08
Oct.	5	.97	361,000	1,080		8.0	49		4.44	.90	5.22	3.08		2.29	
Nov.	6	1.40	143,000	1,600		7.9	53		5.74	1.56	8.26	3.67		5.36	
Dec.	5	1.89	93,400	2,180		7.9	56		6.99	2.39	12.18	3.38		7.90	
Mean ●	∅68	1.00	∅1,375,400	1,080		7.9	46		4.85	0.96	4.89	2.93		1.95	
Period Avg.		0.95	671,000	994			44		# 5.71		4.50	2.90		1.66	
Tons of Constituents, 1974									183,000	21,900	211,000	165,000		130,000	
Avg. Tons, Period 1948-1974											100,000	84,000		56,900	

● Weighted Mean ∅ Total ‖ Estimated # Sum of calcium and magnesium
** Percent of total cations *** Percent of total anions

CHEMICAL ANALYSES OF WATER SAMPLES FROM THE RIO GRANDE AND TRIBUTARIES - 1974

Rio Grande at Foster Ranch near Langtry, Texas

Sampling by U. S. Section

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Jan.	5	1.03	41,300	1,110	0.27	7.8	48	18	4.09	1.65	5.22	2.95	6.46	2.03	0.04
Feb.	4	1.01	34,000	1,100	.27	7.9	48	19	4.04	1.65	5.22	3.08	5.83	2.03	.03
Mar.	4	.96	61,700	1,120	.27	7.6	47	18	4.34	1.56	5.22	2.88	6.46	2.06	.03
Apr. ‼	5	.62	48,900	703			33		3.99	.66	2.26	3.54	2.92	.54	
May	4	.93	112,000	1,020	.29	7.3	47	13	4.44	.90	4.78	3.38	5.41	1.27	.04
June	3	1.02	103,000	1,100	.39	7.7	49	12	4.19	1.15	5.22	3.21	6.46	1.30	.06
July	5	.90	46,600	965	.24	8.0	45	14	4.24	1.07	4.26	2.56	5.62	1.38	.06
Aug.	4	.63	81,800	694	.12	7.7	33	8	3.99	.66	2.26	3.54	2.92	.54	.04
Sept.	1	.39	230,000	444	.06	8.1	18	5	3.24	.36	.78	2.98	1.42	.22	.05
Oct.	3	.86	341,000	954	.20	8.1	47	17	3.99	.90	4.35	3.02	4.79	1.64	.06
Nov.	29	1.27	155,000	1,460	.25	7.9	49	31	5.49	1.65	6.96	3.28	6.87	4.51	.07
Dec.	31	1.55	105,000	1,780	.31	7.9	53	37	5.49	2.22	8.70	3.08	7.29	6.21	.07
Mean ●	Ø98	0.76	Ø1,360,300	847			41		3.97	0.87	3.42	3.10	3.98	1.39	
Period Avg.		0.86	982,000	925			42	14	4.50	0.98	3.95	3.18	4.99	1.38	
Tons of Constituents, 1974									194,000	25,900	192,000	227,000	467,000	120,000	
Avg. Tons, Period 1968-1974									140,000	18,400	141,000	148,000	372,000	75,900	

Pecos River near Langtry, Texas

Sampling by U. S. Section

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Jan.	4	3.45	32,300	3,730	0.25	7.8	60	62	7.98	6.58	22.18	2.92	11.24	23.13	0.06
Feb.	4	3.90	32,300	4,210	.29	7.8	62	63	8.48	7.57	26.54	2.75	13.12	27.65	.05
Mar.	4	3.52	33,100	4,070	.27	7.4	61	64	8.48	7.40	24.36	2.66	12.08	26.52	.01
Apr. ‼	5	1.74	24,200	1,960			49	50	8.48	3.62	11.74	2.56	9.36	12.13	
May	4	2.69	28,200	3,000	.24	7.6	59	64	6.99	4.61	16.96	2.88	7.50	18.34	.03
June	3	2.35	12,800	2,850	.35	7.8	60	63	5.99	4.36	15.66	2.69	7.08	16.64	.01
July	4	2.35	10,100	2,770	.24	8.1	60	65	5.99	4.61	15.66	2.49	6.46	16.64	.01
Aug.	4	2.12	22,600	2,530	.22	7.8	59	63	5.99	4.36	14.79	2.69	6.66	16.08	.04
Sept.	1	.70	563,000	862	.08	8.2	47	48	3.04	1.15	3.70	2.30	1.87	3.95	.06
Oct.	1	2.05	234,000	2,420	.17	8.0	49	50	8.48	3.62	11.74	2.56	9.37	12.13	.16
Nov.	2	3.88	232,000	4,520	.30	7.9	59	60	10.98	8.14	27.40	3.25	14.99	27.65	.23
Dec.	2	4.47	169,000	5,090	.34	7.9	60	65	12.48	8.23	30.88	2.88	14.99	33.85	.22
Mean ●	Ø38	1.28	Ø1,393,600	1,520			53		4.67	2.31	7.75	2.43	4.33	8.17	
Period Avg.		1.86	436,000	2,170			57	60	5.68	3.58	12.04	2.67	5.84	12.97	
Tons of Constituents, 1974									138,000	41,600	264,000	108,000	308,000	429,000	
Avg. Tons, Period 1955-1974									36,400	13,900	88,500	25,600	89,600	147,000	

Rio Grande below Amistad Dam near Del Rio, Texas

Sampling by U. S. Section

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Jan.	13	0.80	8,520	905	0.17	7.7	43	25	3.99	1.15	3.83	2.69	4.16	2.31	0.01
Feb.	11	.80	32,200	909	.18	8.0	44	27	3.79	1.15	3.83	2.49	3.96	2.40	.01
Mar.	13	.76	103,000	905	.18	7.6	45	26	3.74	1.23	4.00	2.57	3.96	2.31	.00
Apr.	13	.76	44,200	909	.18	7.8	45	28	3.49	1.32	3.96	2.62	3.54	2.34	.00
May	13	.77	161,000	920	.16	7.4	46	28	3.39	1.40	4.09	2.56	3.75	2.43	.00
June	12	.79	91,400	922	.24	7.7	47	28	3.29	1.23	4.05	2.49	3.96	2.46	.00
July	14	.81	64,600	928	.22	8.0	51	28	3.49	1.15	4.78	2.43	4.16	2.54	.00
Aug.	13	.82	86,200	941	.20	7.7	49	27	3.29	1.32	4.35	2.43	4.37	2.54	.00
Sept.	9	.71	904,000	819	.15	8.0	46	25	3.09	1.15	3.57	2.30	3.75	2.03	.02
Oct.	11	.63	512,000	748	.14	7.8	45	25	2.94	.99	3.18	2.20	3.33	1.83	.02
Nov.	12	.67	337,000	805	.13	8.1	45	27	3.14	1.07	3.39	2.30	3.54	2.17	.02
Dec.	12	.74	160,000	887	.16	8.1	45	29	3.49	1.23	3.87	2.46	3.75	2.57	.03
Mean ●	Ø146	0.70	Ø2,504,120	826	0.15	7.9	46	26	3.17	1.14	3.60	2.33	3.67	2.12	0.02
Period Avg.		0.76	1,023,000	876			45	26	3.57	1.18	3.82	2.60	3.83	2.28	
Tons of Constituents, 1974									308,000	67,100	401,000	338,000	853,000	364,000	
Avg. Tons, Period 1969-1974									131,000	26,200	161,000	143,000	337,000	148,000	

‼ Estimated ● Weighted mean Ø Total ** Percent of total cations *** Percent of total anions

CHEMICAL ANALYSES OF WATER SAMPLES FROM THE RIO GRANDE AND TRIBUTARIES - 1974

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3
Rio Grande at Laredo, Texas															
Sampling by Laredo Water Plant															
Jan.	31	0.85	42,300	949		7.6	40		3.79	1.73	3.74	2.56		2.65	
Feb.	28	.94	36,900	1,040		7.7	43		3.84	1.98	4.35	2.30		3.10	
Mar.	31	.85	157,000	966	0.21	7.7	44	27	3.74	1.48	4.18	2.67	4.37	2.62	0.04
Apr.	30	.89	53,600	1,020		7.6	48		3.54	1.65	4.78	2.30		3.10	
May	31	.81	177,000	940		7.3	43		3.84	1.40	4.00	2.64		2.48	
June	30	.85	90,700	990		7.7	47		3.44	1.40	4.35	2.56		2.74	
July	31	.94	54,800	1,060		8.1	48		3.79	1.40	4.79	2.49		2.82	
Aug.	30	.81	86,100	913		7.8	45		3.49	1.32	3.96	2.46		2.48	
Sept.	30	.74	900,000	839	.20	8.0	45	26	3.34	1.15	3.61	2.49	3.54	2.12	.03
Oct.	31	.67	641,000	783		7.7	44		3.19	1.07	3.31	2.46		1.92	
Nov.	30	.69	406,000	813		7.8	42		3.49	1.15	3.31	2.59		2.09	
Dec.	31	.79	243,000	913		8.1	43		3.74	1.32	3.87	2.62		2.57	
Mean ●	∅364	0.74	∅2,888,400	855		7.8	44		3.43	1.21	3.64	2.52		2.21	
Period Avg.		0.68	2,168,000	771			41		# 4.50		3.11	2.53		2.09	
Tons of Constituents, 1974									364,000	77,900	443,000	400,000		415,000	
Avg. Tons, Period 1956-1974											211,000	224,000		218,000	
Río Salado at Las Tortillas, Tamaulipas															
Sampling by Mexican Section															
Jan.	1	2.69	40,300	2,640		7.8	44		8.98	6.91	12.62	2.16		7.90	
Feb.	1	3.24	35,400	3,040		8.0	36		11.48	8.06	10.88	3.08		9.31	
Mar.	1	3.74	54,500	3,550	1.30	7.8	45	28	13.47	9.05	18.27	1.72	27.07	11.57	0.37
Apr.	1	3.66	29,600	3,450		7.9	47		11.48	9.87	18.70	3.08		11.00	
May	1	3.30	26,900	3,400		7.4	49		10.98	7.40	17.84	3.13		12.98	
June	1	4.23	110,000	3,870		7.8	45		12.97	10.69	19.58	2.49		11.57	
July	2	4.31	17,500	4,850		8.2	46		16.97	12.34	‖24.54	2.49	37.48	15.23	
Aug.	2	1.46	21,700	1,560		7.7	48		5.49	2.55	7.40	2.10		4.80	
Sept.	2	1.23	38,800	1,340	.46	8.1	46	27	4.94	2.22	6.09	2.30	7.50	3.67	.14
Oct.	1	2.41	26,600	2,420		7.8	41		9.48	6.00	10.88	3.54		6.77	
Nov.	1	4.37	29,800	4,060		8.1	44		15.47	10.69	20.88	3.48		12.13	
Dec.	1	5.32	27,400	4,740		7.8	46		14.97	13.16	24.36	3.87		14.67	
Mean ●	∅15	2.93	∅ 458,500	2,850		7.9	45		10.05	7.09	13.89	2.58		8.75	
Period Avg.		0.98	344,000	1,010			37		# 6.70		4.01	2.46		2.77	
Tons of Constituents, 1974									42,800	18,300	67,900	16,500		65,900	
Avg. Tons, Period 1955-1974											44,200	35,400		47,000	
‡ Rio Grande below Falcon Dam, Texas–U. S. Tailrace															
Sampling by U. S. Section															
Jan.	12	0.89	182,000	1,010	0.27	7.5	45	30	3.64	1.73	4.35	2.23	5.00	3.10	0.00
Feb.	12	.91	252,000	1,030	.27	7.9	44	31	3.74	1.73	4.35	2.23	4.58	3.10	.02
Mar.	13	.91	109,000	1,050	.34	7.5	46	30	3.94	1.73	4.78	2.25	5.00	3.10	.01
Apr.	13	.89	161,000	1,050	.28	7.6	47	31	3.69	1.73	4.78	2.30	4.58	3.10	.00
May	14	.91	385,000	1,070	.27	7.3	45	32	3.84	1.89	4.78	2.26	4.79	3.39	.00
June	12	.95	219,000	1,090	.26	7.8	46	30	3.74	1.81	4.78	2.30	4.79	3.10	.00
July	14	1.00	134,000	1,130	.30	8.0	48	31	3.89	1.73	5.22	2.23	5.20	3.39	.00
Aug.	13	1.00	361,000	1,140	.30	7.7	47	30	3.89	1.98	5.22	2.20	5.62	3.39	.01
Sept.	13	1.04	368,000	1,160	.27	7.9	47	30	3.84	2.06	5.22	2.10	5.83	3.39	.01
Oct.	13	.89	555,000	1,050	.25	7.6	47	30	3.59	1.73	4.78	2.16	5.00	3.10	.01
Nov.	11	.86	228,000	999	.23	8.1	45	28	3.69	1.56	4.35	2.30	4.79	2.82	.01
Dec.	13	.84	126,000	973	.22	7.9	45	28	3.59	1.48	4.18	2.36	4.37	2.65	.01
Mean ●	∅153	0.93	∅3,080,000	1,070	0.27	7.7	45	30	3.75	1.79	4.77	2.22	5.02	3.17	0.01
Period Avg.		0.71	2,203,000	824			43	29	3.31	1.25	3.45	2.28	3.47	2.39	
Tons of Constituents, 1974									340,000	98,400	496,000	301,000	1,090,000	508,000	
Avg. Tons, Period 1956-1974									199,000	45,500	238,000	205,000	499,000	254,000	

● Weighted mean ∅ Total ** Percent of total cations *** Percent of total anions
‖ Estimated ‡ Tonnage figures based on total release from Falcon Reservoir # Sum of calcium and magnesium

CHEMICAL ANALYSES OF WATER SAMPLES FROM THE RIO GRANDE AND TRIBUTARIES - 1974

Month	No. of Samples	Dissolved Solids: Tons Per Acre-Foot	Dissolved Solids: Total Tons	ECx10⁶ @25°C	Boron p.p.m.	pH	% Na **	% Cl ***	Mean Milligram Equivalents per Liter: Ca	Mg	Na	CO_3 + HCO_3	SO_4	Cl	NO_3

Rio Grande at Fort Ringgold, Rio Grande City, Texas

Sampling by U. S. Section

Jan.	7	0.89	219,000	1,020	0.27	7.7	44	30	3.69	1.73	4.35	2.39	4.79	3.10	0.01
Feb.	7	.93	265,000	1,050	.28	7.9	46	32	3.84	1.81	4.78	2.30	4.79	3.39	.00
Mar.	6	.97	140,000	1,130	.32	7.8	48	36	3.84	1.73	5.22	2.33	4.79	3.95	.01
Apr.	8	.94	173,000	1,090	.28	7.7	46	32	3.84	1.73	4.78	2.30	4.79	3.39	.00
May	9	.93	388,000	1,110	.29	7.3	46	32	3.69	1.81	4.78	2.33	4.79	3.39	.00
June	5	.97	236,000	1,120	.28	7.6	46	32	3.79	1.89	4.78	2.30	5.00	3.39	.00
July	6	1.03	145,000	1,170	.32	8.1	50	33	3.89	1.73	5.66	2.30	5.20	3.67	.00
Aug.	5	1.02	368,000	1,150	.30	7.7	47	32	3.89	1.98	5.22	2.23	5.41	3.67	.00
Sept.	7	1.05	366,000	1,180	.29	8.0	49	32	3.84	2.06	5.66	2.23	5.62	3.67	.00
Oct.	6	.89	574,000	1,040	.26	7.9	47	31	3.59	1.73	4.78	2.23	4.79	3.10	.02
Nov.	6	.87	237,000	1,020	.23	7.8	49	28	3.49	1.56	4.78	2.33	5.00	2.82	.01
Dec.	7	.90	154,000	1,040	.25	7.8	48	31	3.69	1.56	4.78	2.49	4.37	3.10	.02
Mean ⊕	Ø79	0.94	Ø3,265,000	1,090	0.28	7.8	47	32	3.73	1.80	4.94	2.30	4.97	3.35	0.00
Period Avg.		0.74	2,703,000	856			44	30	3.45	1.25	3.67	2.38	3.53	2.58	
Tons of Constituents, 1974									352,000	103,000	535,000	325,000	1,124,000	559,000	
Avg. Tons, Period 1959-1974									254,000	55,800	310,000	262,000	624,000	336,000	

Morillo Drain in Mexico, 8.4 River Miles above Anzaldúas Dam

Sampling by Mexican Section

Jan.	4	8.35	4,860	8,900	4.9	7.9	74	63	13.97	10.69	69.60	2.66	33.31	62.06	0.11
Feb.	4	9.23	9,350	9,790	5.1	8.0	74	63	15.97	11.52	78.30	3.54	35.39	67.70	.14
Mar.	5	10.6	1,110	11,500	6.1	7.8	73	66	21.96	12.34	91.35	2.85	39.56	81.81	.13
Apr.	4	8.43	8,460	9,220	5.0	7.8	76	65	11.98	10.69	73.95	4.33	29.15	62.06	.11
May	4	7.24	21,500	8,170	4.0	7.6	73	62	13.47	9.05	60.90	2.88	29.15	53.60	.08
June	3	10.1	20,800	10,800	7.1	7.9	76	66	15.47	10.69	82.65	2.62	35.39	73.35	.13
July	No	Flow													
Aug.	No	Flow													
Sept.	3	8.72	7,380	9,320	5.0	7.9	74	60	14.47	10.69	73.65	3.90	37.48	62.06	.11
Oct.	1	6.81	24,700	7,710	3.9	8.1	75	60	10.98	9.05	60.90	2.66	29.15	47.96	.11
Nov.	2	9.07	15,100	10,100	4.9	8.1	74	66	14.47	13.16	78.30	2.43	33.31	70.52	.14
Dec.	No	Flow													
Mean ⊕	Ø30	8.17	Ø113,260 ñ	8,990	4.8	7.9	75	63	13.46	10.28	69.81	2.94	31.79	59.82	0.11
Period Avg.		4.47	177,000	4,880			71	63	9.09	5.47	36.17	2.87	16.16	32.00	
Tons of Constituents, 1974 *									5,090	2,360	30,300	1,660	28,800	40,000	
Avg. Tons, Period 1970-1974									9,810	3,580	44,800	4,630	41,800	61,100	

Rio Grande below Anzalduas Dam, Texas

Sampling by U. S. Section

Jan.	31	0.95	110,000	1,110	0.31	7.8	48	33	3.84	1.81	5.22	2.33	5.00	3.67	0.04
Feb.	28	1.05	80,200	1,170	.34	7.9	48	36	4.04	1.98	5.66	2.36	5.20	4.23	.01
Mar.	31	1.16	34,200	1,360	.40	7.8	52	40	4.49	1.98	6.96	2.43	5.62	5.36	.02
Apr.	30	1.15	128,000	1,360	.41	7.7	52	38	4.29	2.06	6.96	2.49	5.62	5.03	.00
May	31	1.01	137,000	1,200	.34	7.3	49	35	3.89	1.98	5.66	2.28	5.00	3.95	.00
June	30	1.15	177,000	1,330	.35	7.6	51	36	4.24	2.06	6.52	2.43	5.62	4.51	.00
July	31	1.19	89,600	1,360	.42	8.1	52	33	4.24	1.81	6.52	2.36	5.41	4.80	.01
Aug.	31	1.05	123,000	1,190	.35	7.8	49	35	3.89	1.98	5.66	2.26	5.00	3.95	.01
Sept.	30	1.11	266,000	1,260	.33	7.8	49	34	4.09	2.14	6.09	2.33	5.83	4.23	.01
Oct.	31	.95	597,000	1,120	.28	7.8	48	30	3.79	1.81	5.22	2.30	5.62	3.39	.02
Nov.	30	.96	262,000	1,120	.29	7.9	48	32	3.79	1.81	5.22	2.43	5.20	3.67	.02
Dec.	30	1.00	156,000	1,150	.28	8.2	47	32	4.09	1.73	5.22	2.56	5.20	3.67	.02
Mean ⊕	Ø364	1.03	Ø2,210,000	1,190	0.32	7.8	49	34	3.97	1.90	5.67	2.36	5.43	3.93	0.01
Period Avg.		0.91	1,543,000	1,080			50	39	3.78	1.48	5.19	2.40	4.07	4.10	
Tons of Constituents, 1974									233,000	67,700	382,000	207,000	764,000	408,000	
Avg. Tons, Period 1959-1974									174,000	41,400	274,000	165,000	449,000	334,000	

⊕ Weighted mean Ø Total ** Percent of total cations *** Percent of total anions

* To Rio Grande excluding storm runoff ñ An additional 350,000 tons pumped to the gulf

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES
1974

The following tables show electrical conductivity, expressed in mhos per centimeter x 10^6 at 25°C, of individual water samples taken at Rio Grande and tributary stations. The determinations were made by the United States Section of the Commission.

Electrical conductivity is a relative indication of the concentration of dissolved solids in the water samples. Though no exact relationship exists between conductivity and dissolved solids in natural waters, a study of recent data pertaining to stations on the Rio Grande watershed indicates that the relationship may be expressed with 10 by the following equations:

Tons per Acre-Foot = .0008878 (EC x 10^6 at 25°C) when conductivity (EC x 10^6 at 25°C) is below 7,520 micromhos.

Tons per Acre-Foot = .001052 (EC x 10^6 at 25°C) - 1.235 when conductivity (EC x 10^6 at 25°) ranges between 7,520 and 22,000 micromhos.

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande at El Paso, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		June		August		September		November	
2	2,470	25	2,600	16	1,080	22	1,070	29	971	9	979	16	1,140	11	2,170
3	2,390	26	2,620	17	1,120	23	1,080	30	961	10	945	17	1,050	12	2,200
4	2,430	27	2,570	18	1,170	24	1,080	July		11	1,070	18	1,230	13	2,240
7	2,270	28	2,530	19	1,270	25	1,080	1	902	12	1,080	19	1,280	14	2,270
8	2,390	March		20	1,240	28	1,130	2	938	13	1,020	20	1,390	15	2,270
9	2,350	1	1,630	21	1,180	29	1,150	3	909	14	1,130	23	1,400	18	2,260
10	2,300	6	1,190	22	1,120	30	1,220	5	935	15	1,040	24	1,730	19	2,260
11	2,330	7	1,090	23	1,110	31	1,030	6	850	17	1,150	25	1,820	20	2,300
14	2,370	8	1,040	24	1,060	June		7	860	18	992	26	1,860	21	2,290
15	2,390	11	962	25	1,170	1	1,030	8	880	19	932	27	1,990	22	2,350
16	2,410	12	963	26	1,160	2	1,010	9	873	20	905	30	2,060	25	2,330
17	2,410	14	975	27	1,090	3	997	10	852	21	946	October		26	2,330
18	2,410	15	936	28	1,100	4	1,090	11	919	22	998	1	2,050	27	2,350
21	2,450	18	857	29	1,030	5	1,100	12	1,050	23	1,050	2	2,050	29	2,310
22	2,390	19	881	30	1,010	6	1,130	13	967	24	914	3	2,060	December	
23	2,500	20	849.	May		7	1,040	14	957	25	1,120	4	2,060	2	2,320
24	2,430	21	835	1	1,030	8	1,070	15	1,050	26	971	7	2,060	3	2,280
25	2,440	22	829	2	1,030	9	943	16	960	27	965	8	2,090	4	2,420
28	2,450	25	864	3	1,010	10	922	17	969	28	1,070	9	2,120	5	2,330
29	2,410	26	852	4	969	11	901	18	1,200	29	1,140	10	2,020	6	2,280
30	2,440	27	873	5	1,080	12	919	19	1,010	30	1,230	11	1,720	9	2,280
31	2,400	28	885	6	1,210	13	954	20	1,060	31	1,300	15	1,310	10	2,300
February		29	905	7	1,240	14	953	21	1,170	September		16	1,410	11	2,320
1	2,410	April		8	1,340	15	930	22	1,170	1	1,390	17	1,710	12	2,390
4	2,370	1	897	9	1,290	16	907	23	1,240	3	1,410	18	1,910	13	2,320
5	2,370	2	883	10	1,180	17	866	24	1,350	4	1,440	21	2,090	16	2,280
6	2,340	3	886	11	1,100	18	908	26	1,070	5	1,370	22	2,120	17	2,310
7	2,430	4	932	12	1,090	19	931	27	1,050	6	1,300	23	1,590	18	2,320
8	2,450	5	1,020	13	1,060	20	889	28	928	7	1,200	24	2,030	19	2,330
11	2,450	6	954	14	1,020	21	944	August		8	1,170	25	1,150	20	2,320
12	2,440	9	891	15	1,070	22	1,200	2	854	9	1,100	29	1,900	23	2,320
13	2,410	10	1,020	16	1,090	23	932	3	847	10	1,030	November		24	2,350
14	2,480	11	960	17	1,060	24	902	4	842	11	1,040	5	2,220	26	2,420
15	2,460	12	1,070	18	1,070	25	946	5	905	12	1,150	6	2,190	27	2,180
19	2,600	14	1,110	19	1,050	26	927	6	897	13	1,170	7	2,230	30	2,190
20	2,540	15	1,060	20	1,030	27	963	7	1,030	14	1,190	8	2,190	31	2,160
22	2,560			21	1,020	28	970	8	1,390						

Sampling by U. S. Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande at Fort Quitman, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		June		October		October		November		November		December		December	
2	4,860	5	9,230	17	3,270	30	4,010	10	3,270	23	4,310	6	4,380	18	4,230
17	8,270	19	11,490	18	3,700	31	3,830	11	3,570	24	4,080	7	4,650	19	4,410
February		July		19	3,800	November		12	4,190	25	4,200	8	4,140	20	4,600
1	9,210	3	11,370	20	3,980	1	3,900	13	4,410	26	4,280	9	4,170	21	4,710
13	8,960	17	2,150	21	3,980	2	3,930	14	4,410	27	4,280	10	4,130	22	4,300
March		August		22	4,010	3	3,910	15	4,110	28	4,500	11	4,010	23	4,640
1	9,650	1	4,030	23	4,080	4	4,080	16	4,370	29	4,520	11	* 4,020	24	4,540
13	7,270	14	5,490	24	2,380	5	3,960	17	4,410	30	4,570	12	4,500	25	4,180
April		September		25	2,940	6	4,080	18	4,350	December		13	4,420	26	4,210
3	6,930	4	5,490	26	2,960	7	4,570	19	4,220	2	3,940	14	4,670	27	4,300
17	4,660	October		27	3,250	8	4,070	20	4,090	3	3,990	15	4,580	28	4,100
May		3	1,750	28	3,630	8 *	4,350	21	3,950	4	4,340	16	4,540	29	3,790
1	9,640	16	3,140	29	3,900	9	3,830	22	4,650	5	4,270	17	4,530	30	4,010
15	5,160													31	4,140

Sampling by U. S. Section through October 16 and those marked with * thereafter
Sampling by U.S.G.S. after October 16

Rio Grande above Rio Conchos near Presidio, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		March		August		September		October		November		December	
2	5,310	1	5,310	18	717	30	692	22	838	7	941	4	2,680	2	4,450
7	5,050	March		August		September		24	740	15	3,120	11	3,380	9	4,540
14	5,310	13	523	26	710	3	1,840	30	858	21	2,680	15	3,170	16	4,600
21	4,980	14	712	26	720	9	2,180	October		29	2,740	18	3,940	23	4,580
28	5,150	15	672	27	588	16	852	1	853	31	3,330	25	4,180	30	4,730
						18	733								

Sampling by U. S. Section

Rio Conchos near Ojinaga, Chihuahua

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		July		August		September		November	
2	1,300	18	1,260	3	1,370	17	1,090	3	1,400	19	1,240	27	1,230	15	833
4	1,170	20	1,230	5	1,380	20	1,080	8	912	21	1,250	October		18	1,070
7	1,270	22	1,220	8	1,360	22	1,070	9	952	23	1,050	3	837	20	1,280
9	1,270	25	1,280	10	1,350	24	1,070	10	952	26	957	4	873	22	1,260
11	1,200	27	1,270	12	1,350	27	1,110	12	1,090	28	995	7	830	25	1,480
14	1,260	March		15	1,150	29	1,120	15	1,120	30	1,150	9	809	27	1,280
16	1,260	1	1,190	17	1,130	31	1,080	17	1,170	September		11	817	29	1,300
18	1,190	4	1,290	19	1,090	June		19	1,180	2	1,240	14	997	December	
21	1,230	6	1,250	22	1,100	3	1,100	22	1,170	4	1,260	16	1,010	2	1,260
23	1,200	8	1,310	24	1,160	5	1,100	24	1,170	6	1,250	18	967	4	1,220
25	1,240	11	1,180	26	1,090	7	1,100	26	1,240	9	1,230	21	933	6	1,210
28	1,250	13	1,200	29	968	10	1,110	29	1,310	11	1,250	23	901	10	1,310
30	1,260	14	1,070	May		12	1,130	31	1,340	13	1,160	25	815	11	1,320
February		15	1,010	1	1,110	14	1,160	August		16	890	28	1,080	13	1,250
1	1,280	18	1,230	3	1,110	17	1,300	2	1,330	17	733	30	1,230	16	1,230
4	1,240	20	1,200	6	1,040	19	1,430	5	1,260	18	880	November		18	1,330
6	1,250	22	1,290	7	988	21	1,370	7	1,200	19	970	1	1,170	20	1,210
8	1,240	25	1,310	8	1,050	24	1,390	10	1,090	20	860	6	1,100	23	1,270
11	1,250	27	1,310	10	1,090	26	1,410	12	1,150	20	878	8	786	26	1,260
13	1,250	29	1,310	13	1,100	28	1,410	14	1,130	23	766	11	820	27	1,230
15	1,250	April		15	1,090	July		16	1,220	25	860	13	821	30	1,260
		1	1,370			2	1,400								

Sampling by Mexican Section

Rio Grande below Rio Conchos near Presidio, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		March		April		June		August		September		September		November	
2	1,240	4	1,370	22	1,110	3	1,080	1	1,380	9	1,290	26	855	4	1,770
7	1,370	11	1,380	27	1,080	10	1,110	5	1,650	16	1,060	28	966	11	1,400
14	1,460	14	1,040	29	930	17	1,260	13	1,140	16	804	29	950	15	1,410
21	1,280	15	1,010	May		24	1,460	15	1,200	17	642	30	820	18	1,820
28	1,310	18	1,200	1	1,090	July		19	1,400	18	677	October		25	3,330
February		22	1,240	6	1,130	1	1,530	22	940	20	352	1	863	29	2,160
1	1,360	26	1,460	13	1,110	5	1,230	23	1,160	21	437	3	867	December	
4	1,340	29	1,450	16	1,100	8	1,240	26	922	22	372	7	885	2	2,300
11	1,340	April		20	1,080	10	915	27	800	23	412	15	1,340	9	2,250
19	1,280	1	1,640	24	1,060	11	938	30	1,070	23	458	21	1,470	16	2,240
25	1,390	8	1,380	28	1,130	15	1,050	September		24	606	29	1,730	23	2,200
March		15	1,310	31	1,090	22	1,230	3	1,290	25	726	31	1,910	30	2,170
1	1,390					29	1,460								

Sampling by U. S. Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES
1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande at Johnson Ranch near Castolon, Texas

January		February		April		May		July		August		October		November	
3	1,390	26	1,400	9	1,650	28	1,090	15	946	22	757	2	933	15	1,430
8	1,400	March		16	1,550	30	1,130	23	1,170	22	727	8	909	19	1,450
15	1,390	1	1,420	23	1,120	June		29	1,270	26	1,070	16	1,320	26	2,150
21	1,440	5	1,420	29	1,070	4	1,080	August		30	999	22	1,500	December	
29	1,360	12	1,440	May		11	1,110	1	1,050	September		29	1,480	2	2,160
February		15	1,020	1	939	17	1,200	6	1,520	3	1,180	November		10	2,260
1	1,390	19	1,110	7	1,080	24	1,490	12	1,140	9	1,400	1	1,850	16	2,230
5	1,380	28	1,440	13	1,130	July		12	1,160	16	1,150	5	1,840	23	2,170
12	1,350	April		16	1,110	1	1,540	15	1,110	19	770	12	1,390	31	2,120
19	1,370	1	1,520	20	1,110	9	1,150	20	1,290	25	723				

Sampling by U. S. Section

Rio Grande at Foster Ranch near Langtry, Texas

January		April		July		October		November		November		December		December	
2	1,130	1	1,060	1	1,130	15	906	11 *	1,640	25 *	1,410	7	1,800	20	1,720
7	1,120	8	1,060	8	1,080	29	1,090	12	1,480	26	1,630	8	1,730	21	1,730
14	1,070	15	1,030	15	1,050	November		13	1,310	27	1,650	9	1,800	22	1,730
21	1,050	22	1,230	22	732	1	1,310	14	1,290	28	1,680	9 *	1,800	23	1,740
28	1,140	29	1,030	29	1,080	2	1,370	15	1,310	29	1,680	10	1,790	23 *	1,740
February		May		August		3	1,460	16	1,310	30	1,670	11	1,780	24	1,740
4	1,090	6	891	5	1,170	4	1,550	17	1,350	December		12	1,760	25	1,690
11	1,090	13	945	12	464	4 *	1,530	18	1,350	1	1,700	13	1,770	26	1,690
19	1,100	20	1,130	19	886	5	1,610	18 *	1,350	2	1,730	14	1,770	27	1,700
25	1,110	28	1,060	26	656	6	1,650	19	1,360	2 *	1,720	15	1,770	28	1,700
March		June		September		7	1,670	21	1,320	3	2,150	16	1,760	29	1,690
4	1,130	3	1,140	3	444	8	1,670	22	1,310	4	2,160	17	1,760	30	1,690
11	1,090	17	1,050	16	1,190	9	1,650	23	1,290	5	1,840	18	1,740	30 *	1,690
18	1,360	24	1,060	October		10	1,620	24	1,330	6	1,810	19	1,730	31	1,690
25	976			7	901	11	1,650	25	1,480						

Sampling by U. S. Section through October and those marked with * thereafter
Sampling by U.S.G.S. after October 31

Pecos River near Langtry, Texas

January		February		March		April		May		July		August		October	
7	3,240	11	2,880	18	3,940	22	3,600	20	3,040	1	2,900	12	2,080	29	2,420
14	3,650	19	4,410	25	3,930	29	3,540	28	3,150	15	2,780	19	2,260	November	
21	3,980	25	4,510	April		May		June		22	2,730	26	3,370	4	4,410
28	4,210	March		1	3,820	6	2,640	3	3,090	29	2,680	September		18	4,610
February		4	4,320	8	3,790	13	3,400	17	2,470	August		3	862	December	
4	4,360	11	4,180	15	3,730			24	2,880	5	2,660	9	2,980	2	5,030
														16	5,130

Sampling by U. S. Section

Devils River at Pafford Crossing near Comstock, Texas

January		March		April		June		July		August		October		November	
2	407	4	393	8	396	3	372	22	359	26	373	15	405	11	418
7	420	13	389	22	381	17	377	29	314	September		21	403	18	417
February		25	398	May		July		August		3	301	29	400	25	406
4	365	April		6	376	1	373	5	345	9	352	November		December	
19	426	1	393	20	368	8	367	19	361	16	357	4	401	9	415
						15	353			30	397			23	412

Sampling by U. S. Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES
1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande below Amistad Dam near Del Rio, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		June		August		October		November	
2	938	13	945	1	896	17	926	28	922	9	934	3	766	18	834
4	906	15	958	3	890	20	935	July		12	899	4	747	20	819
7	909	19	885	5	897	22	913	1	923	14	935	7	753	22	829
9	915	22	895	8	894	24	917	3	923	16	945	9	749	25	817
11	858	25	891	10	909	27	914	5	913	19	934	11	748	27	839
14	853	27	902	12	882	29	919	8	923	21	937	15	712	29	857
16	909	March		15	898	31	912	10	925	23	934	17	732	December	
18	857	1	905	17	909	June		12	925	26	936	21	745	2	877
21	909	4	918	19	914	3	919	15	925	28	933	23	765	4	880
23	910	6	896	22	905	5	919	17	928	30	929	25	751	6	879
25	886	8	933	24	902	7	912	19	930	September		29	762	9	880
28	905	11	904	26	932	10	912	22	937	3	950	30	785	11	896
30	930	13	888	29	929	12	913	24	930	4	925	November		13	890
February		15	899	May		14	913	26	934	6	923	1	756	16	890
1	916	18	910	1	915	17	914	29	931	9	931	4	761	18	918
4	962	20	896	3	910	19	925	31	928	11	929	6	761	20	911
6	902	22	887	6	898	21	923	August		13	929	8	756	23	910
8	899	25	891	8	918	24	918	2	931	16	930	11	803	26	863
11	881	27	901	13	922	26	922	5	942	30	825	15	821	30	895
		29	862	15	919			7	930						

Sampling by U. S. Section

Rio Grande below Maverick Dam near Del Rio, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		July		August		October		November	
1	829	15	814	1	862	16	916	1	908	16	935	1	829	16	839
2	819	16	811	2	868	17	903	2	907	17	912	2	821	17	843
3	830	17	810	3	944	18	917	3	909	18	908	3	823	18	836
4	829	18	818	4	915	19	929	4	909	19	914	4	747	19	831
5	786	19	823	5	883	20	917	5	908	20	910	5	745	20	835
6	819	20	823	6	901	21	926	6	908	21	914	6	758	21	820
7	823	21	813	7	987	22	918	7	909	22	911	7	758	22	841
8	824	22	849	8	923	23	912	8	911	23	910	8	758	23	831
9	830	23	827	9	869	24	915	9	907	24	907	9	766	24	834
10	832	24	889	10	869	25	917	10	911	25	907	10	759	25	825
11	833	25	931	11	880	26	921	11	913	26	907	11	759	26	817
12	828	26	892	12	882	27	908	12	913	27	908	12	764	27	821
13	826	27	893	13	873	28	913	13	909	28	914	13	755	28	846
14	833	28	889	14	866	29	912	14	909	29	932	14	772	29	861
15	836	March		15	871	30	909	15	908	30	927	15	713	30	857
16	838	1	889	16	867	31	906	16	908	31	924	16	731	December	
17	835	2	886	17	869	June		17	929	September		17	749	1	843
18	833	3	886	18	876	1	904	18	915	1	934	18	751	2	883
19	835	4	908	19	870	2	921	19	912	2	939	19	757	3	891
20	847	5	887	20	865	3	900	20	910	3	1,040	20	761	4	902
21	842	6	875	21	869	4	917	21	911	4	954	21	750	5	891
22	839	7	882	22	863	5	877	22	910	5	925	22	753	6	889
23	832	8	898	23	861	6	912	23	905	6	935	23	763	7	887
24	828	9	901	24	865	7	912	24	904	7	932	24	757	8	886
25	836	10	938	25	867	8	907	25	906	8	927	25	753	9	891
26	836	11	905	26	898	9	963	26	907	9	945	26	751	10	890
27	832	12	876	27	899	10	917	27	908	10	931	27	755	11	903
28	828	13	889	28	881	11	908	28	904	11	928	28	787	12	945
29	821	14	876	29	882	12	916	29	905	12	931	29	769	13	929
30	825	15	890	30	872	13	907	30	904	13	931	30	782	14	919
31	785	16	875	May		14	905	31	906	14	931	31	792	15	916
February		17	848	1	913	15	903	August		15	930	November		16	963
1	793	18	860	2	904	16	905	1	913	16	929	1	755	17	909
2	792	19	874	3	907	17	903	2	947	17	932	2	781	18	918
3	797	20	866	4	913	18	895	3	977	18	929	3	789	19	919
4	800	21	858	5	954	19	898	4	914	19	791	4	784	20	917
5	789	22	853	6	926	20	897	5	924	20	720	5	767	21	921
6	787	23	851	7	914	21	893	6	911	21	840	6	773	22	912
7	785	24	864	8	950	22	903	7	910	22	870	7	772	23	940
8	796	25	865	9	924	23	893	8	908	23	821	8	780	24	903
9	817	26	857	10	892	24	891	9	920	24	871	9	798	25	943
10	826	27	867	11	896	25	894	10	902	25	851	10	820	26	856
11	800	28	861	12	912	26	894	11	921	26	876	11	830	27	892
12	824	29	871	13	901	27	896	12	907	27	856	12	821	28	870
13	799	30	862	14	917	28	904	13	621	28	844	13	819	29	908
		31	856	15	921	29	903	14	959	29	846	14	822	30	934
						30	904	15	915	30	823	15	819	31	901

Sampling by Maverick County Water Control and Improvement District No. 1
Samples collected at the Maverick Canal headgate

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

1974

Rio Grande at San Antonio Crossing near El Indio, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		July		August		October		November	
2	839	20	1,010	3	996	15	969	10	1,030	21	1,000	2	894	13	817
16	870	March		10	997	29	950	24	1,010	September		16	745	27	833
30	813	6	966	17	1,010	June		August		4	942	November		December	
February		20	1,020	May		12	973	7	1,000	18	964	1	791	4	879
6	899			1	978	26	998.			22	745			18	973

Sampling by U. S. Section

Rio Grande at Laredo, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		July		August		October		November	
1	970	15	1,000	1	949	16	959	1	1,040	16	955	1	846	16	839
2	870	16	1,010	2	966	17	948	2	1,040	17	997	2	827	17	829
3	877	17	1,070	3	989	18	963	3	1,050	18	988	3	841	18	834
4	928	18	1,070	4	990	19	927	4	1,050	19	888	4	856	19	841
5	910	19	1,010	5	997	20	904	5	1,040	21	759	5	827	20	851
6	964	20	1,060	6	997	21	966	6	1,040	22	861	6	708	22	847
7	918	21	1,090	7	989	22	966	7	1,050	23	908	7	778	23	865
8	949	22	1,090	8	1,010	23	951	8	1,050	24	972	8	774	24	834
9	879	23	1,070	9	999	24	937	9	1,040	25	991	9	819	25	840
10	876	24	1,130	10	992	25	958	10	1,060	26	999	10	774	26	843
11	945	25	1,060	11	1,050	26	920	11	1,070	27	919	11	780	27	841
12	979	26	1,120	12	1,080	27	920	12	1,070	28	1,000	12	777	28	831
13	952	27	1,030	13	1,080	28	935	13	1,070	29	1,010	13	784	29	830
14	959	28	999	14	1,010	29	956	14	1,060	30	897	14	769	30	836
15	981	March		15	978	30	947	15	1,060	31	770	15	785	December	
16	991	1	932	16	992	31	935	16	1,050	September		16	785	1	853
17	992	2	935	17	1,030	June		17	1,050	1	892	17	766	2	858
18	922	3	912	18	1,040	1	941	18	1,050	2	802	18	744	3	877
19	912	4	954	19	1,050	2	935	19	1,060	3	948	19	752	4	849
20	891	5	951	20	1,070	3	953	20	1,070	4	621	20	766	5	868
21	946	6	948	21	1,070	4	959	21	1,060	5	697	21	769	6	888
22	998	7	883	22	1,070	5	984	22	1,060	6	865	22	771	7	896
23	971	8	947	23	1,000	6	1,010	23	1,050	7	909	23	768	8	893
24	962	9	934	24	1,020	7	1,000	24	1,040	8	911	24	771	9	893
25	977	10	953	25	1,050	8	1,010	25	1,060	9	940	25	763	10	888
26	980	11	939	26	1,020	9	1,000	26	1,070	10	955	26	632	11	891
27	980	12	942	27	1,030	10	985	27	1,060	11	961	27	708	12	892
28	996	13	926	28	1,030	11	967	28	1,050	12	950	28	746	13	926
29	967	14	825	29	989	12	975	29	1,050	13	961	29	744	14	958
30	976	15	972	30	997	13	933	30	1,050	14	902	30	759	15	987
31	988	16	1,020	May		14	944	31	1,050	15	894	31	783	16	1,030
February		17	1,060	1	1,010	15	949	August		16	919	November		17	1,020
1	934	18	967	2	990	16	934	1	1,040	17	942	1	772	18	981
2	1,120	19	962	3	983	17	1,040	2	1,060	18	945	2	784	19	964
3	1,190	20	968	4	871	18	1,110	3	1,060	19	947	3	794	20	1,000
4	1,100	21	978	5	905	19	982	4	1,060	20	946	4	766	21	978
5	1,080	22	1,020	6	914	20	982	5	1,050	21	588	5	785	22	913
6	1,030	23	1,090	7	944	21	990	6	1,060	22	768	6	791	23	931
7	1,030	24	1,050	8	945	22	974	7	1,010	23	782	7	782	24	993
8	972	25	1,060	9	915	23	982	8	559	24	855	8	771	25	985
9	1,010	26	1,030	10	929	24	977	9	561	25	826	9	774	26	975
10	1,020	27	1,060	11	933	25	997	10	970	26	885	10	782	27	956
11	951	28	1,020	12	913	26	1,000	11	1,000	27	854	11	780	28	881
12	1,050	29	1,040	13	960	27	1,030	12	951	28	866	12	800	29	948
13	1,070	30	956	14	961	28	1,030	13	1,010	29	849	13	817	30	929
14	1,000	31	952	15	977	29	1,040	14	951	30	834	14	823	31	875
						30	1,040	15	935			15	847		

Sampling by Laredo Water Plant

Río Salado at Las Tortillas, Tamaulipas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		March		April		June		July		August		September		November	
8	2,640	5	3,540	3	3,440	5	3,880	3	4,620	13	2,170	5	1,780	6	4,050
February				May				18	5,080	September		October		December	
8	3,040			3	3,390					2	870	8	2,420	11	4,740

Sampling by Mexican Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande below Falcon Dam, Texas - U. S. Tailrace

January		February		April		May		July		August		September		November	
2	1,000	20	1,030	5	1,040	20	1,070	3	1,110	16	1,140	30	1,160	18	994
7	1,000	22	1,020	8	1,050	22	1,070	5	1,110	19	1,140	October		20	997
9	1,000	25	1,030	10	1,050	24	1,080	8	1,110	21	1,140	2	1,160	22	996
11	999	27	1,030	12	1,050	27	1,080	10	1,110	23	1,150	4	1,120	25	988
14	1,000	March		15	1,050	29	1,080	12	1,120	26	1,140	7	1,030	27	987
16	1,000	1	1,040	17	1,050	31	1,080	15	1,110	28	1,170	9	1,030	29	991
18	1,000	4	1,050	19	1,050	June		17	1,120	30	1,150	11	1,030	December	
21	1,000	6	1,040	22	1,050	3	1,090	19	1,120	September		14	1,000	2	982
23	1,000	8	1,050	24	1,050	5	1,080	22	1,120	2	1,150	16	1,040	4	983
25	1,000	11	1,040	26	1,060	7	1,090	24	1,120	4	1,150	18	1,020	6	978
28	1,000	13	1,050	29	1,060	10	1,090	26	1,130	6	1,160	21	1,040	9	978
30	1,000	15	1,040	May		12	1,080	29	1,130	9	1,150	23	1,030	11	983
February		18	1,040	1	1,060	14	1,090	31	1,120	11	1,160	25	1,030	13	982
1	1,030	20	1,050	3	1,060	17	1,090	August		13	1,170	28	1,030	16	976
4	1,020	22	1,050	6	1,060	19	1,100	2	1,120	17	1,170	30	1,030	18	973
6	1,020	25	1,040	8	1,060	21	1,090	5	1,130	18	1,180	November		20	974
8	1,020	27	1,040	10	1,060	24	1,110	7	1,120	20	1,170	1	999	23	933
11	1,020	29	1,040	13	1,060	26	1,100	9	1,130	23	1,170	4	989	25	969
13	1,020	April		15	1,060	28	1,090	12	1,130	25	1,170	11	998	27	965
15	1,030	1	1,050	17	1,060	July		14	1,130	27	1,160	13	996	30	965
18	1,030	3	1,050			1	1,110					15	995		

Sampling by U. S. Section

Rancherías Drain in Mexico, 69.3 River Miles above Anzaldúas Dam

January		March		April		May		July		August		October		November	
4	7,390	5	7,290	17	7,000	29	4,690	3	6,500	15	5,890	2	6,420	27	7,010
17	7,340	13	7,290	24	6,450	June		10	6,660	21	5,700	9	6,490	December	
28	7,610	20	6,860	May		6	5,170	17	6,350	29	5,970	16	6,420	4	6,810
February		26	7,090	2	5,830	13	5,670	24	6,240	September		23	5,970	11	6,840
1	5,190	April		9	6,180	20	6,020	31	6,070	4	5,130	30	6,450	18	6,840
26	6,770	3	7,050	15	6,530	26	5,400	August		18	6,530	November		26	6,700
		9	6,910	22	4,560			7	6,560			19	6,950		

Sampling by Mexican Section

Río San Juan at Camargo, Tamaulipas

January		March		April		May		June		July		September		November	
4	872	7 #	1,640	9 #	1,390	22 #	1,710	27 *	1,790	31 #	1,940	4 #	2,100	19 ø	2,030
8	832	13 #	1,920	17 #	1,580	22 ø	1,690	July		August		18 #	1,080	27 #	2,090
28 #	1,010	20	1,330	24 #	1,940	30 #	1,640	3 *	1,740	7 ø	1,800	October		December	
February		26 #	1,340	May		June		10 ø	2,070	15 ø	1,680	16	1,740	4 #	2,060
1 #	1,050	April		2 #	2,360	13 ø	1,640	17 #	1,950	21 ø	1,700	23 ø	1,650	11 #	2,140
26 #	1,490	3 #	1,340	9 #	1,540	20 ø	1,720	24 #	1,900	29 ø	1,890	30 ø	1,800	18 #	2,240

Below Marte R. Gomez Dam
Sampling by Mexican Section

ø 4 miles below Marte R. Gomez Dam

* 3 miles above gaging station

Rio Grande at Fort Ringgold, Rio Grande City, Texas

January		February		April		May		June		August		September		November	
2	1,040	15	1,050	1	1,120	10	1,100	21	1,130	5	1,150	30	1,170	11	1,020
7	973	19	1,070	5	1,400	13	1,090	28	1,140	12	1,140	October		14	1,010
14	1,000	22	1,080	8	1,100	17	1,080	July		19	1,160	4	1,120	18	1,020
18	1,020	25	1,060	12	1,060	20	1,090	1	1,140	23	1,150	7	1,060	29	1,030
21	1,030	28	1,080	15	1,070	24	1,070	8	1,450	September		10	1,050	December	
28	1,030	March		19	1,090	28	1,090	12	1,250	3	1,200	18	1,030	6	1,100
31	1,020	4	1,060	26	1,100	31	1,090	22	1,160	13	1,170	25	818	9	1,050
February		8	1,070	29	1,080	June		26	1,150	16	1,180	29	1,050	13	1,140
8	1,040	15	1,480	May		7	1,100	29	1,140	20	1,320	November		16	1,040
11	1,050	22	1,160	3	1,080	14	1,110	August		25	1,170	1	1,010	23	992
		28	1,470	6	1,280	17	1,110	2	1,140	27	1,180	8	1,010	27	1,000
														30	993

Sampling by U. S. Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Puertecitos Drain in Mexico, 46.8 River Miles above Anzalduas Dam

January		March		April		May		June		August		September		November	
3	4,670	5	5,170	9	5,320	15	4,740	27	5,040	9	3,220	18	4,440	19	4,400
10	4,790	13	5,220	17	4,830	22	4,850	July		15	4,260	October		27	4,370
February		20	5,260	24	4,760	29	4,580	3	4,980	23	4,250	2	4,350	December	
1	4,530	26	5,290	May		June		10	4,870	29	4,370	9	4,310	4	4,330
14	4,860	April		2	4,570	6	4,200	17	4,800	September		16	3,680	11	4,400
26	5,100	3	5,320	9	4,780	13	4,650	24	4,630	4	4,420	23	3,880	18	4,400
						20	5,010	31	4,580			30	4,490	26	4,370

Sampling by Mexican Section

Los Indios Drain in Mexico, 46.8 River Miles above Anzaldúas Dam

January		March		April		May		July		August		October		November	
2	3,340	5	3,470	9	3,520	22	3,430	3	3,310	15	3,240	2	3,090	27	3,040
10	3,290	13	3,480	17	3,190	29	3,050	10	3,280	23	3,180	9	3,160	December	
February		20	3,490	24	3,350	June		17	3,290	29	3,110	16	3,080	4	3,020
1	2,040	26	3,430	May		6	3,440	24	3,190	September		23	3,070	11	3,010
14	3,380	April		2	3,320	13	3,400	31	3,260	4	3,000	30	3,030	18	3,040
26	3,480	3	3,540	9	3,490	20	3,400	August		18	3,100	November		26	2,980
				15	3,440	27	3,420	9	3,280			19	3,090		

Sampling by Mexican Section

Huizache Drain in Mexico, 41.8 River Miles above Anzaldúas Dam

January		February		March		April		May		June		July		August	
2	4,230	26	3,620	26	4,500	24	3,470	22	3,390	20	3,870	17	4,720	15	2,810
10	3,290	March		April		May		29	3,360	27	3,690	24	4,580	23	2,870
February		5	4,040	3	4,460	2	3,320	June		July		31	2,870	29	2,830
1	3,240	13	4,010	9	4,150	9	3,340	6	4,060	3	3,870	August		September	
14	3,120	20	4,530	17	3,390	15	3,280	13	3,950	10	4,070	9	2,680	4	1,250

Sampling by Mexican Section

Rio Grande near Los Ebanos, Texas

January		February		April		May		July		August		October		November	
2	1,090	15	1,110	1	1,400	15	1,140	1	1,230	14	1,170	2	1,180	18	1,090
4	1,110	18	1,120	3	1,340	17	1,160	3	1,210	16	1,160	4	1,090	20	1,090
7	1,080	20	1,140	5	1,420	20	1,130	5	1,230	19	1,160	7	1,050	22	1,080
9	1,070	22	1,170	8	1,160	22	1,130	8	1,920	21	1,180	9	1,060	25	1,070
11	1,080	25	1,150	10	1,150	24	1,120	10	1,570	23	1,190	11	1,060	27	1,070
14	1,060	27	1,180	12	1,120	27	1,130	12	1,340	26	1,180	14	1,030	29	1,070
16	1,070	March		15	1,100	29	1,130	15	1,440	27	1,220	16	1,020	December	
18	1,080	1	1,140	17	1,100	31	1,130	17	1,350	28	1,190	18	1,040	2	1,070
21	1,060	4	1,130	19	1,100	June		19	1,310	September		21	1,050	4	1,070
23	1,030	6	1,150	22	1,750	3	1,180	22	1,320	2	1,330	23	1,070	6	1,230
25	1,060	8	1,150	24	1,590	5	1,180	24	1,300	4	1,270	25	1,040	9	1,210
28	1,090	11	1,120	26	1,170	8	1,170	26	1,250	6	1,240	28	1,050	11	1,200
30	1,090	13	1,150	29	1,130	10	1,140	29	1,190	9	1,330	30	1,070	13	1,200
February		15	1,180	May		12	1,570	31	1,220	11	1,320	November		16	1,200
2	1,090	18	1,690	1	1,130	14	1,200	August		14	1,220	1	1,050	18	1,150
4	1,080	20	1,610	4	1,130	17	1,680	2	1,170	18	1,260	4	1,030	20	1,050
6	1,100	22	1,990	6	1,120	19	1,380	5	1,200	20	1,390	6	1,050	23	1,060
8	1,110	25	1,440	8	1,130	21	1,380	7	1,180	23	1,240	8	1,040	25	1,030
11	1,110	27	1,400	10	1,120	24	1,340	9	1,160	25	1,200	11	1,040	27	1,050
13	1,110	29	1,730	13	1,180	26	1,330	12	1,150	27	1,190	13	1,040	30	1,050
						29	1,230					15	1,050		

Sampling by U. S. Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande at Penitas, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		July		August		October		November	
2	1,180	15	1,120	1	2,300	15	1,220	1	1,250	16	1,170	2	1,220	15	1,100
4	1,140	18	1,260	3	1,520	17	1,160	3	1,250	19	1,170	4	1,220	18	1,120
7	1,180	20	1,200	5	1,430	20	1,120	5	1,200	21	1,180	7	1,220	20	1,130
9	1,090	22	1,240	8	1,390	22	1,120	8	1,220	23	1,180	9	1,210	22	1,140
11	1,080	25	1,180	10	1,170	24	1,120	10	1,850	26	1,200	11	1,230	25	1,130
14	1,110	27	1,190	12	1,200	27	1,120	12	1,680	28	1,210	14	1,060	27	1,290
16	1,110	March		15	1,110	29	1,120	15	1,400	30	1,230	16	1,080	29	1,120
18	1,100	1	1,250	17	1,230	31	1,120	17	1,480	September		18	1,080	December	
21	1,050	4	1,200	19	1,120	June		19	1,320	2	1,360	21	1,080	2	1,120
23	1,060	6	1,160	22	1,120	3	1,140	22	1,310	4	1,310	23	1,220	4	1,130
25	1,110	8	1,220	24	1,130	5	1,140	24	1,310	6	1,260	25	1,080	6	1,130
28	1,150	11	1,140	26	1,830	7	1,180	26	1,260	9	1,390	28	1,730	9	1,720
30	1,060	13	1,190	29	1,260	10	1,170	29	1,230	11	1,340	30	1,420	11	1,280
February		15	1,150	May		12	1,240	31	1,230	13	1,240	November		13	1,260
1	1,090	18	1,300	1	1,230	14	1,250	August		16	1,410	1	1,300	16	1,260
4	1,100	20	1,480	3	1,210	17	1,280	2	1,190	18	1,170	4	1,390	18	1,570
6	1,100	22	1,530	6	1,190	19	1,730	5	1,200	20	1,320	6	1,410	20	1,300
8	1,070	25	1,460	8	1,200	21	1,400	7	1,240	23	1,430	8	1,340	23	1,230
11	1,070	27	1,530	10	1,330	24	1,350	9	1,020	25	1,370	11	1,300	25	1,140
13	1,080	29	1,630	13	1,260	26	1,330	12	1,150	27	1,920	13	1,080	27	1,170
						28	1,380	14	1,160	30	1,700			30	1,140

Sampling by U. S. Section

Rio Grande above Anzalduas Dam, South of Abram, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		July		August		October		November	
2	1,180	18	1,140	3	1,940	20	1,110	3	1,210	19	1,160	2	1,200	18	1,100
4	1,060	20	1,170	5	1,420	22	1,120	5	1,180	21	1,170	4	1,200	20	1,100
7	1,180	22	1,200	8	1,450	24	1,120	8	1,240	23	1,200	7	1,070	22	1,090
9	1,050	25	1,150	10	1,230	27	1,110	10	1,460	26	1,200	9	1,060	25	1,130
11	1,030	27	1,160	12	1,200	29	1,140	12	1,850	28	1,220	11	1,070	27	1,120
14	1,060	March		15	1,110	31	1,130	15	1,390	30	1,210	14	1,020	29	1,080
16	1,050	1	1,220	17	1,120	June		17	1,440	September		16	1,030	December	
18	1,120	4	1,180	19	1,120	3	1,140	19	1,480	2	1,310	18	1,050	2	1,100
21	1,080	6	1,120	22	1,140	5	1,140	22	1,310	4	1,310	21	1,060	4	1,110
23	1,090	8	1,180	24	1,340	7	1,230	24	1,340	6	1,280	23	1,060	6	1,100
25	1,110	11	1,120	26	1,510	10	1,320	26	1,310	9	1,340	25	1,020	9	1,350
28	1,100	13	1,140	29	1,210	12	1,180	29	1,280	11	1,330	28	891	11	1,350
30	1,100	15	1,180	May		14	1,220	31	1,210	13	1,250	30	1,060	13	1,300
February		18	1,540	1	1,150	17	1,220	August		16	1,210	November		16	1,310
1	1,110	20	1,880	3	1,150	19	1,400	2	1,190	18	1,330	1	1,060	18	1,290
4	1,050	22	1,450	6	1,100	21	1,420	5	1,180	20	1,250	4	1,040	20	1,050
6	1,060	25	2,030	8	1,530	24	1,310	7	1,170	23	1,340	6	1,020	23	1,060
8	1,130	27	1,630	10	1,190	26	1,300	9	1,110	25	1,210	8	1,030	25	1,070
11	1,160	29	1,550	13	1,200	28	1,330	12	1,150	27	1,180	11	1,040	27	1,040
13	1,150	April		15	1,200	July		14	1,160	30	1,190	13	1,090	30	1,060
15	1,160	1	1,780	17	1,120	1	1,220	16	1,150			15	1,070		

Sampling by U. S. Section

Morillo Drain in Mexico, 8.4 River Miles above Anzaldúas Dam

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		March		May		June		August		September		November	
4 a)	10,800	15 a)	9,680	29 a)	12,020	3 a)	7,390	28 a)	10,990	2 a)	11,850	13 a)	9,870	29 a)	9,790
11 a)	10,020	22 a)	11,140	April		10 a)	8,820	July		9 a)	9,450	20 a)	9,680	December	
18 a)	8,660	March		5 a)	12,240	15 a)	8,140	5 a)	9,320	16 a)	7,920	October		4 a)	10,290
23 a)	8,080	1 a)	11,240	12 a)	10,400	24 a)	7,680	12 a)	11,280	23 a)	7,880	24 b)	6,690	13 a)	10,170
February		8 a)	11,260	22 b)	6,390	June		19 a)	11,520	29 a)	7,920	24 c)	9,120	20 a)	10,290
1 a)	9,500	15 a)	11,000	22 c)	7,820	7 a)	10,060	26 a)	11,650	September		November		27 a)	10,100
8 a)	8,850	22 a)	12,020	24 a)	7,760	21 a)	10,990			6 a)	8,620	19 a)	10,340		

a) Morillo Drain Diversion Canal b) Esterito Drain at Brecha Arguelles c) Morillo Drain below Brecha Arguelles

Sampling by Mexican Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande below Anzalduas Dam, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		February		April		May		July		August		October		November	
1	1,200	15	1,180	1	1,610	16	1,260	1	1,300	16	1,170	1	1,240	16	1,100
2	1,210	16	1,170	2	1,650	17	1,190	2	1,280	17	1,160	2	1,230	17	1,090
3	1,210	17	1,150	3	1,750	18	1,210	3	1,280	18	1,170	3	1,220	18	1,100
4	1,180	18	1,140	4	1,900	19	1,170	4	1,280	19	1,170	4	1,210	19	1,140
5	1,170	19	1,170	5	2,160	20	1,160	5	1,330	20	1,160	5	1,170	20	1,150
6	1,140	20	1,180	6	1,840	21	1,160	6	1,220	21	1,170	6	1,110	21	1,150
7	1,150	21	1,260	7	1,500	22	1,160	7	1,230	22	1,180	7	1,100	22	1,130
8	1,190	22	1,230	8	1,490	23	1,170	8	1,210	23	1,190	8	1,100	23	1,120
9	1,220	23	1,300	9	1,480	24	1,190	9	1,260	24	1,180	9	1,080	24	1,120
10	1,130	24	1,270	10	1,240	25	1,170	10	1,320	25	1,180	10	1,110	25	1,150
11	1,070	25	1,200	11	1,220	26	1,160	11	1,370	26	1,180	11	1,090	26	1,140
12	1,090	26	1,170	12	1,240	27	1,160	12	1,670	27	1,180	12	1,080	27	1,120
13	1,100	27	1,170	13	1,180	28	1,160	13	2,170	28	1,200	13	1,070	28	1,110
14	1,090	28	1,190	14	1,120	29	1,170	14	1,860	29	1,200	14	1,060	29	1,110
15	1,080	March		15	1,080	30	1,180	15	1,560	30	1,250	15	1,080	30	1,100
16	1,060	1	1,230	16	1,090	31	1,150	16	1,430	31	1,220	16	1,060	December	
17	1,060	2	1,280	17	1,090	June		17	1,430	September		17	1,070	1	1,120
18	1,100	3	1,200	18	1,150	1	1,300	18	1,440	1	1,210	18	1,120	2	1,100
19	1,120	4	1,180	19	1,300	2	1,310	19	1,510	2	1,230	19	1,100	3	1,100
20	1,100	5	1,180	20	1,230	3	1,360	20	1,580	3	1,310	20	1,110	4	1,110
21	1,080	6	1,170	21	1,300	4	1,270	21	1,410	4	1,340	21	1,120	5	1,100
22	1,090	7	1,170	22	1,440	5	1,250	22	1,310	5	1,340	22	1,120	6	1,100
23	1,100	8	1,210	23	1,560	6	1,210	23	1,310	6	1,340	23	1,130	7	1,160
24	1,120	9	1,220	24	1,730	7	1,220	24	1,450	7	1,320	24	1,160	8	1,150
25	1,140	10	1,210	25	1,700	8	1,200	25	1,390	8	1,290	25	1,140	9	1,190
26	1,130	11	1,150	26	1,830	9	1,200	26	1,340	9	1,310	26	1,050	10	1,260
27	1,140	12	1,130	27	1,600	10	1,250	27	1,310	10	1,350	27	799	11	1,310
28	1,180	13	1,140	28	1,310	11	1,200	28	1,290	11	1,320	28	1,030	12	1,320
29	1,160	14	1,190	29	1,230	12	1,220	29	1,260	12	1,330	29	1,130	13	1,310
30	1,150	15	1,170	30	1,240	13	1,250	30	1,270	13	1,290	30	1,150	14	1,310
31	1,160	16	1,190	May		14	1,640	31	1,230	14	1,240	31	1,160	15	1,310
February		17	1,180	1	1,200	15	1,510	August		15	1,230	November		16	1,310
1	1,170	18	1,780	2	1,250	16	1,670	1	1,220	16	1,230	1	1,160	17	1,280
2	1,160	19	1,480	3	1,330	17	1,730	2	1,240	17	1,310	2	1,140	18	1,310
3	1,180	20	1,580	4	1,280	18	1,640	3	1,170	18	1,400	3	1,130	19	1,280
4	1,150	21	1,570	5	1,260	19	1,700	4	1,180	19	1,250	4	1,130	20	1,190
5	1,140	22	1,820	6	1,320	20	1,490	5	1,220	20	1,210	5	1,110	21	1,080
6	1,150	23	1,900	7	1,280	21	1,720	6	1,210	21	1,290	6	1,130	22	1,070
7	1,170	24	1,670	8	1,410	22	1,470	7	1,170	22	1,330	7	1,150	23	1,090
8	1,190	25	1,660	9	1,210	23	1,430	8	1,200	23	1,380	8	1,110	24	1,100
9	1,190	26	1,170	10	1,230	24	1,390	9	1,150	24	1,310	9	1,110	25	1,100
10	1,170	27	1,170	11	1,350	25	1,330	10	1,150	25	1,250	10	1,110	27	1,100
11	1,190	28	1,750	12	1,300	26	1,320	11	1,150	26	1,220	11	1,100	28	1,070
12	1,140	29	1,620	13	1,280	27	1,320	12	1,160	27	1,220	12	1,130	29	1,090
13	1,170	30	1,620	14	1,250	28	1,350	13	1,160	28	1,230	13	1,150	30	1,120
14	1,170	31	1,600	15	1,260	29	1,420	14	1,160	29	1,230	14	1,170	31	1,100
						30	1,390	15	1,180	30	1,220	15	1,090		

Sampling by U. S. Section

Arroyo Colorado South of Harlingen, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		March		May		June		August		October		November		December	
4	4,760	4	4,690	6	2,160	6	4,020	8	5,010	10	5,320	5	4,530	2	4,940
February		April				July		September							
11	5,000	1	5,830			1	4,400	6	5,270						

Sampling by U. S. Section

North Floodway near Sebastian, Texas

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
January		March		June		July		August		September		October		December	
4	5,680	4	5,340	4	4,490	1	4,330	8	3,910	10	4,000	10	5,010	2	6,270
February		May													
11	5,450	9	5,240												

Sampling by U. S. Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C

Rio Grande at Mercedes, Texas, Pumps

January		February		April		May		July		August		October		November	
1	1,250	15	1,220	1	1,790	16	1,330	1	1,400	16	1,180	1	1,240	16	1,150
2	1,240	16	1,230	2	1,760	17	1,320	2	1,430	17	1,190	2	1,230	17	1,100
3	1,240	17	1,260	3	1,800	18	1,340	3	1,370	18	1,180	3	1,230	18	1,100
4	1,250	18	1,260	4	1,700	19	1,280	4	1,270	19	1,180	4	1,230	19	1,130
5	1,290	19	1,230	5	1,770	20	1,250	5	1,170	20	1,190	5	1,170	20	1,140
6	1,270	20	1,210	6	1,790	21	1,190	6	1,230	21	1,190	6	1,160	21	1,140
7	1,270	21	1,210	7	1,840	22	1,160	7	1,270	22	1,210	7	1,160	22	1,150
8	1,300	22	1,200	8	1,840	23	1,190	8	1,290	23	1,210	8	1,130	23	1,170
9	1,220	23	1,230	9	1,650	24	1,180	9	1,320	24	1,220	9	1,200	24	1,170
10	1,210	24	1,310	10	1,500	25	1,190	10	1,390	25	1,230	10	1,140	25	1,180
11	1,270	25	1,320	11	1,550	26	1,210	11	1,410	26	1,220	11	1,090	26	1,170
12	1,300	26	1,360	12	1,310	27	1,180	12	1,320	27	1,210	12	1,070	27	1,230
13	1,210	27	1,340	13	1,250	28	1,170	13	1,400	28	1,200	13	1,080	28	1,150
14	1,220	28	1,270	14	1,260	29	1,170	14	1,400	29	1,210	14	1,090	29	1,140
15	1,110	March		15	1,240	30	1,160	15	1,420	30	1,210	15	1,080	30	1,130
16	1,130	1	1,240	16	1,120	31	1,170	16	2,180	31	1,260	16	1,070	December	
17	1,100	2	1,280	17	1,100	June		17	1,980	September		17	1,080	1	1,140
18	1,100	3	1,320	18	1,110	1	1,190	18	1,690	1	1,270	18	1,130	2	1,140
19	1,100	4	1,320	19	1,030	2	1,250	19	1,570	2	1,270	19	1,130	3	1,120
20	1,150	5	1,390	20	1,310	3	1,310	20	1,570	3	1,290	20	1,130	4	1,140
21	1,150	6	1,270	21	1,310	4	1,300	21	1,560	4	1,230	21	1,130	5	1,110
22	1,150	7	1,230	22	1,310	5	1,360	22	1,760	5	1,300	22	1,130	6	1,110
23	1,090	8	1,250	23	1,190	6	1,230	23	1,600	6	1,340	23	1,110	7	1,180
24	1,100	9	1,200	24	1,500	7	1,230	24	1,450	7	1,410	24	1,130	8	1,190
25	1,120	10	1,200	25	1,590	8	1,220	25	1,350	8	1,420	25	1,130	9	1,190
26	1,140	11	1,310	26	1,700	9	1,320	26	1,370	9	1,430	26	972	10	1,180
27	1,190	12	1,230	27	1,790	10	1,220	27	1,420	10	1,390	27	967	11	1,260
28	1,190	13	1,160	28	1,640	11	1,170	28	1,500	11	1,330	28	972	12	1,230
29	1,210	14	1,130	29	1,630	12	1,200	29	1,500	12	1,350	29	931	13	1,380
30	1,240	15	1,140	30	1,470	13	1,180	30	1,360	13	1,380	30	1,120	14	1,370
31	1,230	16	1,180	May		14	1,230	31	1,260	14	1,350	31	1,140	15	1,370
February		17	1,180	1	1,440	15	1,230	August		15	1,300	November		16	1,370
1	1,230	18	1,160	2	1,320	16	1,620	1	1,310	16	1,310	1	1,150	17	1,370
2	1,240	19	1,220	3	1,350	17	1,630	2	1,240	17	1,270	2	1,130	18	1,380
3	1,280	20	1,790	4	1,290	18	1,480	3	1,240	18	1,260	3	1,130	19	1,420
4	1,280	21	1,430	5	1,270	19	1,540	4	1,240	19	1,270	4	1,130	20	1,320
5	1,290	22	1,510	6	1,270	20	1,640	5	1,220	20	1,280	5	1,120	21	1,220
6	1,240	23	1,600	7	1,270	21	1,710	6	1,210	21	1,530	6	1,150	22	1,220
7	1,230	24	1,700	8	1,240	22	1,720	7	1,230	22	1,410	7	1,150	23	1,230
8	1,240	25	1,720	9	1,450	23	1,680	8	1,200	23	1,400	8	1,160	24	1,100
9	1,270	26	1,650	10	1,460	24	1,700	9	1,200	24	1,250	9	1,120	25	1,110
10	1,290	27	1,870	11	1,390	25	1,510	10	1,200	25	1,240	10	1,120	26	1,120
11	1,300	28	1,700	12	1,600	26	1,510	11	1,220	26	1,240	11	1,120	27	1,120
12	1,290	29	1,820	13	1,510	27	1,470	12	1,040	27	1,240	12	1,130	28	1,090
13	1,220	30	2,050	14	1,410	28	1,450	13	1,180	28	1,220	13	1,130	29	1,090
14	1,240	31	1,780	15	1,360	29	1,380	14	1,170	29	1,220	14	1,160	30	1,090
						30	1,390	15	1,180	30	1,220	15	1,160	31	1,100

Sampling by U. S. Section

Rio Grande near San Benito, Texas

January		March		April		May		June		August		September		November	
2	1,270	7	1,350	22	1,360	23	1,210	25	1,480	6	1,230	10	1,460	18	1,150
8	1,200	12	1,290	26	1,640	28	1,190	27	1,580	9	1,250	13	1,400	25	1,160
24	1,110	19	1,360	29	1,860	31	1,180	July		13	1,060	17	1,290	December	
February		21	1,340	May		June		8	1,370	20	1,210	24	1,280	2	1,150
5	1,280	28	2,130	3	1,400	3	1,300	12	1,390	23	1,230	October		9	1,150
7	1,260	April		7	1,430	10	1,160	15	1,420	26	1,250	1	1,290	16	1,330
March		2	2,080	13	1,490	17	1,740	22	1,600	September		7	1,180	23	1,120
5	1,390	4	1,790	16	1,450	20	1,510	30	1,600	3	1,320	November		30	1,100
		15	1,270	20	1,350							12	1,140		

Sampling by U. S. Section

ELECTRICAL CONDUCTIVITY OF WATER SAMPLES

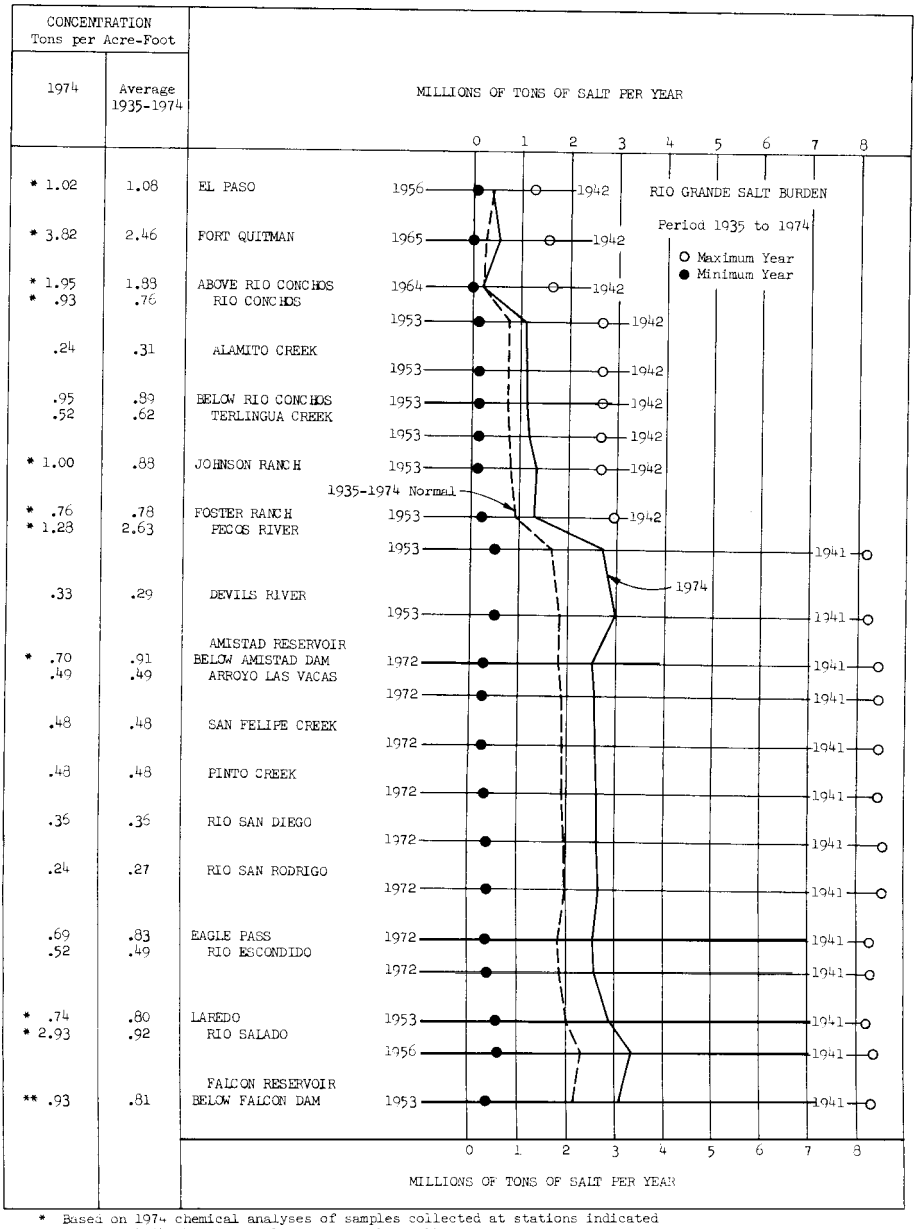
1974

Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C	Date	ECx10⁶ @25°C
Rio Grande near Brownsville, Texas															
January		March		April		May		July		August		September		November	
8	1,360	22	1,390	29	1,490	31	1,640	2	1,940	9	1,620	24	1,350	4	1,180
24	1,230	26	1,600	30	1,570	June		5	1,780	13	1,400	27	1,280	7	1,150
February		28	1,750	May		3	1,230	9	1,260	20	1,460	30	1,240	12	1,150
5	1,400	April		3	1,990	7	1,400	12	1,650	26	1,350	October		18	1,240
7	1,400	2	1,760	7	1,430	11	1,260	15	1,630	27	1,360	3	1,270	25	1,190
26	1,520	5	2,120	13	1,460	14	1,180	18	1,740	September		7	1,240	December	
March		15	1,610	16	1,740	17	1,220	23	1,800	3	1,340	11	1,130	2	1,130
5	1,590	18	1,340	20	1,710	21	1,640	30	2,010	10	1,480	18	1,130	9	1,140
19	1,430	22	1,270	23	1,750	25	1,730	August		13	1,560	21	1,130	16	1,340
21	1,230	26	1,500	28	1,840	27	1,750	5	1,660	16	1,540	29	1,090	23	1,310

Sampling by U. S. Section

RIO GRANDE SALT BURDEN

The term "salt", as used herein, means total dissolved solids. The 1974 concentrations which are marked by an asterisk (*) are based on the chemical analyses shown on preceding pages of this bulletin. Those without asterisks are based on chemical analyses reported in previous water bulletins or have been developed by deduction. Average concentrations shown for the period 1935 to 1974 are the weighted means of the values determined for the 40-year period indicated.



* Based on 1974 chemical analyses of samples collected at stations indicated
** Based on 1974 chemical analyses of samples collected at Falcon Dam - U. S. Tailrace

SANITARY ASPECTS OF WATER QUALITY

The United States and Mexican Sections of the Commission and the Texas State Department of Health cooperate in the joint sanitary water-sampling program along the Rio Grande. All analyses below have been made under the "Rules of Laboratory Procedure," as approved by the participating agencies and which conform with the procedures set out in the manual "Standard Methods for the Examination of Water and Wastewater," Eleventh Edition (1960), prepared jointly by the American Public Health Association, the American Water Works Association and the Water Pollution Control Federation. These analyses were made in the laboratories of the Cameron County Health Unit and the United States Section of the International Boundary and Water Commission.

Rio Grande at Laredo, Texas, Water Plant

Date 1974	Coliform Organisms per 100 c. c.	Total Bacteria per c. c. (plate count)	Date 1974	Coliform Organisms per 100 c. c.	Total Bacteria per c. c. (plate count)	Date 1974	Coliform Organisms per 100 c. c.	Total Bacteria per c. c. (plate count)
Jan. 14	26	190	June 10	6,200	670	Nov. 11	1,100	485
Feb. 11	26	155	July 8	26	610	Dec. 9	620	305
Mar. 11	360	720	Aug. 12	360	1,050	Total	12,708	7,975
Apr. 8	360	450	Sept. 9	2,300	1,375	Average	1,060	665
May 13	230	1,060	Oct. 7	1,100	905			

Samples and analyses by U. S. Section

Rio Grande at 8.6 Miles below Laredo, Texas, R. R. Bridge

Jan. 14	160,000	33,000	June 10	380,000	106,000	Nov. 11	62,000	18,500
Feb. 11	110,000	101,000	July 8	62,000	43,000	Dec. 9	110,000	8,000
Mar. 11	380,000	22,000	Aug. 12	110,000	65,000	Total	1,651,000	788,500
Apr. 8	110,000	210,000	Sept. 9	11,000	57,000	Average	138,000	65,700
May 13	94,000	92,500	Oct. 7	62,000	32,500			

Samples by Mexican Section and analyses by U. S. Section

Rio Grande below Falcon Dam, Texas - U. S. Tailrace

Jan. 14	2.6	65	June 10	0	95	Nov. 11	0	285
Feb. 11	2.6	100	July 8	0	85	Dec. 9	16	135
Mar. 11	0	80	Aug. 12	2.6	200	Total	34.7	1,655
Apr. 8	2.6	50	Sept. 9	6.0	265	Average	2.9	138
May 13	0	75	Oct. 7	2.3	220			

Samples and analyses by U. S. Section

Rio Grande at Mercedes, Texas, Pumps

Jan. 7	90		June 10	1,900		Dec. 2	4,700	
Feb. 11	3,600		July 8	870		Total	56,060	
Mar. 11	19,000		Sept. 9	9,200		Average	5,610	
Apr. 8	4,300		Oct. 7	7,700				
May 6	4,700							

Samples by U. S. Section and analyses by Cameron County Health Unit

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Tabulated below, in approximate downstream order, are monthly records of United States rainfall stations located in Texas with averages for their periods of record. For location, elevation, period of record, type of gage in use, watershed subdivision in which the station is located, and the observer, see alphabetical listing of these stations shown on pages 144 through 146 in this bulletin. These rainfall records have not been published elsewhere. Records of daily rainfall amounts, where available, are on file in the office of the United States Section of the Commission. Daily records for years prior to 1953 may also be found in corresponding water bulletins.

Detailed listings of the months and years for which records are available through 1970 may be found under "Index to Precipitation Records" in Water Bulletins 10, 14, 26, and Supplement 40A.

Month	American Dam		Island Station		Fort Hancock Bridge		Guayuco Arroyo		Fort Quitman	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.40	0.38	0.05	0.31	0	0.35	0	0.30	0	0.37
Feb.	0	.37	0	.29	0	.31	0	.20	0	.26
Mar.	.35	.35	.02	.24		.25	.10	.17	.18	.23
Apr.	0	.19	.01	.14	.16	.24	0	.18	.55	.23
May	.02	.21	0	.29	.15	.49	.13	.39	0	.40
June	.03	.58	0	.52	0	.84	0	.59	0	.83
July	2.01	1.53	.08	1.11	1.04	1.35	1.00	1.49	1.51	1.52
Aug.	1.29	1.34	2.20	1.19	.60	1.69	1.85	1.84	.71	1.72
Sept.	5.39	1.09	2.96	.84	4.97	1.19		1.06	4.12	1.05
Oct.	3.23	.69	.87	.71	1.09	.99		1.07	1.87	.87
Nov.		.25	.33	.25	1.07	.31		.21	1.01	.30
Dec.	.57	.40	.79	.38	.67	.42		.34	.37	.36
Yearly		7.38	7.31	6.27		8.43		7.84	10.32	8.14

Month	Neely Ranch		Moody Bennett Ranch		La Nutria Station		Bill Shannon Ranch		Adobes Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.63	0.33	0.73	0.37	0	0.02	0	0.44	0.62	0.34
Feb.	0	.19	0	.40	0	.33	0	.39	0	.26
Mar.	.14	.19	.40	.22	T	.23	.30	.43	0	.19
Apr.	.80	.14	.12	.12	.90	.14	0	.14	0	.13
May		.36		.74	.40	.26	.50	.78	.73	.72
June	0	.80		.87	0	.81	0	1.46	.14	1.34
July	2.56	1.78		1.73	1.40	1.22	1.70	2.35	.95	2.05
Aug.	2.99	1.89		1.88	1.50	2.49	2.80	2.38	2.74	1.81
Sept.		1.30		1.23	6.50	1.70	9.00	2.16	9.63	2.25
Oct.		1.03		.96	1.00	1.22	3.50	1.18	1.43	.68
Nov.		.23		.36	.40	.37	1.90	.39	1.25	.29
Dec.		.39		.20	.50	.12	.50	.42	.58	.25
Yearly		8.63		9.08	12.60	8.91	20.20	12.52	18.07	10.31

Month	Shafter		Presidio (IB&WC Gage)		Quebec Ranch		Bloys Camp		Kerr Mitchell Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.08	0	0.26	0	0.45	0.19	0.68	0	0.46
Feb.	0	.45	0	.22	0	.35	.06	.67	0	.36
Mar.	1.40	.53	1.20	.20	.40	.32	.78	.58	.23	.22
Apr.	2.70	.45	.80	.19	.90	.25	.61	.43	1.43	.44
May	.65	.63	.85	.50	0	.84	.23	1.44	.65	1.14
June	.20	2.96	.15	1.21	0	1.69	.14	2.53	.35	1.79
July	2.30	4.17	3.00	1.44	2.90	2.59	3.96	3.50	2.65	2.02
Aug.	6.50	3.91	1.75	1.11	5.40	2.54	5.42	4.06	4.85	2.25
Sept.	14.70	4.24	6.70	1.38	7.40	2.24	8.38	2.84	8.65	1.94
Oct.	0	1.43	.40	.64	0	.85	2.25	1.55	2.44	1.32
Nov.	0	.60	1.05	.30	1.80	.35	1.48	.64	1.45	.36
Dec.	0	0	.45	.21	0	.27	.85	.57	.90	.36
Yearly	28.45	19.45	16.35	7.66	18.80	12.74	24.35	19.49	23.60	12.66

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Month	Loma Vista Ranch		H. T. Fletcher Ranch		H. M. Greenwood (Cienega Ranch)		Redford		Lajitas, Texas	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.63	0	0.74	0	0.58	0	0.29	0	0.09
Feb.	0	.32	0	.34	0	.35	0	.23	0	.40
Mar.	1.15	.22	.60	.40	1.70	.36	1.20	.27	.87	.44
Apr.	.85	.49	1.00	.44	1.50	.52	.35	.26	.33	.49
May	.60	1.01	.75	1.11	.60	.81	.20	.50	.43	.58
June	0	1.83	0	1.56	0	2.11	0	.84	0	1.33
July	1.80	2.02	1.30	2.81	3.20	2.48	1.85	1.25	.90	.97
Aug.	7.15	2.18	6.30	2.98	4.10	2.28	2.65	1.15	3.25	1.83
Sept.	6.25	1.86	12.90	2.36	5.00	2.75	6.20	1.84	3.71	2.57
Oct.	1.30	1.10	3.50	1.54	.50	1.40	.30	.77	.28	.32
Nov.	2.00	.31	0	.46	4.70	.59	1.45	.37	1.25	.28
Dec.	1.17	.43	1.05	.39	2.20	.59	.80	.19	.40	.15
Yearly	22.27	12.40	27.40	15.13	23.50	14.82	15.00	7.96	11.42	9.45

Month	02 Ranch		Earl Hammond Ranch		Big Bend Chev. Station-Study Butte		Villa De La Mina		Maverick Ranger Station	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.47	0	0.18	0	0.17			0	0.35
Feb.	0	.38	0	.46	0	.40			0	.34
Mar.	1.63	.36	1.28	.47	.50	.30			1.40	.18
Apr.	1.30	.39	.47	.39	.55	.34			.39	.17
May	0	1.02	.20	.59	.75	.54			.90	.81
June	0	1.42	0	1.39	0	1.17			T	1.50
July	3.50	2.05	1.45	2.07	1.52	1.45			.43	1.53
Aug.	5.10	2.32	8.16	2.70	.81	1.56			1.65	1.70
Sept.	10.40	2.02	10.72	2.66	2.01	2.21	3.02		2.55	1.68
Oct.	1.30	1.38	.23	1.38	.52	.80	.22		0	1.01
Nov.	1.90	.63	1.76	.44	0	.32	.54		0	.23
Dec.	1.00	.36	1.06	.40	1.01	.22	.77		.31	.27
Yearly	26.13	12.80	25.33	13.23	7.67	9.48			7.63	9.77

Month	Terlingua Creek Station		Castolon, Texas		Johnson Ranch		* McLean Ranch		J. F. Woodward Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.22	0	0.21	0	0.33	0	0.48	0	0.46
Feb.	0	.24	0	.36	0	.25	0	.49	0	.42
Mar.	.70	.18	.33	.34	.40	.20	2.10	.34	.84	.23
Apr.	.60	.34	.14	.31	1.15	.40	.50	.41	2.14	.50
May	1.05	.64	1.47	.88	.60	1.02	.90	1.50	.24	1.04
June	.35	1.01	.05	1.33	0	1.03	0	1.88	0	1.80
July	.85	1.02	0	1.61	.25	1.08	1.00	2.92	1.07	2.06
Aug.	2.80	1.12	2.40	1.90	.90	.88	6.80	2.37	4.56	2.96
Sept.	3.45	1.32	3.88	1.99	2.30	1.35	10.20	2.71	8.75	2.18
Oct.	.10	.66	.49	.84	.15	.66	.50	1.01	.50	1.02
Nov.	.30	.17	.49	.18	.10	.19	1.70	.56	1.34	.56
Dec.	.90	.24	1.05	.26	1.00	.30	.50	.40	.91	.24
Yearly	11.10	7.16	10.30	10.21	6.85	7.69	24.20	15.07	20.35	13.47

Month	Yarborough Ranch		Kokernot Ranch Headquarters		Buttrill Ranch		A. M. Potter Ranch			
	1974	Average	1974	Average	1974	Average	1974	Average		
Jan.	0	0.17	0.06	0.46	0	0.47	0	0.33		
Feb.	0	.51	0	.31	0	.18	0	.51		
Mar.	.63	.37	.66	.20	1.10	.20	.61	.23		
Apr.	.66	.31	.90	.52	.85	.49	.81	.24		
May	.42	.82	.05	.75	.20	1.06	0	1.00		
June	0	1.54	T	1.29	0	1.40	0	1.11		
July	.52	2.76	.40	1.75	1.12	1.56	.14	1.17		
Aug.	4.94	3.31	3.80	1.60	4.10	1.52	3.45	1.61		
Sept.	9.39	3.05	6.92	1.67	7.32	1.91	5.31	1.76		
Oct.	.51	1.10	.69	1.04	.98	.94	.46	.50		
Nov.	0	.66	1.24	.34	1.35	.31	1.26	.43		
Dec.	1.85	.41	1.21	.37	0	.19	1.00	.45		
Yearly	18.92	15.01	15.93	10.30	17.02	10.23	13.04	9.34		

T Trace * Formerly Ray Willoughby Ranch

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Month	Nitaville Mercantile				Black Gap Game Refuge-Hdqtrs.		Harold Wynne Ranch Hdqtrs.		Stillwell Crossing	
	1973	1974	Average		1974	Average	1974	Average	1974	Average
Jan.		0			0	0.43	0		0	0.32
Feb.		0			0	.51	0		0	.44
Mar.	0.04	.71	0.38		.65	.31	1.00		.34	.35
Apr.	.03	.15	.09		.10	.35	.70		.64	.25
May	.46	.11	.28		.60	1.35	0		.67	.84
June	0	0	0		0	1.27	0		0	1.04
July	2.86	.69	1.78		1.29	1.69	.30		4.85	2.10
Aug.	1.13	2.14	1.64		2.86	1.39	5.40		3.55	1.40
Sept.	1.50	4.67	3.08		11.01	2.29	5.50		6.73	2.68
Oct.	.20	1.45	.82		1.73	1.12	.90		0	.87
Nov.	0	.85	.42		.52	.31	.70		0	.24
Dec.	0	1.14	.57		1.10	.31	.70		1.10	.35
Yearly		11.91			19.86	11.33	15.20		17.88	10.88

Month	Persimmon Gap Ranger Station		Sheep Pasture		Mouth Of Maravillias Creek		Heath Crossing		Dove Mountain Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.		0.54	0	0.22	0	0.15	0	0.25	0	0.45
Feb.		.54	0	.54	0	.16	0	.55	0	.40
Mar.		.39	.47	.50	0	.29	.80	.38	0	.26
Apr.		.44	0	.18	0	.38	1.03	.31	0	.38
May	0.24	.94	1.10	1.13	.90	.85	0	.71	0	1.00
June		1.22	0	1.50	0	1.58	0	1.31	0	1.17
July		1.48	1.54	1.82	.50	1.29	1.25	1.31	.50	1.84
Aug.	2.56	1.00	2.80	1.60	3.47	1.91	1.52	1.38	3.52	1.35
Sept.	5.21	1.40	8.08	3.17	6.39	1.47		2.48	7.05	1.55
Oct.	1.15	1.10	2.25	1.65	.50	1.05		.88	.55	1.38
Nov.	.94	.27	0	.45	.20	.37		.26	1.60	.34
Dec.	.99	.31	1.18	.32	.70	.14		.23	.80	.37
Yearly		9.63	17.42	13.08	12.66	9.64		10.05	14.02	10.49

Month	Steve Stumberg Ranch		McGonagill Ranch Headquarters		McGonagill Ranch East Mill		E.W. Hardgrave Ranch		Lewis James Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.07	0.52	0	0.34	0	0.34	0	0.49	0	0.35
Feb.	0	.42	0	.58	0	.26	0	.66	0	.67
Mar.	1.96	.48	3.00	.51	3.40	.56	.52	.38	.85	.44
Apr.	1.58	.66	1.56	.49	1.55	.64	1.74	1.28	.97	.80
May	0	1.33	0	1.08	0	1.16	.88	1.34	.51	1.28
June	.20	1.74	.21	1.89	.55	1.83	2.38	1.58	1.27	.93
July	1.28	1.99	.93	2.11	1.50	1.38	0	1.12	0	1.42
Aug.	6.71	1.75	7.00	1.72	10.70	1.93	2.55	1.62	3.95	2.47
Sept.	3.06	2.23	9.70	2.38	8.50	2.35	10.94	2.87	8.07	3.89
Oct.	2.64	1.60	3.00	1.11	1.30	1.11	2.78	1.70	2.75	1.64
Nov.	1.33	.42	0	.23	.70	.21	1.30	.55	.64	.55
Dec.	.67	.49	T	.13	T	.19	.85	.37	.80	.34
Yearly	19.50	13.63	25.40	12.57	28.20	11.96	23.94	13.96	19.81	14.78

Month	Dryden		Bricker Ranch		Ross Foster Ranch		W. A. Arledge Ranch		Owens Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.51	0	0.39	0	0.40	0	0.67		0.31
Feb.	0	.52	0	.61	0	.53	.10	.53		.65
Mar.	1.55	.45	2.03	.47	.90	.33		.47		1.05
Apr.	1.30	.89	3.42	1.03	1.35	.84	3.14	1.28		1.56
May	.89	1.65	.80	1.18	T	1.35	.25	1.75		1.80
June	0	1.08	.34	1.36	.20	1.12	1.50	1.69		1.61
July	0	1.04	0	.68	0	.60	0	1.15		.50
Aug.	5.73	1.38	1.58	1.10	3.90	1.46	3.15	1.35		2.11
Sept.	11.26	2.05	8.73	2.29	4.73	2.27	8.95	2.16		2.95
Oct.	3.60	1.31	1.25	1.11	1.35	1.08	3.84	1.58		2.27
Nov.	.20	.40	.58	.40	.40	.24	.77	.47		1.08
Dec.	1.05	.44	1.14	.40	1.40	.30	1.40	.52	0.98	.58
Yearly	25.58	11.72	19.87	11.02	14.23	10.52		13.62		16.47

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Month	Todd Field		Terrell Plant (E. P. N. G. Co.)		† Latham Ranch		Prosser Ranch No. 3		Ranchita (Continental)	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.39		0.36	0	0.46	T	0.35	0	0.26
Feb.	.20	.80		.75	0	.98	0	.86	0	.75
Mar.	.19	1.02		.63	1.30	.71	1.50	.72	2.20	1.01
Apr.	.03	1.72	0.25	1.63	0	1.85	3.45	1.38	1.85	1.08
May	3.12	1.76		1.51	1.20	3.10	.80	1.84	1.30	1.62
June	.78	2.30	1.54	1.57	2.20	2.28	1.20	1.31	1.80	2.26
July		1.22	1.02	.78	1.20	2.56	.40	1.18	.40	.98
Aug.		1.68	3.64	1.40	3.00	3.53	6.70	2.90	3.10	4.20
Sept.		3.22	21.11	3.88	9.70	4.50	19.45	4.93	12.17	4.01
Oct.		1.49	4.19	1.66	3.80	1.97	1.80	1.92	3.70	2.60
Nov.		.55	0	.62	2.50	1.10	.55	.53	.22	.74
Dec.		.25		.37	.55	.76	1.50	.31	1.70	.51
Yearly		16.40		15.16	25.45	23.80	37.35	18.23	28.44	20.02

Month	Pecos River Near Langtry Station		Dead Mans Canyon Near Comstock		Prosser Ranch No. 1		Continental Ranch		Martin King Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.22	0	0.28	T	0.28	0	0.54	0.03	0.54
Feb.	0	.75	0	.64	0	.71	0	.88	0	.75
Mar.	2.00	.69	2.60	.84	1.30	.60	2.20	.84	2.11	.39
Apr.	2.10	.98	1.30	1.14	2.25	1.46	1.70	1.38	1.23	.87
May	.60	1.14	1.60	1.89	.60	1.90	1.50	2.34	.82	1.49
June	1.00	1.71	1.70	1.96	1.50	1.62	2.00	2.04	.36	1.61
July	T	1.72	0	2.13	T	1.92	0	2.38	0	1.16
Aug.	2.55	2.38	3.85	2.86	2.20	2.86	3.40	3.21	2.52	1.61
Sept.	7.86	3.51	13.45	3.69	20.00	4.38	24.00	5.06	8.72	2.99
Oct.	2.23	1.46	3.25	2.41	3.40	2.08	3.92	2.66	3.90	2.39
Nov.	.60	.57	.50	.55	.48	.56	.28	.65	.49	.48
Dec.	1.15	.32	1.45	.44	1.60	.38	1.70	.48	1.52	.46
Yearly	20.09	15.45	29.70	18.83	33.33	18.75	40.70	22.46	21.70	14.74

Month	Brotherton Ranch		Walker Ranch		P. W. Kelly Ranch		Comstock		Cow Creek Near Comstock	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.76	0.10	0.24		0.48	0.21	0.61	0.10	0.35
Feb.	0	.90	0	.70		.88	0	.83	0	.61
Mar.	3.15	.71	2.00	.92	2.36	.98	1.77	.64	1.10	.55
Apr.	1.81	.97	1.50	.96	2.31	1.20	3.38	1.36	2.40	1.22
May	.40	1.32	1.00	1.81	.69	2.07	.36	1.86	1.10	1.05
June	.18	1.97	2.20	2.35	1.79	2.36	.50	2.22	0	1.63
July	0	1.11	T	1.10	0	1.40	.30	1.06	0	.78
Aug.	2.09	2.32	2.80	1.84	2.32	2.66	2.71	2.00	2.80	2.87
Sept.	9.59	3.16	24.25	5.98	14.23	3.68	13.70	2.48	8.25	2.94
Oct.	3.28	2.10	4.70	2.62		2.29	4.76	1.94	5.10	1.96
Nov.	0	.44	.41	.58		.54	.42	.55	.40	.44
Dec.	1.71	.29	1.60	.44		.28	1.12	.66	.98	.30
Yearly	22.21	16.05	40.56	19.54		18.82	29.23	16.21	22.23	14.70

Month	Goodenough ‡ Spring Raft		Amistad Reservoir Near Comstock		Feely		Lock Store		W.E. Sawyer Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.15	0.34	0	0.18	T	0.46	0.21	0.57	0	0.44
Feb.	0	.58	0	.49	0	.82	0	.95	0	.89
Mar.	1.45	.36	1.00	.79	1.50	.68	.81	.68	1.48	1.05
Apr.	2.90	1.38		.45	1.75	1.28	3.37	2.04	2.31	1.94
May	1.15	1.05		1.12	1.25	1.78	2.90	1.95	2.47	1.92
June	0	1.87	0	1.76	0	2.29	.74	1.33	2.81	1.47
July	0	.72	0	1.07	0	.73	2.02	1.63	1.26	1.82
Aug.	4.70	1.92	.30	2.89	3.20	2.54	7.33	3.10	10.56	4.02
Sept.	5.80	3.15		3.46	8.40	3.10	15.82	4.79	7.60	3.47
Oct.	5.80	2.32	8.50	3.13	4.30	2.40	4.14	1.89	2.90	2.45
Nov.	.55	.40	.50	.18	.35	.33	1.40	.69	.20	.72
Dec.	.92	.36	.90	.19	.85	.35	1.74	.34	1.10	.61
Yearly	23.42	14.43		15.71	21.60	16.76	40.48	19.96	32.69	20.80

T Trace † Formerly Oberkamf Ranch ‡ Formerly Goodenough Spring

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Month	Whitehead Brothers Ranch		Prosser Ranch No. 2		Bakers Crossing		Erekson Ranch		Vinegarone	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.36	0.05	0.37	0	0.81	0.10	0.92	0	0.29
Feb.	0	.88	0	.91	0	1.00	0	1.24	0	1.01
Mar.	1.80	.96	1.50	.86	2.03	.85	2.30	.93	1.45	1.00
Apr.	4.28	1.60	3.10	1.37	2.67	1.17	3.64	2.12	2.60	1.36
May	.90	2.40	.70	1.74	1.75	2.31	.22	2.39	.35	2.06
June	.40	1.57	1.40	1.54	1.43	2.07	1.57	3.07	.15	1.57
July	.96	1.19	0	1.86	.55	1.41	.90	1.69	1.37	1.53
Aug.	7.08	3.05	6.30	3.30	5.50	2.34	12.54	2.55	4.43	3.77
Sept.	13.46	3.85	20.20	5.01	20.69	3.92	3.90	3.29	9.10	3.35
Oct.	3.90	3.26	4.80	2.24	3.11	1.84	3.15	2.73	3.70	3.27
Nov.	.70	.75	.67	.56	.31	.57	0	.82	.50	.77
Dec.	1.65	.42	1.50	.36	1.93	.68	1.50	.47	1.95	.44
Yearly	35.13	20.29	40.22	20.12	39.97	18.97	29.82	22.22	25.60	20.42

Month	Dolan Springs		H.K. Fawcett Ranch		Hinds "AT" Ranch		H.T. Miers Ranch Headquarters		H.T. Miers Ranch No. 2	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.32	0	0.71	0.17	0.57	0	0.60	0.12	0.45
Feb.	0	.97	0	.79	0	.94	0	1.23	0	.96
Mar.	1.50	.98	1.90	.91	1.52	.68	1.39	.85	1.70	1.03
Apr.	1.90	1.65	2.75	1.72	2.70	1.29	2.75	1.63	1.90	1.42
May	.34	1.64	.40	2.23	.38	1.83	0	2.34	1.07	2.06
June	0	1.70	0	1.51	1.39	2.28	.25	3.02	.34	2.31
July	.57	1.39	0	.99	.16	1.29	T	1.20	.13	1.03
Aug.	5.58	4.12	3.80	2.73	3.51	2.23	2.80	2.54	4.92	3.54
Sept.	12.55	3.89	9.00	3.81	17.60	3.55	4.65	2.89	5.82	3.38
Oct.	4.01	2.82	3.65	2.64	3.95	2.50	3.85	3.18	3.16	2.35
Nov.	.69	.67	.25	.56	0	.57	.60	.76	.73	.73
Dec.	1.35	.38	1.60	.45		.48	1.65	.57	2.32	.60
Yearly	28.49	20.53	23.35	19.05		18.21	17.94	20.81	22.21	19.86

Month	A.A. Baker Ranch		Harlow Ranch		Gillis Ranch		Goldwire Ranch		Pafford Crossing	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.12	0.38	T	0.28	0	0.39	0	0.27	0	0.40
Feb.	0	.79	0	.54	0	.88	0	.85	0	.39
Mar.	1.57	.62	1.60	.56	1.65	.90	1.72	.95	1.40	.54
Apr.	3.63	1.34	2.40	1.32	2.54	1.54	2.90	1.17	1.90	1.13
May	.37	1.70	.80	1.91	.63	1.98	0	1.81	0	1.64
June	1.35	1.91	1.60	2.38	.61	1.68	.20	2.39	0	2.19
July	.03	1.19	T	.93	0	.86	.40	1.72	T	1.03
Aug.	3.63	2.47	2.50	2.79	1.27	2.22	3.40	5.82	3.10	2.49
Sept.	13.33	3.65	13.20	4.21	12.74	4.17	8.50	3.36	13.20	3.68
Oct.	5.50	2.03	4.30	2.89	5.40	2.83	5.40	3.20	4.70	2.32
Nov.	.53	.56	.30	.52	.68	.92	.60	.74	.60	.50
Dec.	1.18	.38	1.45	.32	1.39	.65	1.55	.37	1.55	.46
Yearly	31.24	17.02	28.15	18.70	26.91	19.02	24.67	22.65	26.45	17.32

Month	Big Satan Creek Station		Cliff Lowry Ranch		Lowry Ranch No. 2		Tuffy Whitehead Ranch		Stewart Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.30	0.05	0.41	0.03	0.34	0.14	0.32	0.05	0.43
Feb.	0	.84	0	1.19	0	.95	0	.79	0	.94
Mar.	2.15	1.32	1.64	.77	1.71	.96	1.73	.71	1.40	.60
Apr.	1.65	1.23	1.60	1.65	1.47	1.61	3.50	1.34	3.40	1.58
May	.74	1.44	1.12	2.25	1.37	2.02	.49	1.53	.47	1.47
June	0	1.80	.16	2.20	.11	2.01	.24	1.94	.21	2.41
July	0	.96	.03	.73	.26	.78	.11	.76	.34	1.10
Aug.	4.16	5.47	4.17	3.03	4.40	3.70	2.44	1.96	3.46	2.35
Sept.	9.64	3.56	4.20	3.70	4.26	2.88	9.09	3.48	2.16	2.90
Oct.	4.65	3.20	2.51	2.34	3.63	2.22	4.21	2.06	2.43	2.26
Nov.	.80	.72	.86	.76	.34	.75	.65	.56	.48	.69
Dec.	1.85	.51	1.51	.48	1.67	.50	1.23	.41	1.45	.50
Yearly	25.64	21.35	17.85	19.51	19.25	18.72	23.83	15.86	15.35	17.23

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Month	Rough Canyon Near Del Rio		Devils Lake		Sellers Ranch		Evans Creek Near Comstock		J.G. Brite Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.26	0.03	0.63	0	0.39	0	0.18	0.08	0.36
Feb.	0	.99	0	.89	0	.78	0	.76	0	.96
Mar.	1.60	.79	1.71	.62	1.50	.58	1.60	.91	1.52	.79
Apr.	2.58	1.23	2.19	1.63	1.70	1.39	1.95	1.15	1.86	1.73
May	.60	1.43	.82	1.79	1.40	1.36	.50	.69	.87	1.98
June	.30	2.04	.15	2.32	0	2.37	0	2.02	.10	1.92
July	0	.95	0	.84	0	.74	0	1.12	0	.79
Aug.	4.42	4.23	4.31	2.03	3.48	2.50	4.51	5.18	3.06	3.05
Sept.	5.67	3.00	9.98	2.50	10.12	2.83	8.24	4.50	9.66	3.87
Oct.	3.73	2.98	3.52	1.97	3.80	2.11	4.52	2.39	3.61	2.34
Nov.	.37	.78	.79	.65	0	.50	0	.60	.60	.66
Dec.	1.70	.50	1.58	.71	1.70	.47	.90	.34	1.56	.46
Yearly	20.97	19.18	25.08	16.58	23.70	16.02	22.22	20.34	22.92	18.91

Month	Hutto Ranch No. 1		Hutto Ranch No. 2		Middle Fork San Pedro		North Fork San Pedro		Long Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.02	0.50	0	0.48	0	0.39	0	0.36	0.04	0.45
Feb.	0	1.03	0	1.05	0	.75	0	.73	0	.51
Mar.	1.18	.66	1.37	.66	1.35	.86	1.50	.90	1.22	1.09
Apr.	1.93	1.97	2.24	2.30	2.70	1.57	2.55	1.34	2.07	1.79
May	.81	1.47	.69	1.48	.50	1.83	.60	1.41	.96	1.07
June	.10	2.24	.02	2.17	T	2.34	0	2.35	.36	2.15
July	.07	.85	.11	.78	0	.94	0	1.10	.05	1.14
Aug.	4.73	3.05	3.61	2.92	4.89	4.27	4.92	4.21	3.11	3.67
Sept.	2.24	3.29	4.94	4.39	3.11	1.78	2.66	2.43	6.12	3.11
Oct.	2.99	2.47	3.27	2.28	3.23	3.76	2.25	3.23	3.40	2.70
Nov.	.45	.76	.55	.87	.57	.80	.55	.86	.68	.46
Dec.	1.47	.49	1.20	.41	1.75	.53	1.50	.50	1.38	.45
Yearly	15.99	18.78	18.00	19.79	18.10	19.82	16.53	19.42	19.39	18.59

Month	Buoy No. 11		Amistad Raft		Amistad Dam		Laughlin Air Force Base		Gillis Head-quarters Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.24	0	0.32	0.06	0.45	0.12	0.50	.07	0.55
Feb.	0	.51	0	.56	0	.86	T	.95	0	1.03
Mar.	2.00	.86	1.70	.79	1.43	.76	.74	.46	1.90	.88
Apr.	1.90	.83	1.70	1.42	2.41	2.00	1.18	1.95	4.02	2.17
May	1.00	1.40	1.40	1.68	1.16	1.88	2.05	1.61	.15	2.08
June	0	2.34	.05	2.32	.09	1.92	.07	2.75	T	2.80
July	0	1.04	0	1.03	T	.91	.14	1.53	T	1.14
Aug.	2.80	3.62	2.05	5.20	3.80	2.94	2.50	2.36	3.36	4.76
Sept.	6.70	3.72	4.10	3.19	8.50	4.59	1.18	3.01	3.72	2.32
Oct.	3.10	2.89	5.00	3.58	4.33	2.02	2.60	2.74	2.73	3.36
Nov.	.55	.14	.85	.67	.96	.63	.72	.80	T	1.04
Dec.	1.50	.37	1.65	.42	1.67	.51	1.28	.53	2.27	.58
Yearly	19.55	17.96	18.50	21.18	24.41	19.47	12.58	19.19	18.22	22.71

Month	Lewis Ranch		Maverick County Canal Headgate		Sultenfuss Ranch		Pinto Creek Station		Las Moras Creek	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.		0.61	0	0.54	0	0.70	0.10	0.50	0.21	0.74
Feb.		1.12	0	1.04	0	1.52	0	.86	0	1.12
Mar.		.73	.70	.61	1.30	.92	.20	.49	1.01	.65
Apr.		2.20	1.00	1.62	1.50	2.60	.40	1.27	1.32	1.36
May	3.40	2.12	.10	1.99	2.50	2.23	1.20	1.67	1.62	2.02
June		2.66	0	2.18	0	2.86	0	2.64	0	2.69
July	.25	.53	0	1.39	.60	.62	.05	.99	.23	1.09
Aug.	5.95	3.20	3.30	1.78	5.15	4.61	1.00	2.05	2.85	2.43
Sept.	2.82	4.12	1.56	2.97	2.30	4.09	1.00	3.21	2.87	3.91
Oct.	2.41	3.19	3.00	2.10	5.70	3.93	3.00	2.13	2.20	2.67
Nov.	.48	.80	1.20	.71	1.20	1.10	.80	.79	.79	1.03
Dec.	1.56	.58	1.60	.53	2.90	.86	1.20	.51	1.49	.62
Yearly		21.86	12.46	17.46	23.15	26.04	8.95	17.11	14.59	20.33

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Month	Wipff Ranch		Lateral No. 2 Spill		Normandy		Lateral No. 12 Headgate		Lateral No. 15 Spill	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.30	0.73	0.05	0.64	0.31	0.78	0.05	0.63	0.12	0.64
Feb.	0	.91	0	.80	0	.80	0	.66	0	.71
Mar.	1.20	.63	2.10	.73	1.75	.83	2.90	.69	2.00	.60
Apr.	.75	1.48	.90	1.38	.41	1.58	.75	1.39	.60	1.27
May	2.00	1.89	2.00	2.34	2.84	2.38	2.55	2.32	2.10	2.29
June	.30	2.23	0	2.39	0	2.02	0	1.87	0	1.84
July	.70	1.28	.05	1.60	.49	1.85	.30	1.34	.10	1.52
Aug.	1.60	2.28	1.60	2.53	2.11	2.62	1.65	2.08	1.90	2.10
Sept.	3.50	3.28	3.70	3.46	2.31	3.45	3.00	3.35		2.69
Oct.	2.70	2.33	.60	2.23	2.75	2.50	2.50	2.67	2.65	2.66
Nov.	.70	.99	.70	.88	.88	.88	.60	.68	.70	.61
Dec.	1.20	.54	1.05	.48	1.07	.73	1.00	.51	1.10	.53
Yearly	14.95	18.57	12.75	19.46	14.92	20.42	15.30	18.19		17.46

Month	Maverick Power Plant		Cooper Ranch		Coal Mine		Elm Creek Station		Chittim Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.37	0.72	0.30	0.50	0.56	0.61	0.18	0.52	0.75	0.58
Feb.	0	.82	0	.76	0	.87	0	.72	0	.91
Mar.	2.05	.84	4.75	.79	5.20	.86	2.50	.61	2.50	.68
Apr.	1.90	1.66	.95	1.36	1.20	1.51	1.00	1.43	.60	1.52
May	.16	2.57	1.20	2.09	.55	2.55	1.35	2.73	.80	2.74
June	.13	2.22	.60	2.07	.83	1.23	1.00	1.78	1.25	1.75
July	.39	1.41	.40	1.87	.35	2.22	.15	1.78	.35	1.80
Aug.	3.20	2.19	2.25	2.21	2.27	2.07	1.40	2.64	1.95	2.61
Sept.	2.10	2.84	2.35	3.71	2.86	3.59	4.00	3.13	3.20	3.24
Oct.	2.19	2.48	1.55	2.47	1.59	2.55	1.00	2.70	1.95	2.90
Nov.	.82	.69	1.25	.76	1.07	.64	1.15	.56	1.00	.59
Dec.	1.14	.57	1.55	.54	1.05	.43	1.25	.53	1.40	.57
Yearly	14.45	19.01	17.15	19.13	17.56	19.23	14.98	19.13	15.75	19.89

Month	Eagle Pass		Canon Diablo		Rosita Creek Siphon		Weyrich Farm		Trees Farm	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.61	0.71	0.13	0.57	0.50	0.48	0.80	0.53	0.80	0.54
Feb.	T	1.06	0	.37	0	.85	0	.92	0	.91
Mar.	3.14	1.04	1.65	.85	3.60	.72	1.40	.62	1.42	.54
Apr.	.20	1.26	1.00	1.77	.70	1.47	.40	1.66	.26	1.61
May	1.69	3.30	.50	3.80	.20	2.59	.60	3.00	1.81	2.85
June	.80	2.57	.30	2.24	.60	1.94	0	1.61	.32	1.58
July	.10	1.37	.15	.35	.20	1.68	0	.87	0	1.69
Aug.	4.87	3.88	2.60	3.09	3.00	2.10	5.60	2.27	2.07	2.04
Sept.	3.45	4.06	5.95	4.27	3.60	3.28	1.30	3.29	1.47	2.94
Oct.	2.02	2.64	1.45	2.50	1.05	2.49	.60	1.85	1.33	3.23
Nov.	1.12	.64	.85	.70	.80	.70	.30	.56	.72	.67
Dec.	1.50	.78	1.15	.58	1.40	.62	1.40	.60	2.12	.61
Yearly	19.50	23.31	15.73	22.09	15.65	18.92	12.60	17.88	12.32	19.21

Month	Rosita Creek Station		Farias Ranch		Indio Ranch		El Indio		Van Dalsem Farm	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.09	0.44	1.26	0.64	0.92	0.63	1.51	0.77	1.30	0.55
Feb.	0	.78	0	1.20	0	.95	0	.97	0	.99
Mar.	1.10	.59	1.54	.60	1.95	.64	.30	.57	1.95	.59
Apr.	.25	1.72	.50	1.84	.42	1.97	.85	1.61	.35	1.82
May	1.00	2.38	1.17	3.02	1.00	2.57	2.84	3.29	1.15	2.61
June	.40	1.93	1.88	1.62	.70	2.40	2.09	1.89	1.70	1.27
July	.50	.98	.03	2.04	.08	1.89	.52	1.13	.10	1.46
Aug.	1.83	2.07	3.74	2.47	2.13	1.96	3.39	2.10	2.65	1.88
Sept.	6.40	3.14	4.75	4.13	5.31	4.01	4.02	3.31	6.30	3.80
Oct.	1.20	2.91	.47	2.97	1.10	2.82	2.15	2.26	1.55	2.63
Nov.	.70	.67	.55	.82	.68	.81	.95	.68	.60	.59
Dec.	1.10	.57	1.26	.75	1.18	.63	1.34	.62	1.20	.62
Yearly	14.57	18.13	17.20	22.15	15.47	21.28	19.37	19.20	18.85	18.91

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

Month	Wuensche Farm		Keisling Farm		Cuervo Creek Station		Apache Ranch		Laredo Water Plant	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	1.27	0.68	1.21	0.58	1.10	0.64	0	0.69	0.58	0.76
Feb.	0	1.04	0	.99	0	.79	0	1.05	0	.84
Mar.	1.58	.67	1.95	.79	1.00	.47	1.80	.43	1.20	.58
Apr.	.25	1.65	.14	1.77	.30	1.52	1.70	1.48	1.21	1.08
May	1.55	2.59	1.46	2.45	1.05	2.13	0	2.18	1.48	2.34
June	1.43	2.15	1.88	2.50	2.80	2.10	0	1.98	2.58	2.23
July	.10	1.20	.15	1.31	.10	1.20	8.20	2.03	.17	1.10
Aug.	3.22	1.98	3.16	2.09	2.05	1.87	2.00	2.14	4.89	1.88
Sept.	5.59	3.34	4.94	3.17	5.90	3.36	7.90	3.94	2.89	3.25
Oct.	1.05	2.30	.60	2.61	.45	2.41	0	2.37	3.14	1.70
Nov.	.52	.71	.48	.64	.20	.67	0	.84	2.10	.87
Dec.	1.36	.58	1.31	.81	1.20	.53	1.00	.73	.47	.83
Yearly	17.92	18.89	17.28	19.71	16.15	17.69	22.60	19.86	20.71	17.46

Month	Fort McIntosh (Laredo)		Corralitos Ranch		Huisache Ranch		Zapata Water Plant		El Peyote Ranch	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.73	0.73	T	0.59	T	0.73	0.31	0.80	1.10	1.16
Feb.	.12	.88	0	.86	0	1.06	0	.95	.30	1.44
Mar.	1.50	.69	2.00	.35	2.80	.49	1.00	.47	2.37	.61
Apr.	1.14	1.27	0	1.02	0	1.28	0	1.48	.05	.95
May	2.14	2.63	1.78	1.73	.90	2.05	1.85	2.56	1.25	3.13
June	2.22	2.28	1.39	2.52	1.10	2.41	1.50	2.15	1.25	4.24
July	.27	1.35	0	.87	0	.95	0	.92	.75	1.17
Aug.	5.91	1.95	2.20	2.07	2.40	1.72	1.16	1.95	2.75	1.84
Sept.	2.87	2.99	1.47	3.57	2.94	4.35	3.06	4.84	2.45	6.48
Oct.	3.49	1.71	1.93	1.73	2.06	2.09	1.70	1.67	4.35	2.30
Nov.	2.37	1.15	.58	.86	.70	.89	.44	.97	1.44	.73
Dec.	.67	.85	.50	.45	.58	.63	.38	.56	.77	.55
Yearly	23.43	18.48	11.85	16.62	13.48	18.65	11.40	19.32	18.83	24.60

Month	Arroyo Tigre Chiquito		Falcon Dam		Roma International Bridge		Garciasville		Los Ebanos	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.40	0.79	0.84	0.82	1.19	0.87	0.28	0.93	0.10	1.06
Feb.	.20	.94	.38	.94	0	1.06	0	.99	0	.87
Mar.	1.20	.36	1.84	.68	0	.67	1.08	.49	2.00	.49
Apr.	2.38	1.11	.71	1.17	2.17	1.39	.72	1.11	.80	1.69
May	.92	2.29	2.52	2.37	1.44	1.80	.75	2.22	2.20	1.86
June	.51	2.30	.28	2.75	2.02	2.23	.40	2.42	2.10	2.42
July	2.59	.90	1.54	.86	1.71	.91	.60	1.05	1.50	.90
Aug.	.90	2.29	1.63	2.58	.48	2.07	3.30	1.85	0	1.92
Sept.	1.60	5.04	1.77	4.68	2.35	4.56	4.00	4.02	5.10	3.53
Oct.	2.31	2.13	2.06	2.23	2.60	2.09	5.65	2.19	3.90	2.21
Nov.	.30	1.07	.57	1.13	.26	.78	.16	.93	.10	.65
Dec.		.54	.43	.61	.10	.46	.10	.64	.20	.65
Yearly		19.76	14.57	20.82	14.32	18.89	17.04	18.84	18.00	18.25

Month	La Joya		HCWCID #6, Goodwin Pump No. 4B		HCWCID #6, Goodwin Pump No. 3		HCWCID #6, Goodwin Pump No. 5		HCWCID #6, Goodwin Pump No. 3A	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	1.05	0.60	1.22	0.47	1.28	0.30	1.30	0.71	1.19
Feb.	0	.93	0	.99	0	1.10	0	1.11	.15	1.13
Mar.	1.84	.48	.27	.54	2.19	.68	1.73	.70	3.35	.71
Apr.	.88	1.07	.70	1.08	3.01	1.34	.87	1.30	3.35	1.43
May	3.30	2.10	2.20	2.05	2.47	2.24	0	2.51	2.80	2.04
June	1.00	2.72	.40	2.45	.12	2.53	1.77	2.45	.12	2.83
July	.80	.86	1.20	.83	2.86	1.06	2.95	.88	1.05	.87
Aug.	.10	1.74	.27	1.37	.19	1.43	1.25	2.21	0	1.44
Sept.	5.25	3.43	10.67	3.79	11.01	3.54	12.63	4.51	11.82	3.62
Oct.	3.51	2.00	3.37	2.74	3.52	2.91	3.45	2.76	6.47	3.02
Nov.	.06	.92	0	.97	.06	.90	.25	.98	0	.93
Dec.	0	.84	.23	.78	.40	.91	0	.86	.56	.81
Yearly	16.74	18.14	19.91	18.81	26.30	19.92	25.20	21.57	30.38	20.02

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN THE UNITED STATES

In Inches

	HCWCID #6, Goodwin Pump No. 4		Penitas (Edinburg Pumping Plant)		New Mission Pumping Plant		O. G. Dale Farm		HCWCID #15 (Edinburg Office)	
Month	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.54	1.66	0.34	1.31	0	0.78	0.90	1.60	0.77	1.36
Feb.	0	1.06	0	1.04	0	.78	T	1.24	0	1.10
Mar.	2.29	.60	2.34	.58	6.55	.91	2.18	.90	1.43	.70
Apr.	3.48	1.28	1.27	.98	1.95	1.05	3.10	1.72	7.70	1.67
May	2.27	2.24	3.96	2.27	.70	2.67	.98	2.16	1.58	2.36
June	.04	3.01	1.76	3.22	1.50	3.25	.87	3.08	1.64	2.54
July	2.70	1.09	1.64	.98	1.20	.95	3.30	1.12	2.96	1.02
Aug.	0	1.41	1.78	1.88	1.40	1.31	.19	1.80	.74	1.77
Sept.	10.11	4.42	7.18	4.06	7.89	3.32	10.15	4.35	17.48	4.72
Oct.	3.44	3.04	4.78	2.83	1.95	2.31	5.39	3.21	2.99	2.72
Nov.	.06	1.00	.12	.98	0	.56	.13	1.22	.16	.99
Dec.	.40	1.02	.20	.99	.25	.69	.72	1.06	.40	.91
Yearly	25.33	21.83	25.37	21.12	23.39	18.58	27.91	23.46	37.85	21.86

	Edinburg Filtration Plant		La Feria Pumping Plant		La Feria Materials Yard		CCWCID #19 (Adams Gardens)		San Benito Pump	
Month	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.66	1.44	1.20	1.62	0.75	1.30	1.30	1.20	1.14	1.36
Feb.	T	1.16	0	1.77	0	1.51	0	1.29	0	1.00
Mar.	1.52	.78	1.90	.88	1.05	.94	1.04	.80	1.23	.84
Apr.	2.12	1.54	2.70	1.93	1.82	1.39	1.50	1.40	1.23	1.20
May	.59	2.30	2.05	3.38	2.30	3.36	1.50	2.61	.95	2.49
June	.80	2.80	2.10	3.71	2.40	3.99	1.47	2.93	3.01	2.57
July	1.33	.80	3.00	2.11	1.45	1.61	1.52	1.12	2.67	1.62
Aug.	.10	1.69	0	3.22	0	2.81	.02	2.34	.73	2.07
Sept.	9.68	4.00	5.60	7.18	6.93	5.82	7.38	4.23	5.80	4.45
Oct.	3.37	2.51	6.15	4.31	7.40	3.25	6.73	2.80	5.48	2.44
Nov.	.19	1.12	.37	1.94	.26	1.39	.39	1.38	.35	1.03
Dec.	.53	1.00	.62	1.31	.62	1.63	.75	1.03	.67	1.26
Yearly	20.89	21.14	25.69	33.36	24.98	29.00	23.60	23.13	23.26	22.33

	Whipple Farm		* CCWCID #11 Bayview Dist.Office		Los Fresnos Pumping Plant					
Month	1974	Average	1974	Average	1974	Average				
Jan.	1.80	1.87	1.04	1.46	0.90	1.55				
Feb.	T	2.04	0	1.84	0	1.73				
Mar.	.72	.71	0	.75	0	.55				
Apr.	1.51	1.78	0	1.51	0	1.64				
May	1.90	3.12	2.81	2.81	.05	2.39				
June	1.76	3.28	.60	2.50	5.75	4.11				
July	1.60	1.90	0	1.46	1.85	1.52				
Aug.	.20	2.66	0	2.68	2.00	2.66				
Sept.	7.35	6.09	6.64	5.68	6.40	5.40				
Oct.	3.10	3.15	2.18	2.34	1.50	3.86				
Nov.	.85	1.51	1.30	1.38	1.00	1.54				
Dec.	.90	1.47	.69	1.31	.03	1.21				
Yearly	21.69	29.58	15.26	25.72	19.48	28.16				

T Trace * Average of 18 gages

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Tabulated below, in approximate downstream order, are monthly records of Mexican rainfall stations with averages for their periods of record. For location, elevation, period of record, type of gage in use, watershed subdivision in which the station is located, and the observer, see alphabetical listing of these stations shown on pages 147 through 150 in this bulletin. These rainfall records have not been published elsewhere. Records of daily rainfall amounts, where available, are on file in the office of the Mexican Section of the Commission.

Detailed listings of the months and years for which records are available through 1970 may be found under "Index to Precipitation Records" in Water Bulletins 10, 14, 22, 26, and Supplement 40A.

	Juarez, Chihuahua		Loma Blanca, Chihuahua		Garita Km. 28, Chihuahua		Samalayuca, Chihuahua		San Agustin, Chihuahua	
Month	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.28	0.39	0.28	0.58	0.47	0.48	0.12	0.35	0.08	0.37
Feb.	0	.44	0	.48	0	.40	0	.48	0	.36
Mar.	.28	.38	.16	.10	.43	.31	.12	.36	.08	.28
Apr.	0	.30	0	.05	0	.08	0	.12	.16	.12
May	0	.32	0	.16	0	.17	0	.16	0	.23
June	.31	.66	.20	.72	.24	.81	0	.83	0	.67
July	1.61	1.59	1.18	1.57	6.14	1.92	2.20	2.05	1.42	1.74
Aug.	1.34	1.49	1.22	1.41	1.73	1.72	3.23	1.93	2.36	1.24
Sept.	7.64	1.39	7.64	2.17	8.78	1.87	9.06	2.14	8.31	1.45
Oct.	1.77	.98	2.64	.92	2.95	.90	.87	.57	1.18	.65
Nov.	.63	.52	.31	.21	1.34	.42	1.06	.39	.12	.29
Dec.	.67	.54	.71	.38	1.06	.56	0	.42	.83	.53
Yearly	14.53	9.00	14.34	8.75	23.14	9.64	16.66	9.82	14.54	7.93

	Guadalupe, Chihuahua		Tinajas, Chihuahua		Praxedis Guerrero, Chihuahua		San Antonio, Chihuahua		Porvenir, Chihuahua	
Month	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.31	0.35	0.08	0.27	0.12	0.29	0.59	0.36	0.59	0.36
Feb.	0	.37	0	.32	0	.28	0	.33	0	.41
Mar.	.20	.39	.04	.31	0	.28	0	.32	0	.28
Apr.	.55	.09	0	.06	0	.04	.16	.06	.20	.10
May	.12	.22	.67	.26	0	.23	.31	.34	.16	.41
June	0	.73	0	.71	.08	.66	0	1.28	0	.89
July	2.64	.20	0	1.94	.90	2.10	4.21	2.48	1.73	1.80
Aug.	.98	1.61	2.56	1.68	1.77	1.42	3.39	2.30	1.50	1.97
Sept.	5.94	1.42	8.27	1.73	7.28	1.37	8.35	1.90	8.35	1.72
Oct.	1.65	.91	1.77	.98	1.22	.84	2.09	1.02	1.42	.94
Nov.	.39	.40	.75	.37	.28	.35	1.42	.48	1.10	.48
Dec.	0	.29	0	.30	.75	.31	.47	.36	.67	.44
Yearly	12.78	6.98	14.14	8.93	12.40	8.17	20.99	11.23	15.72	9.80

	Vado De Cedillos, Chihuahua		Los Barriles, Chihuahua		Banderas, Chihuahua		Luis L. Leon, Chihuahua		El Cuarenta, Chihuahua	
Month	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.63	0.36	0.47	0.39	0.43	0.16	0.59	0.35	0.87	0.35
Feb.	0	.36	0	.27	0	.34	0	.30	T	.39
Mar.	.20	.24	0	.26	.08	.21	.55	.24	0	.27
Apr.	.51	.15	0	.13	.67	.13	.55	.16	.04	.11
May	.04	.32	0	.36	.51	.30	.43	.34	.24	.29
June	0	1.18	.08	1.19	0	1.04	.24	1.31	.04	.70
July	1.26	1.89	.98	2.25	1.10	1.52	1.57	1.97	1.77	1.98
Aug.	2.20	1.92	2.64	2.40	1.77	2.37	2.01	2.33	1.10	2.50
Sept.	7.24	1.76	2.68	1.80	3.31	1.54	6.02	1.47	8.03	2.07
Oct.	2.24	1.09	.71	1.23	2.24	.94	2.48	1.16	1.57	1.14
Nov.	1.06	.42	.55	.57	1.06	.39	1.06	.48	1.93	.52
Dec.	.94	.47	0	.36	.83	.26	.24	.36	.47	.45
Yearly	16.32	10.16	8.11	11.22	12.00	9.20	15.74	10.47	16.06	10.77

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Carichic, Chihuahua		San Juanito, Chihuahua		Siquirichic, Chihuahua		El Vergel, Chihuahua		Belleza, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.08	0.42	2.05	1.60	0.37	1.11	0.20	1.45	T	0.35
Feb.	0	.62	.12	1.05	.63	.66	0	.54	0	.37
Mar.	T	.15	.43	.20	1.97	.46	1.26	.59	T	.12
Apr.	0	.17	0	1.52	0	.20	.16	.47	0	.20
May	.91	.42	.04	.50	.94	.53	1.46	.83	.79	.24
June	.03	1.47	.63	1.76	.12	1.60	T	2.35	0	1.00
July	5.55	6.03	9.41	12.68	7.99	5.50	4.92	6.58	T	4.50
Aug.	5.24	5.13	5.24	7.82	12.01	5.77	8.19	5.34	11.46	4.99
Sept.	5.94	3.17	3.31	3.25	6.69	3.30	5.31	4.74	8.03	3.37
Oct.	.63	1.18	2.05	3.11	3.58	1.21	1.31	1.71	T	.80
Nov.	1.57	.61	2.99	1.44		.45	2.48	.69	1.28	.51
Dec.	.55	.09	1.34	1.72	1.26	1.03	1.57	1.52	.24	.50
Yearly	20.55	20.06	27.61	36.65		21.87	27.30	29.11	21.73	17.55

Month	El Sitio, Chihuahua		La Boquilla, Chihuahua		San Antonio, Durango		Estacion Rosario, Durango		Ojo Caliente, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.21	0	0.30	0	0.31	0	0.25	0	0.19
Feb.	0	.41	0	.19	0	.18	0	.40	0	.24
Mar.	.08	.14	.08	.16	.04	.09	T	.16	.79	.18
Apr.	0	.18	.04	.18	.12	.24	T	.18	.12	.17
May	0	.42	1.18	.53	.47	.57	.55	.99	.67	.51
June	0	1.51	.04	1.40	T	1.76	.20	2.38	T	1.64
July	3.50	4.25	2.60	2.94	3.78	4.43	2.80	4.31	3.70	3.22
Aug.	3.79	4.92	2.44	3.00	5.20	4.07	5.20	5.23	4.29	2.79
Sept.	5.28	3.69	6.89	2.97	11.50	4.42	7.36	5.57	4.45	2.66
Oct.	.31	.78	.08	.89	T	1.21	.04	1.25	.04	1.09
Nov.	.94	.45	.59	.33	.98	.26	1.26	.44	.63	.19
Dec.	.43	.38	.47	.37	.55	.21	.47	.48	.55	.27
Yearly	14.24	17.34	14.41	13.26	22.64	17.81	17.88	21.69	15.24	13.15

Month	Villa Coronado, Chihuahua		Santa Barbara, Chihuahua		Valle Allende, Chihuahua		Escalon, Chihuahua		Jimenez, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.24	0	0.30	0	0.13	0	0.36	0	0.22
Feb.	0	.38	0	.54	0	.24	0	.22	0	.18
Mar.	.39	.22	.75	.26	.04	.08	.28	.12	.31	.09
Apr.		.22	T	.13	.04	.18	.20	.27	.20	.12
May	.28	.56	.63	.97	.31	.66	.20	.67	.08	.45
June	0	2.62	.20	2.24	.39	1.70	.12	1.54	T	1.08
July	3.11	3.94	5.47	3.34	3.03	3.90	1.73	2.33	4.41	3.48
Aug.	6.89	4.54	6.57	5.97	5.47	4.74	5.47	2.38	3.82	2.41
Sept.	3.78	3.77	7.84	5.15	5.20	4.06	3.94	2.93	6.06	2.29
Oct.	.35	1.24	1.30	.98	.16	.90	.24	1.15	.35	1.32
Nov.	1.06	.48	1.50	.36	1.10	.27	.59	.26	.87	.24
Dec.	.67	.38	.28	.43	.04	.32	.94	.34	.12	.23
Yearly		13.59	24.34	20.67	16.68	17.29	13.71	13.12	16.02	12.11

Month	Parral, Chihuahua		Camargo, Chihuahua		Victoria, Chihuahua		Rosetilla, Chihuahua		El Maguey, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.20	T	0.36	0	0.27	T	0.37	0	0.21
Feb.	0	.23	0	.34	0	.78	0	.17	0	.36
Mar.	T	.10	.43	.14	.71	.20	T	.11	.12	.12
Apr.	.04	.20	.16	.19	.04	.23	.24	.23	0	.13
May	.59	.43	.04	.62	.24	.36	.16	.35	0	.36
June	T	1.72	.04	1.59	0	1.98	.08	1.08	0	1.49
July	2.99	4.27	3.50	3.06	1.31	2.78	4.65	2.69	3.03	3.63
Aug.	4.84	4.39	5.51	2.90	3.98	3.17	4.65	2.81	4.09	4.09
Sept.	10.20	4.38	4.61	2.90	6.30	2.98	3.42	2.19	7.72	3.57
Oct.	.24	1.15	T	.96	.35	.60	.28	.80	0	.83
Nov.	1.57	.50	.63	.38	.59	.21	.43	.20	.59	.28
Dec.	.59	.38	.63	.39	.91	.33	.63	.35	.59	.32
Yearly	21.06	17.93	15.55	13.83	14.93	14.39	14.54	11.40	16.14	15.39

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	San Lorenzo, Chihuahua		Villalba, Chihuahua		Las Virgines, Chihuahua		Km. 135, Chihuahua		Km. 99, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.17	T	0.31	T	0.24	0	0.07	0	0.08
Feb.	T	.24	0	.16	0	.14		.29	0	.29
Mar.	T	.01	.28	.06	.12	.05	T	.10	.16	.10
Apr.	0	.07	.16	.17	.08	.20	.12	.30	.16	.20
May	.83	.57	.28	.37	.08	.32	.08	.57	.24	.45
June	.08	1.43	T	1.11	T	1.07	0	1.18	0	1.44
July	4.17	3.62	4.88	3.53	3.46	2.48	3.46	2.34	3.23	2.62
Aug.	2.91	4.61	5.35	3.09	3.23	2.62	2.76	2.80	4.41	2.88
Sept.	14.29	4.60	6.89	2.73	7.76	2.31	11.57	3.37	3.74	2.67
Oct.	.71	.84	.24	.94	.63	.80	.16	.86	1.50	.79
Nov.	.67	.54	.67	.27	.51	.24	.75	.25	.39	.24
Dec.	.47	.50	.87	.38	.71	.34	.87	.26	.63	.36
Yearly	24.13	17.20	19.62	13.12	16.58	10.81		12.39	14.46	12.12

Month	Delicias, Chihuahua		Lazaro Cardenas, Chihuahua		Meoqui, Chihuahua		Las Burras, Chihuahua		Ciudad Guerrero, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	T	0.32	0	.23	T	0.13	0	0.22	0.16	0.58
Feb.	0	.17	0	.29	0	.25	0	.21	T	.42
Mar.	.04	.12	.12	.11	.04	.10	.20	.13	T	.20
Apr.	.08	.27	.20	.28	.12	.45	.12	.19	0	.19
May	.12	.32		.52	T	.48	.16	.38	.37	.31
June	0	1.10	.08	1.35	T	1.07	.04	.98	0	1.50
July	3.42	2.46	4.45	3.03	3.46	2.50	2.48	2.81	4.84	4.79
Aug.	4.69	2.54	3.19	2.54	3.82	2.65	2.68	2.56	5.94	5.31
Sept.	4.45	2.18	10.04	2.74	7.01	2.27	9.72	2.35	7.76	3.03
Oct.	.35	.79	.75	.99	.67	.92	.87	.74	1.65	1.22
Nov.	.55	.26	1.10	.28	.63	.17	.63	.18	1.57	.52
Dec.	.63	.38	.67	.24	.71	.36	.63	.35	.71	.70
Yearly	14.29	10.91		12.60	16.46	11.35	17.53	11.10	23.50	18.77

Month	Bachiniva, Chihuahua		La Trasquila, Chihuahua		Cuauhtemoc, Chihuahua		Colonia Anahuac, Chihuahua		Presa Chihuahua, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.08	0.38	0.08	0.21	0.04	0.28	T	0.26	0	0.13
Feb.	0	.20	0	.40	0	.17	0	.38	0	.29
Mar.	.16	.34	0	.14	.04	.11	.06	.13	.08	.14
Apr.	0	.10	0	.15	0	.20	0	.24	.04	.21
May	.75	.23	0	.35	.04	.36	1.50	.55	.12	.81
June	.04	1.42	0	1.40	.04	1.45	0	1.24	.08	2.13
July	3.27	5.75	5.28	3.68	4.45	4.70	5.51	4.99	4.17	4.71
Aug.	4.80	4.75	2.09	2.81	4.80	4.22	5.94	5.00	4.72	4.64
Sept.	6.57	2.49	8.46	3.53	7.05	2.71	7.99	3.46	11.02	3.15
Oct.	2.05	1.20	.79	.73	.98	1.11	1.10	1.06	.71	.89
Nov.	.98	.35	.79	.37	1.61	.32	1.77	.40	1.38	.32
Dec.	.59	.40	.87	.29	.24	.38	.20	.22	.39	.30
Yearly	19.29	17.61	18.36	14.06	19.29	16.01	24.09	17.93	22.71	17.72

Month	Chihuahua, Chihuahua		Majalca, Chihuahua		Planta Zootecnica, Chihuahua		Villa Aldama, Chihuahua		La Campana, Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.26	0.20	0.29	T	0.22	0	0.17	0	0.22
Feb.	0	.21	0	.46	0	.28	0	.24		.41
Mar.	.04	.20	.16	.26	.08	.16	.04	.19		.18
Apr.	.04	.18	.08	.36	.71	.28	.59	.20	0	.27
May	.08	.41	.91	.88	T	.46	.08	.43	T	.30
June	.16	1.46	.12	2.54	.04	1.56	0	1.76	0	1.47
July	2.20	3.53	10.12	6.52	2.44	3.80	1.89	3.03	3.19	3.26
Aug.	1.57	3.38	7.48	6.29	2.46	4.03	1.89	2.90	2.40	3.12
Sept.	9.13	2.80	8.15	3.84	9.17	2.68	9.21	3.10	12.56	3.38
Oct.	.59	.82	1.46	.95	.98	1.08	.39	.61	1.22	.98
Nov.	1.54	.42	1.77	.38	1.46	.36	1.50	.33	.83	.32
Dec.	.47	.34	.47	.27	.28	.31	.51	.36	.63	.32
Yearly	15.82	14.01	30.92	23.04	17.64	15.22	16.10	13.32		14.23

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Presa Luis L. Leon, * Chihuahua		El Anteojo, Chihuahua		Maclovio Herrera (Falomir), Chihuahua				Parrita, Chihuahua	
	1974	Average	1974	Average	1973	1974	Average		1974	Average
Jan.	T	0.07	0	0.01	0.24	0	0.31		0	0.09
Feb.	T	.15	0	.23	1.22	0	.19		0	.32
Mar.	.24	.15	0	.03	0	0	.15		.08	.09
Apr.	.28	.22	T	.30	0	2.36	.28		0	.48
May	T	.28	T	.46	1.65	.12	.50		0	.31
June	T	1.09	T	1.64	.04	.08	1.08		0	1.93
July	1.85	2.44	1.22	2.49	11.42	3.31	2.73		2.13	2.34
Aug.	3.98	2.79	.83	2.22	1.38	11.10	2.63		2.13	3.15
Sept.	7.83	2.74	11.81	2.64	.75	11.02	3.10		9.09	3.21
Oct.	.75	.62	1.10	.89	.39	3.15	.79		2.16	.99
Nov.	.94	.21	.63	.20	0	3.27	.30		.79	.24
Dec.	.24	.16	.59	.31	0	1.02	.61		.16	.13
Yearly	16.11	10.92	16.18	11.42	17.09	35.43	12.67		16.54	13.28

Month	Maijoma, Chihuahua		Coyame, Chihuahua		Gallego, Chihuahua		El Sueco, Chihuahua		Ojinaga (IB&WC), Chihuahua	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.04	0.39	0	0.13	0.20	0.28	0.31	0.40	0	0.33
Feb.	0	.38	0	.41	0	.45	0	.49	0	.27
Mar.	.16	.20	.39	.19	.20	.17	.08	.26	1.57	.22
Apr.	.63	.24	.55	.26	T	.17	0	.19	.87	.25
May	.12	.66	.63	.62	.39	.28	.91	.26	.79	.45
June	T	1.56	0	1.23	T	.99	.12	.81	.12	1.28
July	2.44	2.78	1.85	2.42	2.36	3.19	3.15	3.00	4.09	1.75
Aug.	5.47	3.33	2.80	1.96	2.95	3.23	4.21	3.55	2.60	1.51
Sept.	5.20	2.76	8.03	2.80	11.22	2.76	8.03	2.83	6.42	1.62
Oct.	.67	.98	.79	.84	1.46	1.38	.71	1.19	.98	1.04
Nov.	.63	.36	1.42	.37	.63	.30	.59	.43	1.22	.39
Dec.	.87	.35	.35	.16	.20	.21	.31	.23	.67	.27
Yearly	16.23	13.99	16.81	11.39	19.61	13.41	18.42	13.64	19.33	9.38

Month	Ojinaga (M.S. of Mexico), Chihuahua		Portrero del Llano, Chihuahua		Manuel Benavides, Chihuahua		Sierra Mojada, Coahuila		Mina La Borrada, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	T	0.31	0	0.09	0	0.12	0	0.51	0	0.23
Feb.	0	.24	0	.24	0	.29	0	.30	0	.42
Mar.	1.50	.23	0	.41	1.57	.36	.35	.29	0	.21
Apr.	1.34	.27		.12	.75	.24	.20	.26	.39	.32
May	.87	.59	.39	.29	2.83	1.17	.91	1.04	1.30	.85
June	.47	1.12	0	1.40	T	1.25		2.28	.59	1.67
July	4.13	1.57	1.73	2.30	1.97	2.39	1.93	2.77	.28	1.12
Aug.	2.83	1.52	1.38	2.19	4.76	2.61	6.10	2.97	3.03	2.10
Sept.	6.73	1.62		1.44	6.69	2.97	5.00	3.07	3.90	2.28
Oct.	1.06	1.01	.31	.49	1.50	.87	.16	1.28	.55	1.07
Nov.	1.18	.39	0	.15	1.26	.24	.31	.50	.98	.38
Dec.	.98	.38	.24	.26	1.77	.26		.61	.79	.25
Yearly	21.09	9.25		9.38	23.10	12.77		15.88	11.81	10.90

Month	Santa Rosa, Coahuila		San Fernando, Coahuila		Hacienda San Miguel, Coahuila		Rcho. La Chuparrosa, Coahuila		Presa Centenario, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.71	0	0.31	0.31	0.30	0	0.12	0.08	0.49
Feb.	0	1.01	0	.61	0	.57	0	0.41	0	.97
Mar.	2.01	.70	1.42	.48	.67	.59	1.53	0.74	.51	.54
Apr.	1.81	1.00	.79	1.11	.43	1.68	1.60	.30	.20	1.27
May	1.10	1.26	.12	1.01	.59	1.90	1.27	1.20	0	1.37
June	0	1.55	1.73	1.24	0	2.12	0	1.70	0	2.16
July	0	1.43	0	.83	0	1.59		.99	0	.82
Aug.	3.39	2.02	2.20	1.72	3.19	1.97	3.08	3.43	4.76	3.35
Sept.	9.65	2.82	9.80	3.53	6.02	3.64	11.25	3.83	5.35	4.87
Oct.	2.64	2.43	.71	1.89	1.18	1.99	5.62	3.16	2.64	2.67
Nov.	.31	.84	.31	.41	.39	.37	.36	.17	.94	.86
Dec.	1.50	.44	.79	.36	.94	.30	.78	.22	1.80	.49
Yearly	22.41	16.21	17.87	13.50	13.72	17.02		16.77	16.37	19.36

T Trace * Formerly Presa El Granero, Chihuahua

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Amstd. Res. Near Tlaloc, Coahuila		Ciudad Acuna, Coahuila		Presa Cabeceras, Coahuila		Presa San Miguel, Coahuila		Palestina, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	T	0.44	0.04	0.56	0	0.48	0	0.47	0	0.89
Feb.	0	.57	T	.86	0	.84	0	.92	0	1.01
Mar.	1.40	.99	.87	.75	1.18	.64	1.10	.62	.83	.67
Apr.	1.50	1.40	.63	1.59	.24	1.22	.08	.83	.51	1.62
May	2.00	1.46	1.14	2.25	.51	2.20	.79	1.84	0	2.31
June	.15	2.62	0	2.36	0	2.08	0	2.20	0	2.35
July	0	1.52	.04	1.14	.12	1.10	.16	1.05	0	1.69
Aug.	4.25	4.07	3.78	2.15	2.68	3.74	2.83	3.24	7.56	2.39
Sept.	9.25	5.21	5.98	3.42	6.02	5.78	7.87	4.72	4.09	3.33
Oct.	2.90	2.29	3.35	2.52	2.36	3.19	2.80	2.51	2.48	2.10
Nov.	.30	.19	.67	.59	1.18	.90	.67	.72	.59	.73
Dec.	1.60	.36	1.38	.52	1.57	.43	1.14	.53	.12	.75
Yearly	23.35	21.72	17.88	18.71	15.86	22.60	17.44	19.65	16.18	19.84

Month	Chupadero, Coahuila		Jimenez, Coahuila		El Remolino, Coahuila		Piedras Negras, Coahuila		Villa Guerrero, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.50	0.08	0.68	0	0.40	0.47	0.75	1.18	0.60
Feb.	0	.91	0	.97	0	.75	T	1.04	0	.83
Mar.	.94	.56	1.02	.76	0	.37	2.48	.72	1.26	.45
Apr.	.55	1.53	1.02	1.66	0	1.40	.16	1.85	1.10	1.50
May	2.68	1.82	2.17	2.46	2.13	2.20	2.40	3.02	.67	2.28
June	0	2.24	0	2.71	0	3.42	.71	2.28	1.38	2.49
July	0	1.00	.31	1.33	0	1.75	.16	1.95	.20	1.23
Aug.	4.02	2.56	2.72	1.99	3.94	1.98	5.94	2.94	5.51	2.44
Sept.	5.94	4.09	1.34	3.25	4.13	4.16	4.49	3.40	3.94	4.20
Oct.	3.23	2.18	4.41	2.61	1.97	3.28	1.57	3.04	1.14	3.00
Nov.	1.02	.75	1.02	.88	0	.55	1.50	.74	.47	.60
Dec.	1.26	.43	1.30	.66	1.18	.41	1.34	.65	1.14	.58
Yearly	19.64	18.67	15.39	19.96	13.35	20.67	21.22	22.38	17.99	20.20

Month	Rancho San Diego, Coahuila		Rancho Mercedes, Coahuila		Villa Hidalgo, Coahuila		Colombia, Nuevo Leon		Rancho Los Vidrios, Tamaulipas	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.71	0.28	0	0.53	0.47	0.78	0	0.23	0	0.73
Feb.	0	.64	0	.38	0	1.06	0	.85	0	1.06
Mar.	1.38	.44	0	.80	1.10	.64	2.76	.72	2.36	.51
Apr.	.39	1.22	1.46	1.99	.28	1.48		1.31	.79	1.32
May	.39	2.47	0	2.65	2.32	2.35	2.05	2.50	1.97	2.90
June	0	2.00	0	2.41	1.22	2.21		2.03	1.18	1.98
July	0	1.32	0	.69	.28	.93	0	.94	0	1.21
Aug.	1.97	1.61	5.71	2.55	2.83	2.19		3.15		2.15
Sept.	1.38	3.67	2.32	3.03	5.91	3.79	.79	4.56	.79	3.74
Oct.	.79	1.61	1.73	2.44	.94	1.86	2.36	1.85	2.40	2.55
Nov.	.20	.77	.79	.95	.75	.99	.79	1.12	.98	1.23
Dec.	0	.56	1.38	.63	.59	.73	.59	.53	.39	.90
Yearly	7.21	16.59	13.39	19.55	16.69	19.01		19.79		20.28

Month	Nv. Laredo (M.S. of Mexico), Tamps.		Nv. Laredo (IBWC), Tamaulipas		El Llano, Tamaulipas		Nuevo Laredo Km. 26 SSW, Tamaulipas		Rancho las Espuelas, Tamaulipas	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.51	0.78	0.51	0.65	0.24	0.65	0	0.64	0	0.67
Feb.	0	.92	.12	1.01	0	1.22	0	1.32	0	1.59
Mar.	1.06	.62	1.65	.43	1.42	.43	2.36	.51	3.19	1.52
Apr.	.79	1.18	.98	1.12	.16	1.04	.75	1.56	0	1.12
May	1.77	2.39	2.28	2.54	1.34	2.50	3.35	2.72	1.89	4.00
June	1.81	2.30	2.52	2.74		6.79	1.50	2.42	.79	3.87
July	0	1.25	.28	.93		.45	1.22	.93	.51	1.86
Aug.	4.29	1.70	7.01	2.46		3.75	4.69	2.52	1.81	1.51
Sept.	2.36	3.07	2.83	3.61		5.50	.20	4.33	3.82	5.47
Oct.		1.55	3.32	1.82		2.55	1.18	1.95	.79	.97
Nov.	2.01	.98	1.57	1.01		.91	1.18	1.06	.71	1.03
Dec.	.31	.35	.83	.69		.51	.20	.60	.59	.45
Yearly		17.59	24.40	19.01		26.30	16.63	20.56	14.10	24.06

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	San Ignacio, Tamaulipas		Rancho San Juan de La Palma, Tamps.		El Treinta, Coahuila		Mizquiz, Coahuila		Conchos, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0	0.62	0.16	0.71	0	0.31	0	0.80	0	0.28
Feb.	0	1.21	0	1.08	0	.51	0	.60	0	.67
Mar.	1.57	.44	2.32	.63	.98	.56	.87	.87	.51	.31
Apr.	T	1.20	0	1.75	1.97	1.16	.31	.98	.24	1.58
May	1.57	2.83	.67	1.82	.39	2.24	1.54	3.78	.39	2.27
June	.59	2.54	1.89	2.24	0	2.99	1.14	3.53	2.28	2.72
July	.08	.71	1.22	.78	.47	2.09	.39	2.45	.28	1.83
Aug.	1.89	2.55	1.69	2.00	.79	2.21	3.58	2.54	5.55	2.10
Sept.	.20	4.85	1.89	4.65	4.53	4.49	14.96	5.14		3.40
Oct.	.39	2.27	1.61	1.73	1.26	1.77	1.22	2.22		2.26
Nov.	.39	1.07	.20	1.02	0	.35	.43	1.12		.54
Dec.	.20	.61	.12	.70	1.42	.27	.39	.00		.44
Yearly	6.88	20.90	11.77	19.11	11.81	18.95	24.83	24.93		18.40

Month	Sabinas, Coahuila		* Juarez, Coahuila		Cuatro Cienegas, Coahuila		Ocampo, Coahuila		San Buenaventura, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.		0.59	0.83	0.60	0.47	0.32	0.12	0.38	0.08	0.62
Feb.	0	.75	0	.57	T	.38	0	.31	0	.52
Mar.	.59	.42	2.24	.42	.43	.13	1.10	.24	3.50	.40
Apr.	.55	1.17	0	1.17	.43	.29	1.02	.70	0	.71
May	1.85	2.45		1.92	.31	.76	.63	.99	0	1.48
June	.51	2.02	1.10	1.77		.74	.12	1.36	.31	1.65
July	.39	1.24	0	.87	T	.80		1.37	0	1.51
Aug.	1.65	2.13	1.85	1.42	2.09	1.06	2.44	1.75	1.26	1.71
Sept.	3.42	3.42	4.29	3.32	.79	1.45	1.65	2.33	3.19	2.52
Oct.	.24	1.31	.59	1.59	.35	.74		1.01	.35	1.35
Nov.	.28	.60	.47	.53	.24	.38		.27	.47	.54
Dec.	.04	.50	.59	.35	.51	.42		.37	1.02	.63
Yearly		17.15		14.58		7.49		11.63	10.13	13.64

Month	Monclova, Coahuila		Progreso, Coahuila		** Presa Carranza, Coahuila		Laguna de Salinillas Nuevo Leon		Candela, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.47	0.48	1.50	0.49	0.47	0.72	0.55	0.64	0.43	0.34
Feb.	0	.50	.08	.55	.04	.68	0	.67	0	1.10
Mar.	1.42	.32	3.07	.41	2.05	.52	3.07	.60	.28	.28
Apr.	.39	.59	.12	1.16	.55	1.18	.12	.99	.31	.35
May	.35	1.43	.94	2.10	1.65	2.13	.87	2.23	.28	1.24
June	.04	1.42	1.22	1.68	1.14	1.85	1.34	1.87	1.69	2.84
July	.39	1.52	T	.87	0	.96	0	.73	0	1.06
Aug.	.83	1.60	1.61	1.94	3.23	2.07	7.01	2.54	1.02	1.24
Sept.	2.72	3.02	4.21	3.06	2.20	3.06	3.66	3.44	5.51	3.87
Oct.	1.61	1.23		1.77	.79	1.67	1.34	1.82	1.07	.92
Nov.	.20	.59	.63	.55	.39	.60	.59	.70	.35	.40
Dec.	.79	.53	.83	.43	.59	.83	.71	.56	.55	.30
Yearly	9.21	13.20		15.06	13.10	16.07	19.26	16.79	12.39	13.94

Month	Lampazos, Nuevo Leon		Anahuac, Nuevo Leon		# Rio Salado, Carr. 85, N. L.		Bustamante, Nuevo Leon		Sabinas Hidalgo, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.63	0.60	0.47	0.70	0	0.47	0.59	0.81	T	0.49
Feb.	0	.95	0	.66	0	.94	0	.92	0	.93
Mar.	1.61	.61	1.13	.51	1.57	.39		.51	3.92	.84
Apr.	.20	1.03	.28	1.09	0	1.16		.98	0	1.13
May	2.83	2.40	.04	2.23	2.57	2.39	.12	1.44	1.10	2.39
June	3.58	3.06	3.32	1.92	5.18	3.30	1.34	3.80	6.14	5.00
July	0	1.61	.04	1.21	.39	1.35	.47	1.40	.35	2.22
Aug.	.59	1.73	8.39	2.27	.75	1.82	2.76	3.36	.94	2.46
Sept.	8.27	5.86	4.33	3.35	3.42	5.29	7.05	6.24	4.02	7.36
Oct.	.94	1.64	2.09	1.26	2.91	1.72	.35	2.10	2.64	2.96
Nov.	.79	.83	.83	.65	0	.74	.20	.83	.35	1.05
Dec.	.83	.49	.55	.70	0	.59	.83	.60	.25	.61
Yearly	20.23	20.51	22.02	16.95	15.81	19.94		22.79	19.24	27.30

T Trace * Formerly Villa Juarez, Coahuila ** Formerly Don Martin, Coahuila
Formerly La Gloria, Nuevo Leon

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Vallecillo, Nuevo Leon		Las Tortillas, Tamaulipas		Rancho Bonanza, Tamaulipas		Rancho San Rafael Bustamante, Tamps.		Rio Salado Riberena, Tamaulipas	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.24	0.49	0.71	0.49	0	1.10	T	0.66	T	0.52
Feb.	0	.87	0	1.30	0	2.24	0	1.86	0	1.25
Mar.	.87	.45	2.76	.62	2.52	1.26	3.15	.63	2.36	.63
Apr.	13.46	1.81	.39	1.30	0	.26	.39	.88	.39	1.12
May	1.02	1.79	5.04	3.10	4.61	2.86	3.90	2.68	2.17	2.58
June	4.09	3.59	.79	3.11	.79	4.46	.59	4.43	.59	2.98
July	.16	1.18	.24	.93	.39	.30	.28	1.09	.16	.59
Aug.	3.42	1.92	6.22	1.89	3.82	2.66	7.01	3.24	4.84	2.81
Sept.	4.72	4.83	.24	5.22	2.01	4.51	2.36	6.37	1.57	6.30
Oct.	1.97	2.32	1.57	1.74	1.50	2.11	1.57	3.41	1.57	2.23
Nov.	.24	.80	.59	1.16	.59	.30	.59	1.37	.59	1.10
Dec.	.47	.57	T	.74	0	0	T	.44	T	.79
Yearly	30.66	20.62	18.55	21.60	16.23	22.06	19.84	27.06	14.24	22.90

Month	Anlego 166, Tamaulipas		La Bandera, Tamaulipas		Nueva Cd. Guerrero, Tamaulipas		Hacienda El Alamo, Nuevo Leon		Paras, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.39	0.76	0.59	0.73	0.51	0.94	0.20	0.58	0.47	0.23
Feb.	.39	1.22	.39	1.01	.24	1.00	.12	1.38	.31	.54
Mar.	1.97	.53	1.57	.77	1.89	.57	0	.30	4.21	.67
Apr.	.59	1.04	.79	1.39	.47	1.27	.43	.60	.51	.60
May	1.97	2.91	1.57	2.88	1.06	2.06	1.06	1.72	2.13	.91
June	1.18	2.91	1.18	3.52	.39	2.85	4.09	5.67	4.65	3.22
July	1.57	.04	.79	.81	.87	.90	.31	2.20	.79	.82
Aug.	2.76	2.57	1.18	2.31	1.42	2.15	0	2.74	1.89	1.71
Sept.	1.97	7.18	2.36	6.34	1.97	4.55	6.18	6.31	3.50	4.09
Oct.	2.95	1.78	2.95	1.83	1.57	2.10		2.22	1.46	2.56
Nov.	.79	1.01	.83	.93	.31	.94	.16	.95	.12	.62
Dec.	.20	.53	.20	.59	.28	.52	.35	.49	.12	.27
Yearly	16.73	23.08	14.40	23.11	10.98	19.85		25.16	20.16	16.24

Month	San Javier, Nuevo Leon		Cd. Mier, Km. 8 SW, Tamaulipas		Cd. Mier, Tamaulipas		Miguel Aleman, Tamaulipas		Parras, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.59	0.77	0.59	0.77	0.83	1.05	1.26	0.89	0.35	0.50
Feb.	.59	1.18	.39	1.27	.67	1.30	0	1.20	0	.42
Mar.	1.57	.77	1.77	.80	1.50	.72	2.24	.42	.43	.40
Apr.	.98	1.71	.39	1.36	.31	1.34	2.16	1.79	.08	.22
May	1.57	3.68	1.97	3.14	2.09	2.78	1.61	2.27	.31	1.04
June	.79	3.80	.98	3.51	1.06	2.63	.79	2.71	.12	1.99
July	.59	1.43	.59	1.34	.39	.73	1.65	1.10	1.81	2.27
Aug.	1.18	3.09	.79	2.86	.98	2.67	.63	2.21	2.76	3.22
Sept.	2.76	6.74	1.57	6.20	1.61	5.31	2.40	7.04	1.89	2.92
Oct.	3.15	2.38	7.87	2.52	2.32	2.30	3.19	1.64	.31	1.26
Nov.	.23	1.08	.39	1.06	.28	1.13	.24	.92	.04	.43
Dec.	.39	.67	.20	.68	.12	.63	.35	.55	1.18	.79
Yearly	14.44	27.30	17.50	25.51	12.16	22.59	16.52	22.74	9.28	15.46

Month	General Cepeda, Coahuila		Reata, Coahuila		San Antonio de Las Alazanas, Coahuila		Saltillo, Coahuila		Ramos Arizpe, Coahuila	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.16	0.47	0	0.26	0.67	0.96	0.08	0.58	0.04	0.47
Feb.	0	.50	0	.25	.08	.84	0	.56	0	.39
Mar.	.47	.30	1.06	.30		.47	.94	.42	2.20	.32
Apr.	.16	.39	1.10	.32	.94	.89	.08	.79	.08	.45
May	.08	.83	0	.78	1.54	1.85	.24	1.16	.04	.85
June	.51	2.20	0	1.05	.55	2.71	T	2.20	0	1.05
July	2.13	3.21	.35	.86	0	3.03	1.18	2.57	.31	1.39
Aug.	2.20	3.11	1.42	1.58	3.07	3.13	4.17	2.51	1.38	1.34
Sept.	3.19	2.87	2.99	1.44	1.42	2.81	2.52	2.73	.87	1.75
Oct.	1.06	1.29	0	.68	0	2.00	.43	1.27	.20	.77
Nov.	.28	.48	.20	.44	0	1.16	.43	.82	.20	.46
Dec.	.43	.52	.55	.29		.88	.35	.63	.35	.51
Yearly	10.67	16.17	7.67	8.25		20.73	10.42	16.24	5.67	9.75

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Carbonera, Nuevo Leon		Icamole, Nuevo Leon		Mina, Nuevo Leon		La Popa, Nuevo Leon		Cienega de Flores, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.08	0.85	0.08	0.26	0.08	0.46	0	0.46	1.22	1.25
Feb.	0	.76	0	.28	0	.45	0	.98	0	.98
Mar.	.87	.75	.08	.15	0	.12	0	.29	1.18	1.12
Apr.	.51	.84	T	.27	.12	.49	0	.43	.59	1.55
May	.08	2.09	T	.82	.20	.61	.12	1.08	1.10	2.66
June	.83	2.43	1.93	1.12	.67	1.93	1.69	2.09	3.78	3.40
July	1.93	2.48	0	.50	.12	.77	2.36	1.03	.75	1.88
Aug.	5.91	3.56	.31	1.09	0	1.44	0	1.86	2.44	4.37
Sept.	1.81	3.06	2.64	2.27	2.68	3.42	1.06	3.46	9.45	6.04
Oct.	.43	1.75	.04	.95	.55	1.15	0	.82	1.93	2.76
Nov.	0	.80	.20	.44	.24	.59	0	.54	.59	1.10
Dec.	.31	.76	0	.36	.16	.42	0	.54	1.65	1.12
Yearly	12.76	20.13	5.28	8.51	4.82	11.85	5.23	13.58	24.68	28.23

Month	Hacienda Mamulique, Nuevo Leon		Topo Chico, Nuevo Leon		Higueras, Nuevo Leon		Sombreretillo, Nuevo Leon		Los Ramones, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.16		0.39	0.38	0.31	0.65	1.73	2.10	0.79	0.66
Feb.	0		0	.55	0	.58	0	2.81	.55	.76
Mar.	.55		.94	.45	.67	.66	4.25	1.41	1.34	.65
Apr.	.12		.12	.94	.16	1.25	.87	.98	.12	1.63
May	.12		1.18	1.31	.55	1.95	3.46	5.19	2.99	2.39
June	4.76		2.99	2.55	7.64	2.75	2.28	9.83	.98	3.45
July	.08		0	1.28	.16	2.07	.31	4.28	1.06	1.87
Aug.	1.77		0	2.89	.55	3.17	.94	4.64	.16	3.58
Sept.	7.20	6.14	12.32	4.66	6.30	4.98	13.62	17.24	2.60	5.38
Oct.	.79	1.10	2.87	2.64	1.06	1.81	8.27	9.96	.63	2.95
Nov.	0	.12		.67	.04	.78	.79	1.87	0	.67
Dec.	.28	.28		.43	1.10	.64	2.36	1.83	.28	.48
Yearly	15.83			18.75	18.54	21.29	38.88	62.14	11.50	24.47

Month	Cerro Prieto, Nuevo Leon		Los Herrera (La Tableta), Nuevo Leon		Rinconada, Nuevo Leon		Santa Catarina, Nuevo Leon		Monterrey, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.35	0.39		0.58	0	0.29	0.28	0.64	0.28	0.61
Feb.	0	.74		.67	0	.28	0	.44	0	.69
Mar.	.28	.51	2.20	.67	0	.22	.75	.32	1.06	.73
Apr.	.55	.73	T	1.33	0	.42	.16	.62	.20	1.13
May	3.07	3.67	.91	2.62	0	.51	1.97	.89	1.10	1.57
June	3.27	4.60	1.97	2.84	0	1.14	.83	2.10	2.20	2.88
July	.87	2.25	1.65	1.34	0	.33	.55	1.10	.16	2.28
Aug.	0	2.72	.35	2.71	.24	1.25	.31	2.90	.75	3.22
Sept.	.87	4.57	2.32	4.83	2.76	1.77	11.85	4.13	12.99	6.00
Oct.	.67	3.30	.75	2.52	0	.92	0	1.71	2.36	3.22
Nov.	0	.11	.16	.64	.59	.29	0	.46	.16	1.22
Dec.		.22	.32	.45	.16	.30		.50	.20	.69
Yearly		23.81		21.20	3.75	7.72		15.81	21.46	24.24

Month	Apodaca, Nuevo Leon		Agua Blanca Canoas, Nuevo Leon		Pajonal, Nuevo Leon		Cadereyta, Nuevo Leon		La Cruz, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.24	0.64	0.75	0.67	T	0.56	0.79	0.73	0	0.60
Feb.	0	.92	0	.50	0	.68	0	.92	0	.50
Mar.	.47	.58	1.22	.28	T	.26	1.65	1.15	.87	.24
Apr.	.08	.79	0	.54	.39	.65	.28	2.01	0	.48
May	1.26	1.98	0	1.48	2.36	1.69	2.48	2.43	0	1.43
June	2.24	3.32	0	2.74	T	2.56	1.50	3.75	T	2.64
July	.24	1.24	0	1.90	.39	2.41	.39	2.44	0	2.23
Aug.	.31	3.57	2.91	3.01	1.18	3.64	.55	3.57	2.56	3.58
Sept.	10.00	6.29	8.70	4.79	1.97	4.86	8.23	5.26	7.32	4.71
Oct.	1.57	2.33		2.20	.08	1.97	.67	3.33		2.06
Nov.	0	.74		.73	0	.54	0	1.15		.69
Dec.	.20	.60		.40	0	.57	.20	.70		.26
Yearly	16.61	23.00		19.24	6.37	20.39	16.74	27.44		19.42

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Tunel San Francisco, Nuevo Leon		Las Comitas, Nuevo Leon		* La Boca, Nuevo Leon		Adjuntas, Nuevo Leon		Villa Allende, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	1.97	0.95	0.35	0.32	1.18	0.91	0.67	0.44	0.98	0.96
Feb.	0	1.30	0	.40	0	1.02	0	.66	0	1.26
Mar.	1.18	1.71	.59	.27	2.01	1.14	1.57	.39	3.58	1.34
Apr.	.08	1.34	T	.71	.59	1.65	.79	1.11	.47	2.52
May	4.53	2.98	1.42	.99	1.10	2.63	3.27	2.63	2.13	3.53
June	5.51	7.74	.94	2.60	6.93	5.91	1.97	10.60	5.87	5.48
July	2.24	3.18	0	1.69	1.85	3.42	1.06	5.40	0	3.09
Aug.	2.48	7.10	.98	3.36	1.38	6.20	1.85	3.42	.12	5.48
Sept.	21.06	11.08	6.85	4.55	18.90	9.35	14.76	10.80	22.44	8.57
Oct.	1.30	5.61	.55	1.89	2.05	5.09	1.06	5.06	3.94	5.71
Nov.		1.65	.08	.45	.20	1.38	.31	.59	.35	1.62
Dec.		.96	.20	.34	.24	.86	.04	.35	.20	.92
Yearly		46.20	11.96	17.57	36.43	39.56	27.35	41.45	40.08	40.48

Month	San Juan, Nuevo Leon		Laguna de Sanchez, Nuevo Leon		Cerritos, Nuevo Leon		Casillas, Nuevo Leon		Cienega del Toro, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.71	0.49	1.26	0.62	0.55	0.54	0.39	0.46	0.59	0.90
Feb.	0	.94	.08	.62	0	1.31	0	.81	0	.52
Mar.	.94	.71	.24	.47	1.57	.64	.55	.65	1.69	.72
Apr.	.08	1.82	.63	1.17	.47	.42	.55	.83	.98	.93
May	3.86	2.34	1.65	1.91	4.17	3.79	1.34	2.19	1.65	1.99
June	1.81	3.33	2.05	3.62	6.06	9.98		3.78	.20	2.48
July		1.91	.28	2.50	.31	5.68	.51	2.24	0	1.44
Aug.	1.18	3.82	4.17	4.32	1.02	4.63	.24	3.05	2.87	2.88
Sept.	8.66	5.60	11.89	5.66	13.54	13.01	3.19	3.78	3.11	3.59
Oct.	1.46	3.18	.83	2.79	2.05	4.41	6.10	2.54	.79	2.18
Nov.	.16	.89	.28	.56	.16	.36	0	.64	0	.49
Dec.	.24	.48	.35	.56	.16	.26	0	.61	.47	.61
Yearly		25.51	23.71	24.80	30.06	45.03		21.58	12.35	18.73

Month	Potrero Redondo, Nuevo Leon		Mimbres, Nuevo Leon		Rusio, Nuevo Leon		Santa Rosa, Nuevo Leon		Potosi, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.87	0.86	1.18	1.43	0.35	0.80		0.40	0.55	1.06
Feb.	0	1.66	.28	1.34	0	.66	0	.18	0	.78
Mar.	.07	1.22	1.93	1.43	.20	.61	1.42	.37	.31	.42
Apr.	.79	2.36	1.65	1.30	1.26	1.15	.20	.25		1.23
May	2.87	3.43	4.21	2.01	.20	1.91	.39	1.38	.55	1.62
June	4.61	8.89	1.81	2.87		2.24	0	.87		1.38
July	0	4.73	2.72	2.42	T	.85	1.46	1.09		.80
Aug.	22.44	7.94	3.70	3.47	1.93	1.45	2.56	1.76		1.70
Sept.	.79	12.26	3.82	3.85	0	1.76	.67	.92		1.28
Oct.	3.15	5.00	1.77	2.06	.63	1.27	.16	.34		1.27
Nov.	26.42	4.03	.43	1.08	0	.67	0	.07		1.55
Dec.	0	.72	.43	1.04	0	.80	0	.02		1.92
Yearly	62.61	53.10	23.93	24.30		14.17		7.65		15.01

Month	Galeana, Nuevo Leon		Iturbide, Nuevo Leon		Cabezones, Nuevo Leon		Linares, Nuevo Leon		Montemorelos, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.		0.18	0.12	0.58	0.16	0.83	0.63	0.90	0.51	0.79
Feb.		.41	0	.63	0	.91	0	.86	0	.98
Mar.		.35	.94	.60	3.23	1.34	1.10	1.09	1.14	1.17
Apr.		.97	1.97	1.14	1.26	2.44	.71	2.30	.39	2.23
May		1.20	1.26	1.94	1.89	3.38	1.14	3.62	.63	3.14
June		1.84	3.86	3.58	3.54	5.32	2.48	3.94	3.94	4.17
July	1.73	1.18	1.26	2.47		2.59	2.87	2.47	1.18	2.01
Aug.	1.14	2.44	.79	4.12	.87	5.33	.20	3.76	.12	4.22
Sept.	2.01	2.48	6.61	5.50	14.65	8.25	10.31	6.34	16.93	5.98
Oct.	.24	1.19	.87	2.55	1.34	3.62	.35	3.43		3.99
Nov.	.43	.19	.16	.56	.20	1.02	.24	1.14		1.62
Dec.	.08	.36	.08	.45	.08	.58	0	1.01		.85
Yearly		12.79	17.92	24.12		35.61	20.03	30.86		31.15

T Trace * Formerly Villa de Santiago, Nuevo Leon

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Gral. Teran Exprmt. Station, Nuevo Leon		El Realito, Nuevo Leon		San Rafael, Nuevo Leon		El Cuchillo, Nuevo Leon		Gral. Bravo, Nuevo Leon	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.59	0.64	T	0.58	0	0.94	0.31	0.62	0.20	0.76
Feb.	0	.87	0	.44	0	1.20	0	.55	0	.56
Mar.	2.36	1.44	1.14	.46	1.81	.62	1.57	.53	3.15	.59
Apr.	1.14	1.32	.43	.32	1.30	.69	1.34	1.27	.71	1.44
May	.87	2.74	.55	2.49	.16	1.61	.24	2.16	.47	2.89
June	3.11	4.77	.35	4.12	.71	2.13	1.89	2.62	2.36	2.71
July	1.57	2.16	2.05	2.88	0	2.12	.75	1.62	.55	2.10
Aug.	1.85	3.95	.35	2.72	2.87	2.58	.16	2.72	.35	2.67
Sept.	9.92	7.44	5.55	7.27	0	2.48	1.54	4.40	1.38	4.43
Oct.	.24	4.36	0	1.78	.55	1.31	.12	2.07	.12	2.08
Nov.	0	1.05	0	.16	0	.73	.12	.53	.20	.85
Dec.		.64	.39	.28	.08	.70	.04	.44	.16	.70
Yearly		31.38	10.81	23.50	7.48	17.11	8.08	19.53	9.65	21.78

Month	Cerralvo, Nuevo Leon		Comales, Tamaulipas		Camargo, Tamaulipas		Valadeces, Tamaulipas		Bajo Rio San Juan, Tamps., No. 2-29	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.98	0.66	0.43	0.84	0.63	1.01	0.35	1.23	0.43	1.25
Feb.	0	.64	0	.77	0	1.00	0	1.06	0	1.01
Mar.	.43	.55	3.78	.67	2.16	.56	2.87	.71	1.50	.50
Apr.	.16	1.83	.98	1.51	.71	1.69	2.09	1.56	1.85	1.50
May	1.97	2.86	.94	2.08	1.26	2.14	1.77	3.08	5.16	3.97
June	2.28	3.33	.08	2.23	1.38	2.54	1.30	3.98	2.76	3.27
July	.04	1.48	1.02	1.13	.98	1.22	.79	1.43	.39	.92
Aug.	.08	3.50	4.21	2.69	1.46	2.13	2.95	2.62	.20	2.83
Sept.	4.17	5.35	5.04	4.30	4.06	4.65	4.76	5.23	3.11	5.08
Oct.	2.68	2.72	1.69	2.35	1.85	1.88	2.09	2.49	1.93	2.51
Nov.	.12	.68	.20	.71	.20	1.11	3.07	1.19	.16	.98
Dec.	.24	.45	.43	.68	.08	.64	.20	.75	.12	.79
Yearly	13.15	24.05	18.80	19.96	14.77	20.57	22.24	25.33	17.61	24.61

Month	* Cd. Dias Ordaz, Tamaulipas		Reynosa Km. 22 SW, Tamaulipas		Bajo Rio San Juan, Tamps., No. 2-38		Bajo Rio San Juan, Tamps., No. 2-33		Arguelles, Tamaulipas	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.24	0.89	0.39	1.05	0.28	1.17	0.31	1.28	0.39	1.23
Feb.	T	.95	0	.87	0	.93	0	1.01	0	1.30
Mar.	2.56	.58	3.15	.76	2.01	.61	2.44	.59	1.77	.63
Apr.	.24	1.59	1.97	1.30	1.26	1.26	1.89	1.43	4.33	1.40
May	3.31	2.44	3.15	2.92	5.51	4.10	6.81	4.14	4.33	2.98
June	2.44	2.46	3.94	3.12	2.76	3.78	2.16	3.58	2.76	3.06
July	1.89	.99	1.57	1.55	.59	1.17	1.77	1.16	1.57	1.17
Aug.	.75	1.99	0	1.97	1.06	3.22	1.46	3.01	.39	1.33
Sept.	2.91	4.16	7.09	5.18	6.34	4.76	4.41	5.42	6.30	4.81
Oct.	2.80	2.65	2.16	2.31	.98	1.81	3.42	2.46	3.54	1.91
Nov.	.31	.98	.20	.95	.39	1.16	.20	1.06	.20	.91
Dec.	.28	.80	.59	1.13	.20	.79	.20	1.06	.39	1.13
Yearly	17.73	20.48	24.21	23.11	21.38	24.76	25.07	26.20	25.97	21.86

Month	Presa Anzalduas, Tamaulipas		Reynosa, Tamaulipas		Mendez, Tamaulipas		Bajo Rio San Juan, Tamps., No. 3-55		Bajo Rio San Juan, Tamps., No. 3-58	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.28	0.70	0.47	1.03	0.55	0.88	0.90	1.76	1.14	1.57
Feb.	0	.51	0	.88	0	.84	0	1.44	0	1.26
Mar.	2.52	.64	1.93	.75	.87	.88	1.57	.79	1.38	.78
Apr.	2.64	1.38	3.38	1.21	.55	1.72	1.57	1.72	.55	1.43
May	1.26	2.53	1.22	2.24	2.52	2.64	.71	2.78	.28	2.65
June	.43	2.57	1.26	2.28	2.56	3.01	2.09	3.76	2.28	3.31
July	2.17	1.12	2.05	1.15	1.54	1.11	2.16	2.25	3.62	2.34
Aug.	.39	1.41	0	1.48	0	3.05	0	2.46	0	2.40
Sept.	12.09	4.19	7.40	3.47	3.15	4.45	4.25	4.59	3.70	4.93
Oct.	4.41	2.48	3.62	2.20	1.42	2.31	4.33	3.43	3.94	3.23
Nov.	.08	.65	.16	.90	0	.67	.20	.71	.31	1.00
Dec.	.20	.64	.16	.75	.20	.47	0	.69	0	.75
Yearly	26.47	18.82	21.65	18.34	13.36	22.03	17.78	26.38	17.20	25.65

T Trace * Formerly San Miguel de Camargo, Tamaulipas

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Bajo Rio San Juan, Tamps., No. 3-60		Bajo Rio San Juan, Tamps., No. 3-47		Bajo Rio San Juan, Tamps., No. 3-63		Rio Bravo, Tamaulipas		Retamal, Tamaulipas	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	1.06	1.42	1.06	1.81	1.50	1.59	0.55	1.15	1.10	0.90
Feb.	0	1.30	0	1.28	0	1.52	0	1.21	0	.92
Mar.	1.73	.76	1.50	.70	1.69	.75	2.40	.73	1.89	.75
Apr.	.87	1.71	2.28	1.64	.55	1.18	3.38	1.61	3.58	1.44
May	.79	2.57	.28	3.52	.63	2.31	1.73	2.35	.63	2.38
June	1.77	3.63	1.30	4.00	1.61	3.54	0	2.99	1.77	2.81
July	4.33	1.75	1.06	2.08	4.76	2.10	3.66	2.01	3.39	1.13
Aug.	0	2.43	0	2.03	0	2.82	.59	2.30	0	2.31
Sept.	4.37	5.22	10.83	5.32	1.93	5.08	7.80	5.02	3.98	3.38
Oct.	3.98	3.24	3.82	2.97	3.58	2.51	2.95	2.82	5.55	2.63
Nov.	0	.93	0	1.04	0	.80	.12	1.12	T	1.15
Dec.	0	.71	0	.85	0	.62	.08	.77	.67	.83
Yearly	18.90	25.67	22.13	27.24	16.25	24.82	23.26	24.08	22.56	20.63

Month	Bajo Rio Bravo, Tamps., No. 3-15		Bajo Rio Bravo, Tamps., No. 4-16		Bajo Rio Bravo, Tamps., No. 3-14		Bajo Rio Bravo, Tamps., No. 3-17		Bajo Rio Bravo, Tamps., No. 2-8	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	2.05	1.66	0.67	1.48	0.55	1.41	1.26	1.69	0.90	1.54
Feb.	0	1.61	0	1.35	0	1.05	0	1.46	0	1.45
Mar.	2.87	.93	1.97	.80	2.72	.63	2.48	.77	3.42	1.07
Apr.	1.89	1.55	.83	1.46	1.50	1.21	1.65	1.19	2.12	1.65
May	.43	2.85	1.26	2.32	.12	2.97	.20	3.03	1.69	2.60
June	1.69	4.27	1.02	4.03	1.69	3.09	.55	3.44	.59	3.32
July	4.92	2.32	3.66	1.71	3.42	1.88	3.70	2.27	4.02	2.28
Aug.	1.18	2.52	.08	2.94	2.20	1.96	3.15	2.56	0	3.30
Sept.	4.45	4.00	1.10	4.90	4.02	4.14	5.00	5.15	3.98	5.62
Oct.	2.87	2.53	2.83	2.67	3.62	2.38	2.52	2.42	4.09	3.02
Nov.	.16	1.10	.16	1.46	0	.75	.24	1.23	.16	1.76
Dec.	.98	.95	.39	.94	.55	.77	.83	.98	.51	.91
Yearly	23.49	26.29	13.97	26.06	20.39	22.24	21.58	26.19	21.48	28.52

Month	Bajo Rio Bravo, Tamps., No. 2-6		Bajo Rio Bravo, Tamps., No. 2-10		Valle Hermoso, Tamaulipas		Control, Tamaulipas		Bajo Rio Bravo, Tamps., No. 2-5	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.94	1.86	0.35	1.40	0.75	1.08	0.98	1.29	0.98	1.93
Feb.	0	1.58	0	2.01	0	1.28	0	1.10	0	1.57
Mar.	2.32	1.10	5.67	1.39	5.67	.76	2.16	.66	3.98	1.42
Apr.	.98	1.45	1.65	1.51	1.97	1.67	1.81	1.47	1.81	1.55
May	1.14	3.04	1.14	2.28	2.48	2.62	1.57	2.86	1.54	2.70
June	.43	3.14	.31	3.41	2.05	3.28	2.60	3.17	1.38	3.50
July	3.98	1.83	4.21	2.03	5.55	1.80	2.12	1.39	3.78	1.59
Aug.	1.02	2.84	.28	2.73	.67	1.77	.47	2.73	1.65	2.86
Sept.	3.98	4.95	2.40	5.12	4.88	5.52	3.38	5.26	5.59	5.50
Oct.	4.06	2.67	2.60	2.20	3.35	2.42	4.41	2.44	2.36	2.40
Nov.	0	1.16	0	1.22	.20	1.46	.08	1.20	0	1.22
Dec.	.43	1.05	.39	.73	.79	.86	.71	.88	.90	.96
Yearly	19.28	26.67	19.00	26.03	28.36	24.52	20.29	24.45	23.97	27.20

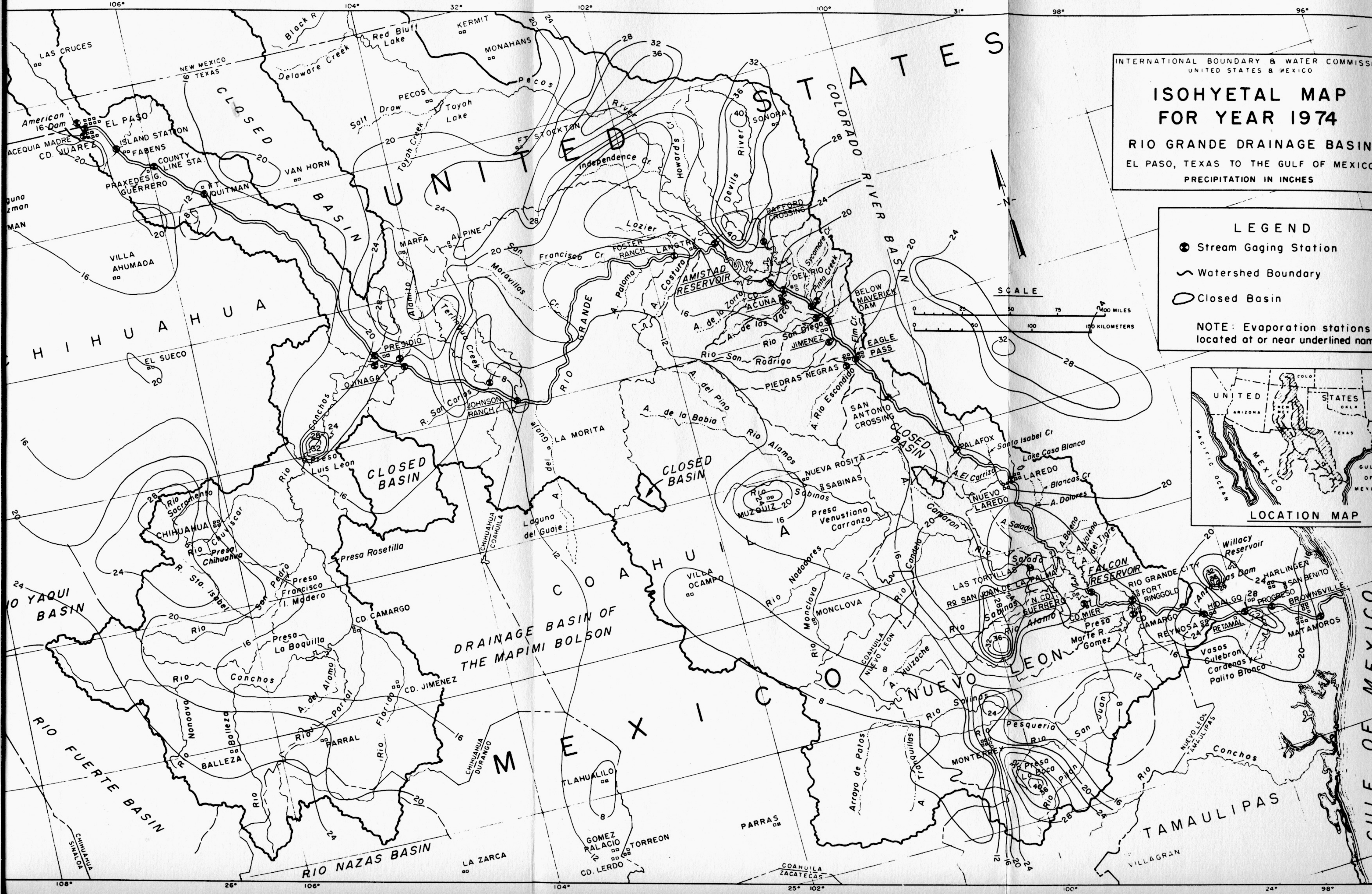
Month	Bajo Rio Bravo, Tamps., No. 2-11		Bajo Rio Bravo, Tamps., No. 1-2		Bajo Rio Bravo, Tamps., No. 2-7		Bajo Rio Bravo, Tamps., No. 1-4		Bajo Rio Bravo, Tamps., No. 1-18	
	1974	Average	1974	Average	1974	Average	1974	Average	1974	Average
Jan.	0.98	1.60	2.80	1.82	0.39	1.50	1.22	1.93	0.43	1.61
Feb.	0	1.20	6.38	2.14	0	1.40	0	1.35	0	1.51
Mar.	1.73	.78	.12	.56	1.69	.86	.75	.88	.28	.44
Apr.	5.87	2.28	.79	1.11	3.94	2.02	1.57	1.64	.55	1.13
May	.51	2.83	3.35	3.51	1.26	2.99	.12	2.78	.83	2.44
June	1.77	4.38	5.55	4.31	1.18	3.72	2.12	3.62	3.50	3.75
July	3.50	2.09	.90	1.66	2.09	1.74	1.85	.96	2.05	1.60
Aug.	.98	2.87	3.03	2.93	.47	3.01	.20	2.45	.12	2.41
Sept.	4.25	5.49	3.31	5.73	5.47	5.30	5.79	5.73	1.57	5.08
Oct.	3.11	3.02	3.07	2.45	2.40	2.30	2.20	2.46	3.35	3.21
Nov.	0	1.20	.98	1.22	.08	1.65	.47	1.09	.59	1.27
Dec.	1.46	1.05	.31	.86	.87	1.00	1.06	1.06	.75	1.08
Yearly	24.16	28.79	30.59	28.30	19.84	27.49	17.35	25.95	14.02	25.53

T Trace

RAINFALL ON THE RIO GRANDE WATERSHED IN MEXICO

In Inches

Month	Bajo Rio Bravo, Tamps., No. 1-3		Bajo Rio Bravo, Tamps., No. 1-13		Bajo Rio Bravo, Tamps., No. 1-12		Matamoros, Tamaulipas			
	1974	Average	1974	Average	1974	Average	1974	Average		
Jan.	0.47	1.66	0.39	1.53	1.26	1.97	0.43	1.82		
Feb.	0	1.36	0	1.38	0	1.67	0	2.01		
Mar.	1.06	.59	.83	.67	.43	.61	.04	.56		
Apr.	.55	1.46	1.30	1.47	.79	1.32	.83	1.62		
May	1.30	2.74	1.06	1.92	.47	2.86	2.09	2.60		
June	2.87	3.77	2.05	3.78	2.95	3.41	9.64	4.10		
July	1.42	1.32	2.60	1.44	2.68	1.69	0	1.41		
Aug.	.16	2.40	0	2.80	.47	2.00	2.24	3.14		
Sept.	5.16	5.32	3.54	5.62	6.93	5.64	2.20	6.52		
Oct.	3.19	2.63	1.77	2.42	2.36	3.16	3.54	3.59		
Nov.	.31	1.55	.28	1.23	.47	1.16	.39	1.29		
Dec.	.79	.96	1.06	.98	1.73	1.07	.79	1.43		
Yearly	17.28	25.76	14.88	25.24	20.54	26.56	22.10	30.09		


INTERNATIONAL BOUNDARY & WATER COMMISSION
UNITED STATES & MEXICO
ISOHYETAL MAP FOR YEAR 1974
RIO GRANDE DRAINAGE BASIN
EL PASO, TEXAS TO THE GULF OF MEXICO
PRECIPITATION IN INCHES
LEGEND
Stream Gaging Station
Watershed Boundary
Closed Basin
NOTE: Evaporation stations located at or near underlined nam
SCALE
0 25 50 75 100 MILES
0 50 100 150 KILOMETERS
LOCATION MAP
UNITED STATES
PACIFIC OCEAN
MEXICO
UNITED STATES
MEXICO
CHIHUAHUA
COAHUILA
NUEVO LEON
TAMAULIPAS
CLOSED BASIN
DRAINAGE BASIN OF THE MAPIMI BOLSON
RIO YAQUI BASIN
RIO FUERTE BASIN
RIO NAZAS BASIN
GULF OF MEXICO
EL PASO
CD. JUAREZ
American Dam
ACEQUIA MADRE
ISLAND STATION
FABENS
COUNTY LINE STA.
PRAXEDES G. GUERRERO
FT. QUITMAN
LAS CRUCES
NEW MEXICO
TEXAS
VAN HORN
KERMIT
MONAHANS
Red Bluff Lake
Black R.
Delaware Creek
PECOS
Pecos River
Toyah Lake
Toyah Creek
Salt Draw
FT. STOCKTON
Independence Cr.
Howard's Cr.
Devils River
SONORA
COLORADO RIVER BASIN
BAKER'S CROSSING
Lozier
FOSTER RANCH
LANGTRY
San Francisco Cr.
ALPINE
MARFA
PRESIDIO
OJINAGA
Terlingua Creek
JOHNSON RANCH
R. San Carlos
Maravillos Cr.
RIO GRANDE
AMISTAD RESERVOIR
DEL RIO
ACUÑA
Pinto Creek
Sycamore Cr.
BELOW MAVERICK DAM
EAGLE PASS
PIEDRAS NEGRAS
JIMENEZ
Rio San Diego
Rio San Rodrigo
Elm Cr.
A. Rio Escondido
SAN ANTONIO CROSSING
CLOSED BASIN
PALAFOX
Santo Isabel Cr.
Lake Casa Blanca
LAREDO
NUEVO LAREDO
A. El Carrizo
Blancas Cr.
A. Dolores
NUEVA ROSITA
SABINAS
Rio Sabinas
MUZQUIZ
Presa Venustiano Carranza
A. del Pino
A. de la Bobia
Rio Alamos
LA MORITA
Laguna del Guaje
VILLA AHUMADA
EL SUECO
Presa Luis Leon
Rio Conchos
Rio Sacramento
CHIHUAHUA
Rio Chuviscar
Presa Chihuahua
R. Sta. Isabel
Rio San Pedro
Presa Francisco I. Madero
Presa Rosetilla
CD. CAMARGO
Presa La Boquilla
Rio Conchos
A. del Alamo
Rio Parral
PARRAL
Rio Florido
CD. JIMENEZ
Rio Nonoava
Rio Balleza
BALLEZA
VILLA OCAMPO
Rio Nadadores
MONCLOVA
Rio Monclova
Rio Candela
Camaron
Rio Salado
LAS TORTILLAS
Ro SAN JUAN DE LA PALMA
Rio Sabinas
N CD. GUERRERO
Rio Alamo
FALCON RESERVOIR
CD. MIER
Presa Marte R. Gomez
RIO GRANDE CITY
FORT RINGGOLD
CAMARGO
REYNOSA
Anzalduas Dam
HIDALGO
RETAMAL
Willacy Reservoir
HARLINGEN
SAN BENITO
PROGRESO
BROWNSVILLE
MATAMOROS
Vasos Culebron, Cardenas y Palito Blanco
A. Huizache
Rio Salinas
Rio Pesqueria
MONTERREY
Presa La Boca
Rio Pilon
Rio San Juan
Conchos
TAMAULIPAS
VILLAGRAN
Arroyo de Patos
A. Taraquillas
PARRAS
TLAHUALILO
GOMEZ PALACIO
TORREON
CD. LERDO
LA ZARCA
CHIHUAHUA
DURANGO
CHIHUAHUA
SINALOA
COAHUILA
ZACATECAS
106°
104°
102°
100°
98°
96°
108°
32°
31°
26°
25°
24°

AVERAGE RAINFALL ON SUBDIVISIONS OF THE RIO GRANDE WATERSHED

With Averages for the 104 Years 1871-1974, Inclusive

In Inches

The precipitation records of all stations on or adjacent to the watershed subdivisions listed below have been used, with proper weighting for area, in calculating the average rainfalls shown here. The drainage area for each subdivision is shown in parentheses. The hundreds of individual records are delineated in the various "Indexes to Precipitation Records" shown in Water Bulletins Nos. 10, 14, 22, 26, and Supplement 40A.

Month	El Paso to Fort Quitman (2,677 Square Miles)		Fort Quitman to Above Rio Conchos (3,022 Square Miles)		* Above Rio Conchos to Johnson Ranch (3,815 Square Miles)		Johnson Ranch to Langtry (13,669 Square Miles)	
	1974	Period Average	1974	Period Average	1974	Period Average	1974	Period Average
Jan.	0.26	0.44	0.49	0.39	0.01	0.34	0.04	0.49
Feb.	0	.38	0	.27	0	.29	0	.38
Mar.	.12	.33	.25	.26	.78	.20	.71	.42
Apr.	.14	.26	.44	.34	.76	.39	.98	.80
May	.14	.40	.37	.61	.88	.76	.72	1.50
June	.07	.81	.03	1.20	.04	1.10	.34	1.72
July	1.92	2.33	1.64	2.99	1.77	1.84	.55	1.87
Aug.	2.02	1.92	2.82	2.43	3.95	1.88	3.03	2.12
Sept.	7.04	1.41	6.87	1.92	6.19	1.56	5.62	2.22
Oct.	1.74	.92	1.80	1.03	.62	.84	1.17	1.22
Nov.	.82	.43	1.02	.41	.80	.34	.67	.58
Dec.	.52	.58	.40	.53	.91	.40	.87	.54
Total	14.79	10.21	16.13	12.38	16.61	9.94	14.70	13.86

Month	Pecos River below Sheffield (3,390 Square Miles)		# Langtry to Amistad Dam (2,091 Square Miles)		Devils River (4,305 Square Miles)		‡ Amistad Dam to Eagle Pass (1,625 Square Miles)	
	1974	Period Average	1974	Period Average	1974	Period Average	1974	Period Average
Jan.	0.06	0.70	0.11	0.51	0.10	0.68	0.14	0.75
Feb.	.05	.88	0	.64	0	.72	0	.91
Mar.	.72	.78	1.29	.78	1.32	1.08	1.56	1.01
Apr.	1.16	1.87	1.13	1.33	2.67	1.78	1.11	1.68
May	1.76	1.79	.67	1.94	3.42	2.57	1.88	2.88
June	1.16	2.47	.66	2.22	1.13	2.67	.20	2.49
July	.61	1.84	.01	1.21	.71	1.72	.20	1.80
Aug.	5.16	2.01	3.02	1.68	7.24	2.17	3.54	2.02
Sept.	14.42	2.51	8.81	2.41	10.69	3.01	3.43	3.14
Oct.	4.34	1.84	2.05	1.48	3.62	2.21	2.83	2.07
Nov.	1.33	.92	.37	.74	.79	1.52	.78	1.01
Dec.	.98	.74	1.06	.63	1.54	1.00	1.40	.87
Total	31.75	18.35	19.18	15.57	33.23	21.13	17.07	20.63

Month	⊕ Eagle Pass to Laredo (3,795 Square Miles)		ß Laredo to Falcon Dam (3,369 Square Miles)		† Falcon Dam to Rio Grande City (468 Square Miles)		United States Side below Rio Grande City (986 Square Miles)	
	1974	Period Average	1974	Period Average	1974	Period Average	1974	Period Average
Jan.	0.41	0.74	0.42	0.75	0.79	0.90	0.78	1.25
Feb.	T	.82	.12	.81	.20	.84	.01	1.10
Mar.	1.50	.94	1.94	.80	1.58	.96	1.69	1.06
Apr.	.90	1.58	.56	1.39	1.36	1.20	1.84	1.35
May	.96	3.08	1.85	3.19	1.41	2.43	1.51	2.82
June	.67	2.46	1.40	1.98	.97	2.13	1.63	2.55
July	.83	1.42	.67	2.03	1.67	1.86	2.01	1.71
Aug.	3.39	2.33	3.31	1.88	1.29	2.16	.68	2.27
Sept.	3.52	3.09	1.86	3.13	2.30	3.59	7.80	4.42
Oct.	1.32	1.88	2.56	1.62	2.99	1.96	4.48	2.54
Nov.	.55	.97	1.04	1.55	.53	.78	.31	1.36
Dec.	.91	.98	.43	.82	.29	.66	.48	1.24
Total	14.06	20.29	16.16	19.95	15.38	19.47	23.22	23.67

* Excluding Rio Conchos, Alamito, and Terlingua Creeks # Excluding Pecos and Devils Rivers
‡ Excluding Arroyo Las Vacas, San Felipe Creek, Pinto Creek, Rio San Diego, and Rio San Rodrigo
⊕ Excluding Rio Escondido ß Excluding Rio Salado above Old Cd. Guerrero
† Excluding Rio Alamo and Rio San Juan

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

The precipitation records of stations listed below began on the date shown and extend through 1974. For detailed information regarding sources of data, specific periods of record, and other pertinent matters relative to these and additional rainfall stations on the Rio Grande watershed see "Index to Precipitation Records" in Water Bulletins Nos. 10, 14, 22, 26, and Supplement 40A. All United States precipitation stations listed below are in Texas, while those in Mexico are in the indicated state as shown.

In United States

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	RECORD BEGAN	WATERSHED SUBDIVISION	OBSERVER
Adobes Ranch	S	29° 46'	104° 34'	2,550	1950	Fort Quitman - Above Rio Conchos	T. C. Davis
American Dam	S	31° 47'	106° 32'	3,730	1938	El Paso - Fort Quitman	I. B. & W. C.
Amistad Dam	R	29° 28'	101° 02'	1,150	July 1962	Langtry - Below Amistad Dam	I. B. & W. C.
Amistad Raft	C	29° 27'	101° 03'	‡‡	Dec. 1968	Langtry - Amistad Dam	I. B. & W. C.
Amistad Reservoir near Comstock	C	29° 33'	101° 13'	1,130	1970	Langtry - Amistad Dam	I. B. & W. C.
Apache Ranch	C	27° 56'	99° 56'	500	# 1953	Eagle Pass - Laredo	Leroy Tibiletti
Arledge, W. A. Ranch	S	29° 58'	101° 38'	1,950	June 1933	Johnson Ranch - Langtry	W. A. Arledge
Arroyo Tigre Chiquito	C	26° 41'	99° 07'	314	Apr. 1954	Laredo - Falcon Dam	I. B. & W. C.
Baker, A. A. Ranch	R	29° 44'	101° 09'	1,720	July 1962	Devils River	I. B. & W. C.
Bakers Crossing	S	29° 58'	101° 09'	1,520	#Apr. 1955	Devils River	James Baker
Bennett, Moody Ranch	S	30° 37'	104° 55'	3,175	July 1956	Fort Quitman - Above Rio Conchos	Moody Bennett
Big Bend Chevron Station-Study Butte	S	29° 19'	100° 32'	2,550	1967	Terlingua Creek	M. Hernandez
Big Satan Creek Station	C	29° 40'	100° 58'	1,150	Nov. 1968	Devils River	I. B. & W. C.
Black Gap Game Refuge	S	29° 34'	102° 57'	2,325	# 1952	Johnson Ranch - Langtry	Ben Martin
Bloys Camp	V	30° 33'	104° 07'	5,650	# 1941	Alamito Creek	George Knight
Bricker Ranch	S	29° 59'	101° 52'	1,680	May 1952	Johnson Ranch - Langtry	Lenamae Bricker
Brite, J. G. Ranch	R	29° 33'	101° 01'	2,150	Sept. 1962	Devils River	I. B. & W. C.
Brotherton Ranch	V	29° 42'	101° 19'	1,400	1961	Langtry - Below Amistad Dam	Perry Calk
Buoy No. 11	C	29° 31'	101° 10'	‡‡	Dec. 1969	Langtry - Amistad Dam	I. B. & W. C.
Buttrill Ranch	S	30° 00'	103° 16'	3,500	Mar. 1952	Johnson Ranch - Langtry	Tom B. Leary
Canon Diablo	C	28° 39'	100° 27'	700	1964	Eagle Pass - Laredo	I. B. & W. C.
Castolon	S	29° 08'	103° 31'	2,100	#Mar. 1953	Above Rio Conchos - Johnson Ranch	National Park Service
CCWID #11 (Bayview Dist. Off.) Avg. 18 Gages	S	26° 08'	97° 21'	25	1952	Lower Rio Grande Valley	CCWID #11
CCWCID #19 (Adams Gardens)	S	26° 10'	97° 47'	50	1952	Lower Rio Grande Valley	CCWCID #19
Chittim Ranch	C	28° 44'	100° 28'	810	Mar. 1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Coal Mine	R	28° 48'	100° 28'	770	Mar. 1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Comstock	S	29° 41'	101° 10'	1,530	May 1939	Langtry - Below Amistad Dam	I. B. & W. C.
Continental Ranch	S	29° 51'	101° 18'	1,560	Mar. 1965	Pecos River Below Sheffield	Julio Crowder
Cooper Ranch	C	28° 50'	100° 27'	800	Mar. 1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Corralitos Ranch	C	27° 07'	99° 25'	346	1953	Laredo - Falcon Dam	I. B. & W. C.
Cow Creek near Comstock	R	29° 36'	101° 12'	1,210	Apr. 1965	Langtry - Below Amistad Dam	I. B. & W. C.
Cuervo Creek Station	C	28° 21'	100° 19'	620	1954	Eagle Pass - Laredo	I. B. & W. C.
Dale, O. C. Farm	S	26° 15'	98° 16'	130	1952	Lower Rio Grande Valley	O. C. Dale
Dead Mans Canyon near Comstock	C	29° 47'	101° 19'	1,320	Sept. 1967	Pecos River below Sheffield	I. B. & W. C.
Devils Lake	R	29° 34'	100° 59'	1,146	May 1939	Devils River	I. B. & W. C.
Dolan Springs	C	29° 54'	100° 59'	1,360	Feb. 1966	Devils River	I. B. & W. C.
Dove Mountain Ranch	S	29° 48'	102° 54'	2,880	#Mar. 1952	Johnson Ranch - Langtry	Sam Cavness
Dryden	S	30° 03'	102° 07'	2,130	# 1931	Johnson Ranch - Langtry	Lewis Cash
Eagle Pass	S	28° 42'	100° 30'	815	1964	Eagle Pass - Laredo	I. B. & W. C.
Edinburg Filtration Plant	S	26° 18'	98° 10'	100	1952	Lower Rio Grande Valley	City of Edinburg
El Indio	S	28° 31'	100° 19'	725	# 1941	Eagle Pass - Laredo	Glen Stidham
Elm Creek Station	C	28° 46'	100° 30'	720	1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
El Peyote Ranch	C	27° 07'	98° 58'	650	1966	Laredo - Falcon Dam	F. J. Saldana
Erekson Ranch	S	29° 56'	100° 34'	2,330	1955	Devils River	Bob Erekson
Evans Creek near Comstock	C	29° 32'	101° 05'	1,180	July 1969	Devils River	I. B. & W. C.
Falcon Dam	S	26° 33'	99° 08'	323	Apr. 1950	Laredo - Falcon Dam	I. B. & W. C.
Farias Ranch	R	28° 36'	100° 20'	720	Mar. 1959	Eagle Pass - Laredo	I. B. & W. C.
Fawcett, H. K. Ranch	S	29° 52'	100° 54'	1,550	# 1941	Devils River	H. K. Fawcett
Feely	C	29° 34'	101° 07'	1,250	Apr. 1965	Langtry - Below Amistad Dam	I. B. & W. C.
Fletcher, H. T. Ranch	S	30° 12'	104° 15'	5,100	# 1939	Alamito Creek	Hayes Mitchell, Jr.
Fort Hancock Bridge	S	31° 16'	105° 51'	3,500	Apr. 1940	El Paso - Fort Quitman	I. B. & W. C.

S Standard R Recording C Cumulative V Visual ‡‡ Reservoir Surface

Some months or years missing

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

In United States

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	RECORD BEGAN	WATERSHED SUBDIVISION	OBSERVER
Fort McIntosh (Laredo)	V	27° 30'	99° 31'	410	# 1850	Eagle Pass - Laredo	I. B. & W. C.
Fort Quitman	R	31° 06'	105° 36'	3,430	# 1937	Fort Quitman - Above Rio Conchos	I. B. & W. C.
Foster, Ross Ranch	C	29° 47'	101° 45'	1,230	May 1961	Johnson Ranch - Langtry	I. B. & W. C.
Garciasville	R	26° 20'	98° 41'	200	Apr. 1957	Lower Rio Grande Valley	I. B. & W. C.
Gillis Headquarters Ranch	S	29° 37'	100° 47'	1,410	1968	Amistad Dam - Eagle Pass	Jake Schiller
Gillis Ranch	S	29° 41'	101° 03'	1,440	1965	Devils River	Walter Gillis
Goldwire Ranch	C	29° 44'	100° 57'	1,685	Nov. 1968	Devils River	Jake Schiller
Goodenough Spring Raft	C	29° 32'	101° 16'	‡‡	Aug. 1958	Langtry - Amistad Dam	I. B. & W. C.
Greenwood, H. M. (Cienega Ranch)	S	29° 48'	104° 13'	4,000	Mar. 1941	Alamito Creek	H. M. Greenwood
Guayuco Arroyo	R	31° 10'	105° 40'	3,600	#May 1940	El Paso - Fort Quitman	I. B. & W. C.
Hammond, Earl Ranch	S	29° 41'	103° 51'	3,700	Apr. 1963	Terlingua Creek	Earl Hammond
Hardgrave, E. W. Ranch	S	30° 18'	102° 09'	2,650	Apr. 1952	Johnson Ranch - Langtry	Jack Hardgrave
Harlow Ranch	C	29° 50'	101° 11'	1,695	Mar. 1969	Devils River	I. B. & W. C.
HDWCID #6 Goodwin Pump No. 3	S	26° 16'	98° 24'	175	# 1953	Lower Rio Grande Valley	HDWCID #6
HDWCID #6 Goodwin Pump No. 3A	S	26° 14'	98° 22'	130	# 1953	Lower Rio Grande Valley	HDWCID #6
HDWCID #6 Goodwin Pump No. 4	S	26° 16'	98° 21'	185	1958	Lower Rio Grande Valley	HDWCID #6
HDWCID #6 Goodwin Pump No. 4B	S	26° 18'	98° 23'	210	# 1953	Lower Rio Grande Valley	HDWCID #6
HDWCID #6 Goodwin Pump No. 5	S	26° 22'	98° 21'	225	# 1953	Lower Rio Grande Valley	HDWCID #6
HDWCID #15 (Edinburg Office)	S	26° 23'	98° 09'	85	1952	Lower Rio Grande Valley	HDWCID #15
Heath Crossing	S	29° 27'	102° 50'	1,775	July 1966	Johnson Ranch - Langtry	Dow Chemical
Hinds "AT" Ranch	S	29° 46'	101° 03'	1,690	Sept.1954	Devils River	Lucious Hinds
Huisache Ranch	C	26° 57'	99° 21'	383	Aug. 1953	Laredo - Falcon Dam	I. B. & W. C.
Hutto Ranch No. 1	R	29° 30'	100° 50'	1,240	Jan. 1964	Devils River	I. B. & W. C.
Hutto Ranch No. 2	R	29° 29'	100° 54'	1,210	Jan. 1964	Devils River	I. B. & W. C.
Indio Ranch	S	28° 31'	100° 22'	700	1959	Eagle Pass - Laredo	Earnest Scales
Island Station	R	31° 32'	106° 14'	3,630	1939	El Paso - Fort Quitman	I. B. & W. C.
James, Lewis Ranch	S	30° 11'	102° 07'	2,275	1966	Johnson Ranch - Langtry	Lewis James
Johnson Ranch	C	29° 01'	103° 23'	2,050	#July 1933	Johnson Ranch - Langtry	I. B. & W. C.
Keisling Farm	S	28° 23'	100° 17'	740	Dec. 1958	Eagle Pass - Laredo	Robert Smith
Kelly, P. W. Ranch	S	29° 46'	101° 12'	1,750	1965	Langtry - Below Amistad Dam	Bobby Kelly
King, Martin Ranch	R	29° 44'	101° 22'	1,460	Nov. 1954	Langtry - Below Amistad Dam	I. B. & W. C.
Kokernot Ranch - Hqtrs.	S	29° 59'	103° 34'	4,140	# 1952	Johnson Ranch - Langtry	David Kokernot
La Feria Materials Yard	V	26° 10'	97° 50'	60	1960	Lower Rio Grande Valley	CCWCID #3
La Feria Pumping Plant	S	26° 03'	97° 50'	60	1952	Lower Rio Grande Valley	CCWCID #3
Lajitas	S	29° 16'	103° 48'	2,320	June 1967	Above Rio Conchos - Johnson Ranch	Texas Hwy. Dept.
La Joya	R	26° 15'	98° 29'	150	Apr. 1957	Lower Rio Grande Valley	I. B. & W. C.
La Nutria Station	C	30° 14'	104° 43'	2,880	Mar. 1967	Fort Quitman - Above Rio Conchos	I. B. & W. C.
Laredo Water Plant	S	27° 33'	99° 31'	410	# 1930	Eagle Pass - Laredo	LaredoWaterPlant
Las Moras Creek	S	29° 00'	100° 39'	800	1958	Below Amistad Dam - Eagle Pass	Lou McGee
Lateral No. 2 Spill	C	28° 56'	100° 38'	760	Mar. 1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Lateral No. 12 Headgate	C	28° 54'	100° 34'	800	1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Lateral No. 15 Spill	C	28° 51'	100° 34'	740	1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Latham Ranch ‡	S	30° 13'	101° 22'	2,120	1965	Pecos River Below Sheffield	John & Bob Latham
Laughlin Air Force Base	S	29° 22'	100° 47'	1,080	Dec. 1958	Below Amistad Dam - Eagle Pass	U. S. A. F.
Lewis, Billie C., Jr. Ranch	S	29° 33'	100° 40'	1,400	1967	Below Amistad Dam - Eagle Pass	Billie C. Lewis, Jr.
Lock Store	S	30° 40'	100° 57'	2,400	Oct. 1962	Devils River	Claud Ward
Loma Vista Ranch	S	30° 13'	103° 47'	5,050	# 1941	Alamito Creek	Hayes Mitchell
Long Ranch	R	29° 23'	100° 57'	1,140	Oct. 1971	Devils River	I. B. & W. C.
Los Ebanos	C	26° 16'	98° 33'	150	Apr. 1957	Lower Rio Grande Valley	I. B. & W. C.
Los Fresnos Pump. Plant	S	25° 57'	97° 34'	30	1952	Lower Rio Grande Valley	CCWCID #6
Lowry, Cliff Ranch	R	29° 39'	100° 52'	1,490	June 1962	Devils River	I. B. & W. C.
Lowry Ranch No. 2	R	29° 37'	100° 46'	1,160	May 1965	Devils River	I. B. & W. C.
Maverick County Canal Headgate	S	29° 10'	100° 46'	870	Mar. 1948	Below Amistad Dam - Eagle Pass	MCWCID #1
Maverick Power Plant	S	28° 50'	100° 33'	800	June 1952	Below Amistad Dam - Eagle Pass	C. P. & L. Co.
Maverick Ranger Station	S	29° 18'	103° 30'	2,780	1955	Terlingua Creek	Park Ranger
McGonagill Ranch - Headquarters	S	30° 20'	102° 58'	4,150	Apr. 1952	Johnson Ranch - Langtry	W. E. McGonagill
McGonagill Ranch - East Mill	S	30° 21'	102° 55'	4,050	May 1952	Johnson Ranch - Langtry	W. G. McGonagill

S Standard C Cumulative V Visual R Recording # Some months or years missing
‡ Formerly Oberkampf Ranch ‡‡ Reservoir Surface

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

In United States

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	RECORD BEGAN	WATERSHED SUBDIVISION	OBSERVER
Middle Fork San Pedro	C	29° 30'	100° 53'	1,170	June 1969	Devils River	I. B. & W. C.
Miers, H. T. Ranch - Headquarters	C	29° 44'	100° 51'	1,760	1957	Devils River	I. B. & W. C.
Miers, H. T. Ranch No. 2	R	29° 44'	100° 53'	1,600	Apr. 1964	Devils River	I. B. & W. C.
Mitchell, Kerr Ranch	S	30° 13'	104° 00'	4,450	# 1941	Alamito Creek	Mrs. K. Mitchell
Mouth of Maravillas Creek	S	29° 34'	102° 47'	1,650	#Oct. 1949	Johnson Ranch - Langtry	Black Gap Game Refuge
Neely Ranch	S	30° 59'	105° 32'	3,350	Aug. 1941	Fort Quitman - Above Rio Conchos	Mrs. Tom Neely
New Mission Pump. Plant	S	26° 11'	98° 24'		Aug. 1961	Lower Rio Grande Valley	HDWCID #14
Nitaville Mercantile	S	29° 37'	103° 34'	3,332	Feb. 1973	Terlingua Creek	W. Terrison
Normandy	S	28° 55'	100° 36'	780	Dec. 1958	Below Amistad Dam - Eagle Pass	Fannin G. Lowe
North Fork San Pedro	C	29° 31'	100° 53'	1,144	June 1969	Devils River	I. B. & W. C.
O2 Ranch	S	29° 51'	103° 45'	3,780	# 1914	Terlingua Creek	Calvin Woodward
Owens Ranch	S	30° 45'	101° 40'	2,170	July 1963	Pecos River Below Sheffield	Jeff Owens
Pafford Crossing	C	29° 41'	101° 00'	1,180	Feb. 1960	Devils River	I. B. & W. C.
Pecos River near Langtry Station	C	29° 48'	101° 27'	1,260	July 1967	Pecos River Below Sheffield	I. B. & W. C.
Penitas (Edinburg Pumping Plant)	S	26° 14'	98° 27'	100	July 1957	Lower Rio Grande Valley	B. Leadbetter
Persimmon Gap Ranger Station	S	29° 40'	103° 10'	2,900	# 1948	Johson Ranch - Langtry	Park Ranger
Pinto Creek Station	C	29° 09'	100° 43'	870	Dec. 1958	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Potter, A. M. Ranch	S	29° 46'	103° 25'	3,440	1952	Johnson Ranch - Langtry	A. M. Potter
Presidio (IB&WC Gage)	C	29° 34'	104° 23'	2,550	Oct. 1949	Above Rio Conchos - Johnson Ranch	I. B. & W. C.
Prosser Ranch No. 1	C	29° 54'	101° 14'	1,710	Mar. 1965	Pecos River Below Sheffield	I. B. & W. C.
Prosser Ranch No. 2	C	29° 59'	101° 16'	1,850	Mar. 1965	Devils River	I. B. & W. C.
Prosser Ranch No. 3	C	30° 02'	101° 16'	2,020	Mar. 1965	Pecos River Below Sheffield	I. B. & W. C.
Quebec Ranch	V	30° 31'	104° 25'	4,600	1949	Adjacent to Alamito Creek	George Jones
Ranchita (Continental)	S	29° 50'	101° 20'	1,540	1969	Pecos River	Julio Crowder
Redford	C	29° 29'	104° 13'	2,500	July 1954	Above Rio Conchos - Johnson Ranch	I. B. & W. C.
Roma (Internat'l Bridge)	S	26° 24'	99° 01'	230	1941	Falcon Dam - Rio Grande City	Starr County Bridge Co.
Rosita Creek Siphon	C	28° 41'	100° 24'	760	# 1959	Eagle Pass - Laredo	I. B. & W. C.
Rosita Creek Station	C	28° 36'	100° 24'	700	# 1959	Eagle Pass - Laredo	I. B. & W. C.
Rough Canyon nr. Del Rio	C	29° 35'	100° 56'	1,147	June 1969	Devils River	I. B. & W. C.
San Benito Pump	S	26° 03'	97° 45'	50	Oct. 1953	Lower Rio Grande Valley	I. B. & W. C.
Sawyer, W. E. Ranch	S	30° 28'	100° 47'	2,100	June 1966	Devils River	Geo. Powell
Sellers Ranch	C	29° 34'	101° 02'	1,190	#Feb. 1960	Devils River	I. B. & W. C.
Shafter	V	29° 49'	104° 19'	3,800	July 1968	Above Rio Conchos - Johnson Ranch	Rosa Munoz
Shannon, Bill Ranch	C	29° 57'	104° 40'	2,680	# 1956	Fort Quitman - Above Rio Conchos	Bill Shannon
Sheep Pasture	S	29° 33'	102° 55'	2,210	May 1965	Johnson Ranch - Langtry	Black Gap Game Refuge
Stewart Ranch	R	29° 35'	100° 52'	1,330	Feb. 1960	Devils River	I. B. & W. C.
Stillwell Crossing	S	29° 24'	102° 50'	1,750	# 1960	Johnson Ranch - Langtry	Ulice Adams
Stumberg, Steve Ranch	C	30° 11'	102° 53'	4,300	1943	Johnson Ranch - Langtry	Mrs.Steve Stumberg
Sultenfuss Ranch	S	29° 21'	100° 37'	1,110	1965	Pinto Creek	Udo Sultenfuss
Terlingua Creek Station	C	29° 12'	103° 36'	2,215	Mar. 1952	Above Rio Conchos - Johnson Ranch	I. B. & W. C.
Terrell Plant (El Paso Nat. Gas Co.)	R	30° 22'	101° 50'	2,510	July 1962	Pecos River Below Sheffield	Bob Norred
Todd Field	S	30° 51'	101° 27'	2,650	Sept.1964	Pecos River Below Sheffield	R. B. Stephens
Trees Farm	R	28° 38'	100° 25'	720	Mar. 1959	Eagle Pass - Laredo	I. B. & W. C.
Van Dalsem Farm	C	28° 27'	100° 19'	700	1959	Eagle Pass - Laredo	I. B. & W. C.
Villa de la Mina	S	29° 45'	103° 40'	3,274	Sept.1964	Terlingua Creek	Glenn Pepper
Vinegarone	C	29° 57'	100° 46'	1,780	May 1966	Devils River	I. B. & W. C.
Walker Ranch	C	29° 49'	101° 14'	1,530	July 1969	Devils River	I. B. & W. C.
Weyrich Farm	C	28° 40'	100° 24'	760	Sept.1962	Eagle Pass - Laredo	I. B. & W. C.
Whipple Farm	S	26° 04'	97° 29'	25	1952	Lower Rio Grande Valley	Harry Whipple
Whitehead Bros. Ranch	S	30° 02'	100° 52'	1,900	May 1966	Devils River	I. B. & W. C.
Whitehead, Tuffy Ranch	R	29° 38'	101° 07'	1,420	July 1962	Devils River	I. B. & W. C.
Willoughby, Ray Ranch	V	30° 12'	103° 33'	5,225	# 1952	Johnson Ranch - Langtry	Bill Ramsey
Wipff Ranch	C	29° 00'	100° 35'	840	Mar. 1959	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Woodward, J. F. Ranch	S	30° 08'	103° 36'	4,750	1954	Johnson Ranch - Langtry	J. F. Woodward
Wuensche Farm	S	28° 24'	100° 19'	670	# 1952	Eagle Pass - Laredo	I. B. & W. C.
Wynne, Harold Ranch Hdq.	S	29° 29'	103° 23'	3,610	Jan. 1973	Johnson Ranch - Langtry	H. Wynne
Yarborough Ranch	S	30° 06'	103° 36'	4,550	1966	Johnson Ranch - Langtry	Venancio Victorino
Zapata Water Plant	S	26° 54'	99° 16'	380	May 1953	Laredo - Falcon Dam	Zapata Water Plant

S Standard R Recording C Cumulative V Visual # Some months or years missing

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

In Mexico

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	RECORD BEGAN	WATERSHED SUBDIVISION	OBSERVER
A. Blanca Canoas, Nuevo Leon	S	25° 32'	100° 30'	†	# 1958	Rio San Juan	Hydr. Resources
Adjuntas, Nuevo Leon	S	25° 18'	100° 08'	†	# 1958	Rio San Juan	Monterrey Wtrwrks.
Amistad Reservoir near Tlaloc, Coahuila	C	29° 26'	101° 07'	1,200	1970	Langtry - Amistad Dam	I. B. & W. C.
Anahuac, Nuevo Leon	S	27° 15'	100° 03'	656	#June 1933	Rio Salado	Hydr. Resources
Aniego 166, Tamaulipas	C	26° 46'	99° 15'	308	Jan. 1964	Laredo - Falcon Dam	I. B. & W. C.
Apodaca, Nuevo Leon	S	25° 46'	100° 11'	1,330	Feb. 1964	Rio San Juan	Hydr. Resources
Arguelles, Tamaulipas	C	26° 11'	98° 28'	†	1962	Lower Rio Grande Valley	I. B. & W. C.
Bachiniva, Chihuahua	S	28° 46'	107° 15'	6,250	# 1952	Adjacent to Rio Conchos	Meteor. Service of Mexico
Bajo Rio Bravo, Tamaulipas							
No. 1-2	S	25° 56'	97° 46'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 1-3	S	25° 50'	97° 42'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 1-4	S	25° 51'	97° 45'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 1-12	S	25° 56'	97° 38'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 1-13	S	25° 44'	97° 40'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 1-18	S	25° 40'	97° 42'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-5	S	25° 43'	97° 40'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-6	S	25° 44'	97° 53'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-7	S	25° 39'	97° 42'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-8	S	25° 40'	97° 55'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-10	S	25° 36'	97° 52'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-11	S	25° 35'	97° 46'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-14	S	25° 56'	97° 59'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-15	S	25° 46'	98° 01'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-17	S	25° 49'	97° 58'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 4-16	S	25° 35'	98° 00'	†	1964	Lower Rio Grande Valley	Hydr. Resources
Bajo Rio San Juan, Tamaulipas							
No. 2-29	S	26° 10'	98° 38'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-33	S	26° 10'	98° 28'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 2-38	S	26° 06'	98° 34'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-47	S	25° 58'	98° 07'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-55	S	25° 52'	98° 12'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-58	S	25° 50'	98° 11'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-60	S	25° 46'	98° 10'	†	1964	Lower Rio Grande Valley	Hydr. Resources
No. 3-63	S	25° 41'	98° 06'	†	1964	Lower Rio Grande Valley	Hydr. Resources
Balleza, Chihuahua	S	26° 57'	106° 21'	5,870	# 1903	Rio Conchos	Meteor. Service of Mexico
Banderas, Chihuahua	S	31° 00'	105° 39'	†	1953	Fort Quitman - Above Rio Conchos	Hydr. Resources
Bustamente, Nuevo Leon	S	26° 32'	100° 31'	1,450	# 1958	Rio Salado	Hydr. Resources
Cabezones, Nuevo Leon	S	24° 59'	99° 45'	†	1962	Adjacent to Rio San Juan	Hydr. Resources
Cadereyta, Nuevo Leon	S	25° 35'	100° 00'	1,180	#Sept. 1904	Rio San Juan	Hydr. Resources
Camargo, Chihuahua	S	27° 42'	105° 10'	5,420	Oct. 1956	Rio Conchos	Hydr. Resources
Camargo, Tamaulipas	S	26° 19'	98° 50'	223	# 1953	Falcon Dam - Rio Grande City	Hydr. Resources
Carbonera, Nuevo Leon	S	24° 49'	100° 47'	†	# 1958	Rio San Juan	Hydr. Resources
Carichic, Chihuahua	S	27° 55'	107° 04'		May 1961	Rio Conchos	Meteor. Service of Chihuahua
Casillas, Nuevo Leon	S	25° 12'	100° 12'	4,060	# 1958	Rio San Juan	Hydr. Resources
Cd. Acuna, Coahuila	S	29° 20'	100° 57'	900	1951	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Cd. Diaz Ordaz	S	26° 14'	98° 36'	130	# 1953	Lower Rio Grande Valley	Hydr. Resources
Cd. Guerrero, Chihuahua	S	28° 33'	107° 29'	6,560	#May 1903	Adjacent to Rio Conchos	Meteor. Service of Mexico
Cd. Mier, Tamaulipas	S	26° 25'	99° 09'	260	Oct. 1955	Falcon Dam - Rio Grande City	I. B. & W. C.
Cd. Mier Km. 8, SW, Tamaulipas	C	26° 23'	99° 14'	†	1962	Rio Alamo	I. B. & W. C.
Cerralvo, Nuevo Leon	R	26° 05'	99° 37'	1,130	#Nov. 1933	Rio San Juan	Hydr. Resources
Cerritos, Nuevo Leon	S	25° 31'	100° 12'	†	# 1958	Rio San Juan	Monterrey Wtrwrks.
Cerro Prieto, Nuevo Leon	S	25° 57'	99° 26'	†	#Sept. 1958	Rio San Juan	Hydr. Resources
Chihuahua, Chihuahua	S	28° 35'	106° 04'	4,690	# 1900	Rio Conchos	Meteor. Service of Mexico
Chupadero, Coahuila	S	29° 05'	100° 51'	980	1961	Rio San Diego	F. Jakubesch
Cienega de Flores, Nuevo Leon	R	25° 57'	100° 57'	1,770	Apr. 1938	Rio San Juan	Hydr. Resources
Cienega del Toro, Nuevo Leon	S	25° 05'	100° 20'	7,010	# 1958	Rio San Juan	Hydr. Resources
Colombia, Nuevo Leon	C	27° 42'	99° 46'	†	Jan. 1964	Eagle Pass - Laredo	I. B. & W. C.
Colonia Anahuac, Chihuahua	S	28° 29'	106° 44'	6,550	1961	Rio Conchos	Celulosa de Chihuahua, S.A.
Comales, Tamaulipas	R	26° 11'	98° 55'	260	#Mar. 1938	Rio San Juan	Hydr. Resources
Conchos, Coahuila	S	26° 01'	101° 20'	†	#Oct. 1950	Rio Salado	Hydr. Resources
Control, Tamaulipas	S	25° 58'	97° 47'	59	#June 1942	Lower Rio Grande Valley	Hydr. Resources
Coyame, Chihuahua	S	29° 28'	105° 00'	†	Nov. 1951	Rio Conchos	Meteor. Service of Chihuahua

S Standard C Cumulative R Recording † Not available # Some months or years missing

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

In Mexico

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	RECORD BEGAN	WATERSHED SUBDIVISION	OBSERVER
Cuatro Cienegas, Coah.	S	26° 59'	102° 04'	2,430	# 1923	Rio Salado	Hydr. Resources
Cuauhtemoc, Chihuahua	S	28° 24'	106° 52'	7,250	#June 1923	Adjacent to Rio Conchos	Meteor. Service of Mexico
Delicias, Chihuahua	S	28° 11'	105° 28'	3,710	#Aug. 1933	Rio Conchos	Hydr. Resources
Don Martin, Coahuila	S	27° 31'	100° 37'	790	#June 1927	Rio Salado	Hydr. Resources
El Anteojo, Chihuahua	S	28° 29'	104° 48'	4,130	1963	Adjacent to Rio Conchos	Meteor. Service of Mexico
El Cuarenta, Chihuahua	S	30° 33'	105° 50'	†	1965	Adjacent to Ft. Quitman Above Rio Conchos	Meteor. Service of Mexico
El Cuchillo, Nuevo Leon	S	25° 43'	99° 16'	590	June 1938	Rio San Juan	Hydr. Resources
El Llano, Tamaulipas	S	27° 24'	99° 31'	†	Nov. 1968	Laredo - Falcon Dam	I. B. & W. C.
El Maguey, Chihuahua	S	27° 37'	106° 09'	4,380	July 1955	Rio Conchos	Meteor. Service of Chihuahua
El Realito, Nuevo Leon	S	25° 18'	99° 21'	†	# 1970	Rio San Juan	Hydr. Resources
El Remolino, Coahuila	S	28° 45'	101° 05'	1,310	June 1958	Rio San Rodrigo	I. B. & W. C.
El Sitio, Chihuahua	S	27° 31'	106° 16'	†	July 1955	Rio Conchos	Meteor. Service of Chihuahua
El Sueco, Chihuahua	S	29° 54'	106° 24'	5,090	1958	Adjacent to Rio Conchos	Meteor. Service of Chihuahua
El Treinta, Coahuila	S	28° 20'	101° 24'	†	1961	Rio Salado	I. B. & W. C.
El Vergel, Chihuahua	S	26° 22'	106° 30'	7,350	# 1957	Rio Conchos	Meteor. Service of Mexico
Escalon, Chihuahua	S	26° 45'	104° 21'	4,144	# 1957	Adjacent to Rio Conchos	Meteor. Service of Mexico
Escuela Ganaderia, Chihuahua	S	28° 42'	106° 04'	4,680	1961	Rio Conchos	Meteor. Service of Chihuahua
Estacion Rosario, Durango	S	26° 30'	105° 38'	†	July 1962	Rio Conchos	Hydr. Resources
Galeana, Nuevo Leon	S	24° 50'	100° 04'	5,430	# 1958	Adjacent to Rio San Juan	Meteor. Service of Mexico
Gallego, Chihuahua	S	29° 50'	106° 23'	5,100	1958	Adjacent to Rio Conchos	Meteor. Service of Chihuahua
Garita Km. 28, Chihuahua	S	31° 33'	106° 28'	3,990	May 1958	El Paso - Ft. Quitman	I. B. & W. C.
Gral. Bravo, Nuevo Leon	S	25° 48'	99° 11'	590	#Sept.1906	Rio San Juan	Hydr. Resources
Gral. Cepeda, Coahuila	S	25° 23'	101° 29'	4,920	#Aug. 1926	Rio San Juan	Hydr. Resources
Gral. Teran (Experiment Station), Nv. Leon	S	25° 16'	99° 38'	1,090	# 1958	Rio San Juan	Agriculture and Livestock Dept.
Guadalupe, Chihuahua	S	31° 23'	106° 06'	3,650	1958	El Paso - Ft. Quitman	I. B. & W. C.
Hacienda El Alamo, Nuevo Leon	S	26° 29'	99° 47'	†	1968	Rio Alamo	I. B. & W. C.
Hacienda Mamulique, Nuevo Leon	S	26° 07'	100° 14'	†	1973	Rio San Juan	Hydr. Resources
Hacienda San Miguel, Coahuila	S	29° 13'	101° 30'	†	1961	Langtry - Below Amistad Dam	I. B. & W. C.
Higueras, Nuevo Leon	S	25° 58'	100° 01'	1,640	#Sept.1906	Rio San Juan	Meteor. Service of Mexico
Icamole, Nuevo Leon	S	25° 55'	100° 43'	4,900	# 1958	Rio San Juan	Hydr. Resources
Iturbide, Nuevo Leon	S	24° 44'	99° 54'	†	1941	Adjacent to Rio San Juan	Hydr. Resources
Jimenez, Chihuahua	S	27° 08'	104° 55'	4,490	# 1951	Rio Conchos	Hydr. Resources
Jimenez, Coahuila	S	29° 04'	100° 40'	810	# 1951	Below Amistad Dam - Eagle Pass	I. B. & W. C.
Juarez, Chihuahua	S	31° 44'	106° 29'	3,740	# 1903	El Paso - Ft. Quitman	Hydr. Resources
Km. 99, Chihuahua	S	28° 08'	105° 35'	†	# 1962	Rio Conchos	Hydr. Resources
Km. 135, Chihuahua	S	28° 13'	105° 37'	†	# 1962	Rio Conchos	Hydr. Resources
La Bandera, Tamaulipas	C	26° 42'	99° 22'	†	1962	Laredo - Falcon Dam	I. B. & W. C.
La Boquilla, Chihuahua	S	27° 32'	105° 25'	4,330	# 1910	Rio Conchos	Electric Industry of Mexico
La Campana, Chihuahua	S	29° 20'	106° 20'	4,820	# 1958	Rio Conchos	Meteor. Service of Mexico
La Cruz, Nuevo Leon	S	25° 28'	100° 26'	†	1958	Rio San Juan	Hydr. Resources
La Gloria, Nuevo Leon	S	26° 53'	99° 49'	390	#May 1958	Rio Salado	I. B. & W. C.
La Popa, Nuevo Leon	S	26° 10'	100° 50'	3,230	# 1958	Rio San Juan	Hydr. Resources
La Trasquila, Chihuahua	S	29° 08'	107° 08'	†	# 1952	Adjacent to Rio Conchos	Hydr. Resources
Laguna de Salinillas, Nuevo Leon	S	27° 26'	100° 23'	750	# 1940	Rio Salado	Hydr. Resources
Laguna de Sanchez, N. L.	R	25° 22'	100° 17'	6,500	Apr. 1941	Rio San Juan	Hydr. Resources
Lampazos, Nuevo Leon	S	27° 02'	100° 30'	1,120	# 1958	Rio Salado	Meteor. Service of Mexico
Las Burras, Chihuahua	S	28° 31'	105° 26'	3,590	July 1949	Rio Conchos	Hydr. Resources
Las Comitas, Nuevo Leon	S	25° 26'	100° 09'	1,670	# 1940	Rio San Juan	Hydr. Resources
Las Tortillas, Tamaulipas	C	26° 50'	99° 34'	360	May 1961	Laredo - Falcon Dam	I. B. & W. C.
Las Virgenes, Chihuahua	S	28° 10'	105° 38'	4,070	# 1943	Rio Conchos	Hydr. Resources
Lazaro Cardenas, Chihuahua	S	28° 23'	105° 37'	3,940	# 1961	Rio Conchos	Meteor. Service of Mexico
Linares, Nuevo Leon	R	24° 52'	99° 34'	1,180	# 1900	Adjacent to Rio San Juan	Hydr. Resources
Loma Blanca, Chihuahua	S	31° 35'	106° 18'	3,650	1970	El Paso - Ft. Quitman	Hydr. Resources
Los Barriles, Chihuahua	S	30° 55'	105° 45'	4,860	July 1958	El Paso - Ft. Quitman	I. B. & W. C.
Los Herrera(la Tableta), Nuevo Leon	R	25° 54'	99° 24'	820	#Sept.1939	Rio San Juan	Hydr. Resources

S Standard C Cumulative R Recording # Some months or years missing
† Not available

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

In Mexico

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	RECORD BEGAN	WATERSHED SUBDIVISION	OBSERVER
Los Ramones, Nuevo Leon	R	25° 42'	99° 38'	260	#Sept.1939	Rio San Juan	Hydr. Resources
Luis L. Leon, Chihuahua	S	31° 05'	105° 38'	3,460	Apr. 1958	El Paso - Ft. Quitman	I. B. & W. C.
Maclovio Herrera (Falomir), Chihuahua	S	29° 03'	105° 08'	3,380	# 1924	Rio Conchos	Meteor. Service of Mexico
Maijoma, Chihuahua	S	28° 55'	104° 21'	4,270	Aug. 1955	Rio Conchos	Meteor. Service of Chihuahua
Majalca, Chihuahua	S	28° 53'	106° 21'	6,860	June 1963	Rio Conchos	Meteor. Service of Mexico
Manuel Benavides, Chihuahua	S	29° 06'	103° 54'	†	Oct. 1961	Above Rio Conchos - Johnson Ranch	Meteor. Service of Mexico
Matamoros, Tamaulipas	S	25° 52'	97° 30'	33	# 1958	Lower Rio Grande Valley	Hydr. Resources
Mendez, Tamaulipas	S	25° 07'	98° 35'	430	#Sept.1939	Adjacent to Lower Rio Grande Valley	Hydr. Resources
Meoqui, Chihuahua	S	28° 16'	105° 29'	3,790	1961	Rio Conchos	Meteor. Service of Mexico
Miguel Aleman, Tamaulipas	S	26° 24'	99° 02'	180	1964	Falcon Dam - Rio Grande City	Hydr. Resources
Mina, Nuevo Leon	S	26° 00'	100° 32'	†	# 1958	Rio San Juan	Hydr. Resources
Mina La Borrada, Coahuila	S	29° 21'	102° 36'	†	Aug. 1961	Johnson Ranch - Langtry	I. B. & W. C.
Monclova, Coahuila	S	26° 54'	101° 25'	1,920	# 1897	Rio Salado	Hydr. Resources
Montemorelos, Nuevo Leon	S	25° 12'	99° 50'	1,420	#Aug. 1904	Rio San Juan	Hydr. Resources
Monterrey, Nuevo Leon	S	25° 40'	100° 18'	1,740	# 1896	Rio San Juan	Hydr. Resources
Muzquiz, Coahuila	S	27° 53'	101° 31'	1,650	# 1923	Rio Salado	Meteor. Service of Mexico
Nueva Cd. Guerrero, Tamaulipas	S	26° 34'	99° 14'	350	#May 1954	Laredo - Falcon Dam	I. B. & W. C.
Nuevo Laredo, Tamaulipas	V	27° 30'	99° 30'	430	1950	Laredo - Falcon Dam	I. B. & W. C.
Nuevo Laredo, Tamaulipas	S	27° 30'	99° 30'	430	# 1909	Laredo - Falcon Dam	Meteor. Service of Mexico
Nuevo Laredo Km. 26, SSW, Tamaulipas	C	27° 17'	99° 37'	†	Apr. 1961	Laredo - Falcon Dam	I. B. & W. C.
Ocampo, Coahuila	S	27° 19'	102° 24'	3,770	# 1960	Adjacent to Rio Salado	Hydr. Resources
Ojinaga, Chihuahua	S	29° 34'	104° 24'	2,590	#Apr. 1954	Rio Conchos	I. B. & W. C.
Ojinaga, Chihuahua	S	29° 34'	104° 25'	2,620	#Nov. 1906	Rio Conchos	Meteor. Service of Mexico
Ojo Caliente, Chihuahua	S	27° 41'	105° 12'	4,010	1942	Rio Conchos	Hydr. Resources
Pajonal, Nuevo Leon	S	25° 29'	100° 23'	†	1958	Rio San Juan	Hydr. Resources
Palestina, Coahuila	S	29° 09'	100° 59'	1,080	# 1931	Rio San Diego	Hydr. Resources
Paras, Nuevo Leon	S	26° 30'	99° 31'	541	1958	Rio Alamo	Hydr. Resources
Parral, Chihuahua	S	26° 56'	105° 39'	5,450	# 1903	Rio Conchos	Meteor. Service of Mexico
Parras, Coahuila	S	25° 27'	102° 10'	5,510	1958	Adjacent to Rio San Juan	Hydr. Resources
Parrita, Chihuahua	S	29° 25'	106° 29'	†	# 1958	Adjacent to Rio Conchos	Hydr. Resources
Piedras Negras, Coahuila	S	28° 43'	100° 31'	820	# 1951	Below Amistad Dam - Eagle Pass	Meteor. Service of Mexico
Planta Zootecnica, Chihuahua	S	28° 41'	106° 04'	4,770	# 1957	Rio Conchos	Meteor. Service of Mexico
Porvenir, Chihuahua	S	31° 14'	105° 52'	3,530	1958	El Paso - Ft. Quitman	I. B. & W. C.
Potosi, Nuevo Leon	S	24° 51'	100° 19'	6,260	# 1958	Adjacent to Rio San Juan	Hydr. Resources
Potrero del Llano, Chihuahua	S	29° 13'	104° 26'	3,540	June 1964	Above Rio Conchos - Johnson Ranch	I. B. & W. C.
Potrero Redondo, Nuevo Leon	S	25° 16'	100° 10'	†	# 1958	Rio San Juan	Hydr. Resources
Praxedis G. Guerrero, Chihuahua	S	31° 22'	106° 00'	3,560	1958	El Paso - Ft. Quitman	I. B. & W. C.
Presa Anzalduas, Tamaulipas	V	26° 08'	98° 20'	105	Apr. 1960	Lower Rio Grande Valley	I. B. & W. C.
Presa Cabeceras, Coahuila	S	29° 02'	101° 05'	†	1964	Below Amistad Dam - Eagle Pass	Hydr. Resources
Presa Centenario, Coahuila	S	29° 13'	100° 57'	†	1964	Arroyo Las Vacas	Hydr. Resources
Presa Chihuahua, Chihuahua	S	28° 34'	106° 10'	5,230	Oct. 1961	Rio Conchos	Hydr. Resources
Presa Luis L. Leon, Chihuahua	S	28° 57'	105° 17'	†	Oct. 1964	Rio Conchos	Hydr. Resources
Presa San Miguel, Coahuila	S	29° 02'	100° 57'	1,000	1964	Rio San Diego	Hydr. Resources
Progreso, Coahuila	S	27° 25'	101° 00'	1,210	#Feb. 1943	Rio Salado	Hydr. Resources
Ramos Arizpe, Coahuila	S	25° 32'	100° 57'	4,590	#Apr. 1907	Rio San Juan	Meteor. Service of Mexico
Rancho Bonanza, Tamaulipas	S	26° 50'	99° 26'	†	1973	Laredo - Falcon Dam	Delfino Garcia R.
Rancho La Chuparrosa, Coahuila	R	29° 30'	101° 15'	1,150	1970	Langtry - Amistad Dam	I. B. & W. C.
Rancho Las Espuelas, Tamaulipas	S	27° 07'	99° 27'	†	1971	Laredo - Falcon Dam	Delfino Garcia P.
Rancho Los Vidrios, Tamps.	C	27° 35'	99° 37'	450	Sept.1956	Eagle Pass - Laredo	I. B. & W. C.

Some months or years missing S Standard C Cumulative R Recording V Visual
† Not available

LOCATION OF RAINFALL STATIONS ON THE RIO GRANDE WATERSHED

In Mexico

NAME OF STATION	TYPE GAGE	LATI-TUDE	LONGI-TUDE	ELEV. (FT.)	RECORD BEGAN	WATERSHED SUBDIVISION	OBSERVER
Rancho Mercedes, Coahuila	S	28° 02'	100° 01'	540	May 1959	Eagle Pass - Laredo	I. B. & W. C.
Rancho San Diego, Coahuila	S	27° 59'	100° 35'	†	May 1959	Eagle Pass - Laredo	I. B. & W. C.
Rancho San Juan de la Palma, Tamaulipas	S	26° 54'	99° 20'	350	Apr. 1955	Laredo - Falcon Dam	I. B. & W. C.
Rancho San Rafael Bustamante, Tamps.	C	26° 54'	99° 30'	†	Nov. 1967	Rio Salado	I. B. & W. C.
Reata, Coahuila	S	26° 07'	101° 04'	3,070	#July 1944	Rio San Juan	Hydr. Resources
Retamal, Tamaulipas	S	26° 02'	98° 03'	82	Oct. 1949	Lower Rio Grande Valley	I. B. & W. C.
Reynosa, Tamaulipas	R	26° 06'	98° 17'	130	# 1941	Lower Rio Grande Valley	Hydr. Resources
Reynosa Km. 22, SW, Tamaulipas	C	26° 00'	98° 30'	†	# 1962	Lower Rio Grande Valley	I. B. & W. C.
Rinconada, Nuevo Leon	S	25° 41'	100° 42'	4,790	#Apr. 1944	Rio San Juan	Hydr. Resources
Rio Bravo, Tamaulipas	S	25° 59'	98° 06'	85	#Sept.1950	Lower Rio Grande Valley	Hydr. Resources
Rio Salado Riberena, Tamaulipas	S	26° 48'	99° 24'	330	July 1964	Laredo - Falcon Dam	I. B. & W. C.
Rosetilla, Chihuahua	S	28° 15'	105° 18'	3,780	1940	Rio Conchos	Electric Industry of Mexico
Rusio, Nuevo Leon	S	24° 42'	100° 26'	6,570	#June 1956	Adjacent to Rio San Juan	Hydr. Resources
Sabinas, Coahuila	S	27° 51'	101° 07'	1,120	#May 1922	Rio Salado	Hydr. Resources
Sabinas Hidalgo, Nuevo Leon	S	26° 30'	100° 10'	1,030	May 1958	Rio Salado	I. B. & W. C.
Saltillo, Coahuila	S	25° 26'	101° 00'	5,280	# 1886	Rio San Juan	Hydr. Resources
Samalayuca, Chihuahua	S	31° 21'	106° 28'	4,180	1958	El Paso - Ft. Quitman	Meteor. Service of Mexico
San Agustin, Chihuahua	S	31° 31'	106° 15'	3,650	1958	El Paso - Ft. Quitman	I. B. & W. C.
San Antonio de las Alazanas, Coahuila	S	25° 16'	100° 35'	†	1958	Rio San Juan	Hydr. Resources
San Antonio, Chihuahua	S	31° 01'	106° 00'	4,490	July 1958	El Paso - Ft. Quitman	I. B. & W. C.
San Antonio, Durango	S	26° 25'	105° 21'	5,430	# 1943	Rio Conchos	Hydr. Resources
San Buenaventura, Coahuila	S	27° 05'	101° 33'	2,300	#Dec. 1926	Rio Salado	Meteor. Service of Mexico
San Fernando, Coahuila	S	29° 25'	101° 43'	†	Aug. 1961	Langtry - Below Amistad Dam	I. B. & W. C.
San Ignacio, Tamaulipas	C	27° 04'	99° 28'	†	1964	Laredo - Falcon Dam	I. B. & W. C.
San Javier, Nuevo Leon	C	26° 16'	99° 25'	†	1962	Rio Alamo	I. B. & W. C.
San Juan, Nuevo Leon	S	25° 33'	99° 50'	880	#Nov. 1943	Rio San Juan	Hydr. Resources
San Juanito, Chihuahua	S	27° 59'	107° 27'	†	# 1959	Adjacent to Rio Conchos	Meteor. Service of Mexico
San Lorenzo, Chihuahua	S	28° 10'	106° 29'	3,770	# 1961	Rio Conchos	Hydr. Resources
Santa Barbara, Chihuahua	S	26° 48'	105° 49'	6,460	1964	Rio Conchos	Hydr. Resources
Santa Catarina, Nuevo Leon	R	25° 40'	100° 29'	2,230	Oct. 1937	Rio San Juan	Hydr. Resources
Santa Rosa, Coahuila	V	29° 38'	101° 23'	†	# 1958	Langtry - Below Amistad Dam	Ind. Co-operator
Santa Rosa, Nuevo Leon	S	24° 10'	100° 18'	†	1970	Adjacent to Rio San Juan	Hydr. Resources
Sierra Mojada, Coahuila	S	27° 17'	103° 42'	4,120	# 1897	Adjacent to Johnson Ranch - Langtry	Hydr. Resources
Siquirichic, Chihuahua	S	27° 09'	107° 12'	7,610	#July 1956	Adjacent to Rio Conchos	Meteor. Service of Mexico
Sombreretillo, Nuevo Leon	S	26° 18'	99° 58'	†	1970	Rio San Juan	Hydr. Resources
Tinajas, Chihuahua	S	31° 08'	106° 05'	4,320	1958	El Paso - Ft. Quitman	I. B. & W. C.
Topo Chico, Nuevo Leon	R	25° 44'	100° 20'	1,640	#Aug. 1939	Rio San Juan	Hydr. Resources
Tunel San Francisco, Nuevo Leon	S	25° 25'	100° 10'	†	# 1958	Rio San Juan	Hydr. Resources
Vado de Cedillos, Chihuahua	S	31° 13'	105° 48'	3,500	Apr. 1958	El Paso - Ft. Quitman	I. B. & W. C.
Valadeces, Tamaulipas	S	26° 14'	98° 40'	†	1964	Lower Rio Grande Valley	Hydr. Resources
Vallecillo, Nuevo Leon	S	26° 40'	99° 59'	900	#June 1958	Rio Salado	Hydr. Resources
Valle Allende, Chihuahua	S	26° 56'	105° 23'	†	Mar. 1962	Rio Conchos	Meteor. Service of Chihuahua
Valle Hermoso, Tamaulipas	S	25° 41'	97° 48'	52	#June 1949	Lower Rio Grande Valley	Hydr. Resources
Victoria, Chihuahua	S	27° 58'	104° 33'	4,810	June 1963	Adjacent to Rio Conchos	Meteor. Service of Mexico
Villa Aldama, Chihuahua	S	28° 50'	105° 55'	4,140	1961	Rio Conchos	Meteor. Service of Mexico
Villa Allende, Nuevo Leon	S	25° 17'	100° 01'	2,210	#Nov. 1938	Rio San Juan	Hydr. Resources
Villa Coronado, Chihuahua	S	26° 44'	105° 08'	4,790	Aug. 1964	Rio Conchos	Hydr. Resources
Villa de Santiago, Nuevo Leon	S	25° 25'	100° 09'	1,460	# 1923	Rio San Juan	Hydr. Resources
Villa Guerrero, Coahuila	S	28° 19'	100° 23'	690	#June 1958	Eagle Pass - Laredo	I. B. & W. C.
Villa Hidalgo, Coahuila	S	27° 47'	99° 52'	660	1951	Eagle Pass - Laredo	I. B. & W. C.
Villalba, Chihuahua	S	28° 10'	105° 46'	3,940	Oct. 1940	Rio Conchos	Hydr. Resources

Some months or years missing S Standard C Cumulative R Recording V Visual
† Not available

EVAPORATION IN THE RIO GRANDE BASIN IN THE UNITED STATES

In Inches

Tabulated below are records of evaporation observed at eight stations in Texas operated by the United States Section of the Commission from Presidio to Brownsville. At all stations, the exposure to wind was uniform and relatively unimpeded. The sites were kept cleared of all high brush and trees within 150 feet, and all brush, tall weeds, and other obstructions within 100 feet of the fenced enclosures. Within the enclosures, all vegetation has been eradicated or kept trimmed to within 3 inches of the ground surface. For specific location of these stations refer to data opposite same station name shown in "Location of Rainfall Stations on the Rio Grande Watershed," pages 144 through 146 in this bulletin.

Records were obtained by means of:

1. Standard National Weather Service pan. A circular pan, 4 feet in diameter and 10 inches deep, made of 22-gage galvanized iron, is set on a wooden platform with the rim of the pan 16 inches above the ground. The water level is maintained between 2 and 3 inches below the rim of the pan and is measured with a micrometer gage. This type of pan was in operation at Amistad Dam and Falcon Dam.

2. A circular pan, 2 feet in diameter and 36 inches deep, made of 22-gage galvanized iron, is set in the ground with the rim of the pan 3 inches above the ground surface and the top covered with a circular screen of No. 4 (1/4" mesh) galvanized hardware cloth. The water level is maintained between 2.5 and 3.5 inches below the rim of the pan. This type of pan was in operation at Falcon Dam. This same type of pan, equipped with an automatic feed tank that maintains the water at a level 3 inches below the rim of the pan, was in operation at Martin King Ranch and Eagle Pass.

3. An evaporometer, developed by the United States Section of the Commission and calibrated against a 2-foot pan described above, was in operation at Presidio, Johnson Ranch, and at a site 7 miles east of Brownsville. On October 1, 1971, the Wardlaw Ranch station was relocated to the Long Ranch, about 1.5 miles west, where an evaporometer was installed to replace the pan at the former location.

Month	Presidio		Johnson Ranch		Martin King Ranch		Long Ranch	
	1974	Average 1950-1974	1974	Average 1950-1974	1974	#Average 1956-1974	1974	Average October 1971-1974
Jan.	5.00	3.81	3.30	3.43	3.03	3.07	1.69	2.05
Feb.	7.13	5.19	4.80	4.92	4.91	3.59	4.45	2.85
Mar.	8.41	8.26	7.75	8.25	4.72	6.47	3.82	5.21
Apr.	10.85	10.14	10.16	10.59	8.82	7.46	6.89	6.51
May	11.24	11.96	10.40	11.98	7.99	8.47	7.05	6.65
June	14.80	12.91	12.29	12.39	11.91	10.14	10.39	7.82
July	11.48	12.19	10.48	12.46	11.75	11.29	10.71	8.69
Aug.	9.23	11.27	8.95	11.30	8.64	10.55	8.01	7.28
Sept.	7.46	9.61	6.18	9.12	6.49	7.55	4.31	5.18
Oct.	7.07	7.54	5.58	7.15	4.79	5.23	3.18	2.92
Nov.	4.80	4.85	2.77	4.59	2.78	3.82	1.54	2.27
Dec.	3.75	3.63	2.35	3.39	2.83	3.08	1.27	1.72
Total	101.22	101.36	85.01	99.57	78.66	80.47	63.31	59.15

Month	Amistad Dam		Eagle Pass		Falcon Dam				Brownsville	
					2-Foot Pan		4-Foot Pan			
	1974	Average March 1963-1974	1974	#Average 1964-1974	1974	#Average 1950-1974	1974	#Average 1958-1974	1974	#Average 1958-1974
Jan.	4.09	4.00	2.41	3.14	3.35	3.48	3.40	4.05	2.39	2.43
Feb.	7.30	4.83	5.01	3.63	5.37	4.42	6.89	5.30	3.86	3.38
Mar.	6.80	8.59	4.82	5.52	5.83	6.65	8.03	8.48	4.29	4.36
Apr.	12.37	10.38	7.22	6.75	7.75	7.91	9.82	10.56	4.71	5.34
May	12.34	11.30	3.71	6.93	8.39	9.37	11.25	12.17	5.80	5.42
June	15.84	13.27	11.14	9.69	11.13	10.93	13.58	13.54	5.86	5.91
July	17.06	15.78	12.77	11.25	12.49	12.38	15.34	15.83	7.40	6.65
Aug.	12.48	13.59	8.90	9.09	12.91	11.50	15.82	14.46	6.63	6.39
Sept.	7.83	9.64	6.18	7.02	8.22	8.15	9.80	10.16	6.34	4.80
Oct.	6.35	7.08	4.83	5.79	5.70	6.49	7.36	7.53	4.46	4.05
Nov.	3.39	4.79	3.14	3.63	4.60	4.81	4.83	5.40	4.10	3.42
Dec.	3.43	3.75	4.48	3.48	2.82	3.75	3.09	4.02	2.50	2.66
Total	109.75	107.00	79.61	76.60	88.66	90.34	109.31	111.56	60.34	54.81

Some months missing

EVAPORATION IN THE RIO GRANDE BASIN IN MEXICO

In Inches

Tabulated below are records of evaporation observed at nine stations operated and maintained by the Mexican Section of the Commission. Eight stations are along the Rio Grande from Cd. Acuna, Coahuila to Retamal, Tamaulipas and one is located on the Rio Conchos near Ojinaga, Chihuahua. At all stations, except Ojinaga, the sites were kept cleared of all high brush and trees within 150 feet, and of all brush and tall weeds within 100 feet of the fenced enclosures. There are several large trees at the Ojinaga station. The corrugated iron gage well, 42 inches in diameter, and one A-frame of the cableway of the Rio Conchos stream gaging station are in the north end of the enclosure. Inside the enclosures, all vegetation had been eradicated or was kept trimmed to within 3 inches of the ground surface. Except for a water barrel and a thermometer shelter in the northeast and northwest corners of the enclosures, the exposure to wind was uniform and relatively unimpeded. For specific location of these stations refer to data opposite same station name shown in "Location of Rainfall Stations on the Rio Grande Watershed," pages 147 through 150 in this bulletin.

The type of pan used at all these stations was a standard National Weather Service-type pan, 4 feet in diameter and 10 inches deep, made of 22-gage galvanized iron, set on a wooden platform with the rim of the pan 16 inches above the ground. The water level was maintained between 2 and 3 inches below the rim of the pan and was measured with a micrometer gage.

Data for other evaporation stations in the Rio Grande basin in Mexico, which were operated by various Mexican agencies, are available in Water Bulletin No. 44 published by the Mexican Section of the Commission.

Month	Ojinaga, Chihuahua		Cd. Acuna, Coahuila		Jimenez, Coahuila		Hidalgo, Coahuila		Nuevo Laredo, Tamaulipas	
	1974	#Avg. April 1954-1974	1974	#Avg. 1951-1974	1974	#Avg. 1951-1974	1974	#Avg. 1951-1974	1974	Avg. Aug. 1964-1974
Jan.	4.53	3.80	3.39	3.50	3.74	3.56	3.27	4.02	3.03	3.99
Feb.	5.98	5.16	6.26	4.72	7.01	4.51	6.69	5.28	7.32	5.05
Mar.	8.82	8.68	6.34	7.94	7.52	7.04	7.87	8.12	8.23	8.16
Apr.	11.81	11.26	10.55	9.02	8.90	7.82	10.55	10.18	10.59	10.18
May	13.46	13.48	9.72	10.11	10.59	9.03	11.69	12.25	11.97	11.03
June	15.71	13.92	14.33	11.82	13.74	10.83	13.19	13.78	13.39	12.51
July	12.05	13.31	14.61	13.54	14.49	12.30	14.84	15.29	14.57	14.06
Aug.	10.16	11.41	10.98	12.11	11.38	10.98	12.20	14.14	13.86	12.77
Sept.	7.09	9.17	7.01	8.74	7.56	7.78	8.50	10.12	8.50	9.78
Oct.	6.77	7.33	6.42	6.17	6.65	5.32	6.34	7.40	7.40	7.27
Nov.	3.54	4.51	2.76	3.95	3.78	3.55	4.96	4.85	4.41	4.95
Dec.	3.70	3.42	2.40	3.18	3.23	3.03	2.72	3.77	2.76	3.90
Total	103.62	105.45	94.77	94.80	98.59	85.75	102.82	109.20	106.03	103.65

Month	Rancho San Juan de la Palma, Tamaulipas		Nueva Cd. Guerrero, Tamaulipas		Cd. Mier, Tamaulipas		Retamal, Tamaulipas	
	1974	#Avg. April 1955-1974	1974	#Avg. June 1954-1974	1974	#Avg. Oct. 1955-1974	1974	#Avg. 1951-1974
Jan.	2.60	3.75	2.56	3.52	3.15	3.75	3.27	3.95
Feb.	6.02	4.89	5.98	4.43	6.34	4.84	6.38	4.72
Mar.	6.54	7.57	6.26	7.24	7.40	7.84	6.69	6.48
Apr.	8.78	9.60	8.66	9.11	10.16	9.77	7.52	8.04
May	10.75	11.46	10.04	10.62	10.16	11.12	8.27	8.58
June	11.39	12.10	11.61	11.56	11.18	12.25	9.37	9.05
July	13.54	13.69	12.60	13.52	12.28	14.55	9.37	9.89
Aug.	12.48	13.10	12.87	12.40	13.35	13.25	10.83	9.70
Sept.	8.07	9.78	8.31	9.02	9.45	9.90	8.86	7.39
Oct.	6.34	7.03	6.18	6.65	6.93	7.49	6.22	5.98
Nov.	3.78	4.78	4.09	4.71	4.29	4.96	4.49	4.33
Dec.	2.01	3.77	2.68	3.50	2.37	3.77	3.35	3.70
Total	92.80	101.52	91.34	96.28	97.56	103.49	84.62	81.81

Some months missing

TEMPERATURE, HUMIDITY AND WIND

The maximum and minimum temperatures shown for the stations in Mexico are from daily maximum and minimum thermometer observations. The mean monthly temperatures are averages of these daily maximum and minimum temperatures.

The mean monthly temperatures and relative humidities shown for stations in the United States were integrated from continuous records of hygrothermographs, housed in louvered shelters, with the sensing elements of the instruments 16 inches above the ground and 9 feet southwest of either a 2 or 4-foot diameter evaporation pan. The maximum and minimum temperatures shown below are the extreme temperatures for the month as recorded on the charts except for Falcon Dam and Amistad Dam where the readings are based on daily maximum and minimum thermometer observations.

Monthly mean wind velocities are based on the total miles of wind movement indicated by a standard 3-cup anemometer installed and operated according to specifications for a Class A National Weather Service evaporation station.

Temperature - Degrees Fahrenheit

In United States

Month	Amistad Dam, Texas				Eagle Pass, Texas				Falcon Dam, Texas			
	Mean 1974	Average March 1963-1974	1974 Max.	1974 Min.	Mean 1974	#Average 1964-1974	1974 Max.	1974 Min.	Mean 1974	Average July 1950-1974	1974 Max.	1974 Min.
Jan.	50.8	50.4	83	24	51.7	51.6	84	26	54.3	56.3	89	30
Feb.	54.9	52.7	90	30	57.1	54.4	88	26	60.0	60.0	92	30
Mar.	68.0	62.4	97	39	68.1	63.7	99	42	68.8	67.0	98	43
Apr.	71.1	71.6	100	46	73.0	73.2	98	45	72.8	75.3	101	47
May	80.3	76.5	98	60	80.4	77.6	104	59	79.9	80.0	102	64
June	84.2	81.9	106	64	83.1	82.7	108	64	82.0	84.0	110	62
July	85.9	85.1	106	69	86.4	86.0	105	69	81.6	86.1	105	67
Aug.	83.1	83.4	100	67	84.2	84.3	103	70	84.7	85.8	104	70
Sept.	73.5	78.0	96	53	74.6	78.3	98	56	76.7	81.2	104	60
Oct.	70.2	69.5	86	45	71.6	69.6	90	44	71.2	73.6	92	49
Nov.	59.2	59.9	78	34	59.5	60.7	83	30	61.7	64.1	90	34
Dec.	52.0	51.7	86	19	51.8	54.0	76	32	53.9	57.8	87	32
Yearly	69.4	68.6	106	19	70.1	69.7	108	26	70.6	72.6	110	30

In Mexico

Month	Cd. Juarez, Chihuahua				Ojinaga, Chihuahua				Cd. Acuna, Coahuila			
	Mean 1974	#Average July 1960-1974	1974 Max.	1974 Min.	Mean 1974	#Average April 1954-1974	1974 Max.	1974 Min.	Mean 1974	#Average April 1951-1974	1974 Max.	1974 Min.
Jan.	46.4	45.2	81	19	53.6	49.4	86	27	55.4	49.6	90	21
Feb.	48.2	49.4	79	18	53.6	53.9	86	21	57.2	54.5	91	19
Mar.	62.6	57.0	88	32	69.8	61.5	95	39	68.0	63.2	102	39
Apr.	66.2	64.2	102	41	73.4	71.1	97	46	73.4	72.3	104	41
May	77.0	73.6	100	48	77.0	79.6	108	55	84.2	78.7	113	59
June	84.2	81.0	108	55	87.8	84.9	106	66	86.0	84.7	115	64
July	80.6	83.1	104	63	86.0	85.8	108	68	87.8	87.4	109	68
Aug.	80.6	80.3	102	63	84.2	84.0	104	63	84.2	86.9	106	63
Sept.	73.4	74.9	100	52	77.0	79.6	102	55	75.2	81.4	102	46
Oct.	66.2	64.9	90	41	71.6	70.4	91	46	69.8	71.5	97	34
Nov.	53.6	52.6	77	23	57.2	58.1	86	32	57.2	59.1	95	25
Dec.	42.8	46.4	93	19	53.6	50.7	79	28	50.0	51.4	86	21
Yearly	65.2	64.4	108	18	70.4	69.1	108	21	70.7	70.0	115	19

Month	Chupadero, Coahuila				Jimenez, Coahuila				El Remolino, Coahuila			
	Mean 1974	#Average 1961-1974	1974 Max.	1974 Min.	Mean 1974	#Average March 1951-1974	1974 Max.	1974 Min.	Mean 1974	Average June 1958-1974	1974 Max.	1974 Min.
Jan.	51.8	49.1	88	23	59.0	52.5	86	27	60.8	56.5	91	34
Feb.	57.2	53.9	88	19	60.8	56.5	90	27	60.8	59.9	88	34
Mar.	69.8	63.2	97	39	64.4	62.9	97	34	66.2	66.0	97	36
Apr.	69.8	72.6	95	39	69.8	71.3	97	43	73.4	74.7	104	50
May	78.8	77.1	104	55	78.8	77.2	97	57	78.8	79.2	108	50
June	82.4	82.8	108	61	82.4	83.4	104	64	84.2	84.3	109	57
July	82.4	85.9	102	64	86.0	85.6	102	66	86.0	86.3	111	64
Aug.	82.4	84.3	102	66	82.4	85.2	100	68	86.0	85.7	109	61
Sept.	71.6	79.4	90	52	77.0	80.0	97	55	82.4	81.9	108	54
Oct.	68.0	70.3	86	39	71.6	71.8	88	43	73.4	73.8	104	41
Nov.	55.4	59.6	75	27	60.8	61.0	97	32	64.4	66.4	97	43
Dec.	46.4	51.5	75	23	51.8	54.0	77	25	64.4	59.8	95	28
Yearly	68.0	69.1	108	19	70.4	70.1	104	25	73.4	72.9	111	28

Some months missing

TEMPERATURE, HUMIDITY AND WIND

Temperature - Degrees Fahrenheit
In Mexico

Month	Piedras Negras, Coahuila				Guerrero, Coahuila				Rancho Mercedes, Coahuila			
	Mean 1974	#Average April 1951-1974	1974 Max.	1974 Min.	Mean 1974	#Average 1958-1974	1974 Max.	1974 Min.	Mean 1974	#Average June 1959-1974	1974 Max.	1974 Min.
Jan.	53.6	51.2	84	21	55.4	50.9	88	23		55.8		
Feb.	57.2	55.5	90	25	59.0	54.4	88	27	60.8	58.4	88	30
Mar.	69.8	62.8	99	41	73.4	64.8	104	46	68.0	64.2	99	36
Apr.	73.4	71.8	99	43	75.2	73.1	104	43	71.6	72.4	97	43
May	82.4	77.6	100	59	82.4	78.9	106	63	82.4	77.1	100	55
June	84.2	83.8	108	64	84.2	83.2	108	66	82.4	82.8	104	54
July	86.0	86.5	106	68	87.8	85.6	106	68	82.4	84.9	102	66
Aug.	84.2	85.4	102	70	87.8	85.5	108	75	84.2	85.2	100	68
Sept.	75.2	79.5	99	54	77.0	80.4	97	54	75.2	81.0	99	50
Oct.	71.6	70.3	91	43	73.4	70.5	93	43	69.8	73.7	90	41
Nov.	59.0	59.1	82	27	60.8	61.3	86	28	59.0	64.7	88	28
Dec.	51.8	52.6	79	30	57.2	53.4	84	27	53.6	58.6	88	27
Yearly	70.7	69.7	108	21	72.8	70.2	108	23	65.8	71.6	104	27

Month	Nuevo Laredo, Tamps., C.I.L.A.				Nuevo Laredo, Tamps., M.S. of M.				Rancho San Juan de la Palma, Tamps.			
	Mean 1974	Average August 1964-1974	1974 Max.	1974 Min.	Mean 1974	Average 1945-1974	1974 Max.	1974 Min.	Mean 1974	#Average April 1955-1974	1974 Max.	1974 Min.
Jan.	39.2	54.3	95	28	66.2	56.1	84	30	55.4	55.8	84	32
Feb.	57.2	58.1	95	30	62.6	60.2	88	30	60.8	59.5	86	32
Mar.	73.4	68.5	104	39	66.2	67.3	97	41	69.8	66.3	95	41
Apr.	77.0	77.0	102	46	77.0	75.4	99	50	75.2	75.2	95	54
May	86.0	81.0	109	64	84.2	80.7	102	64	78.8	80.1	104	64
June	87.8	84.7	113	68	86.0	84.6	102	66	82.4	84.9	106	63
July	87.8	87.3	109	73	86.0	87.6	106	70	82.4	87.5	100	66
Aug.	89.6	86.7	109	72	87.8	87.3	102	70	86.0	87.0	99	70
Sept.	80.6	82.7	104	61	78.8	81.4	100	57	78.8	82.5	102	52
Oct.	78.8	74.9	88	50	68.0	73.3	86	30	73.4	75.4	90	46
Nov.	66.2	66.2	91	30	62.6	64.2	97	36	62.6	66.0	97	36
Dec.	57.2	59.5	91	27	51.8	56.7	79	32	51.8	58.5	79	32
Yearly	73.4	73.4	113	27	73.1	72.9	106	30	71.4	73.2	106	32

Month	El Treinta, Coahuila				Sabinas Hidalgo, Nuevo Leon				Nueva Cd. Guerrero, Tamaulipas			
	Mean 1974	Average 1961-1974	1974 Max.	1974 Min.	Mean 1974	Average October 1961-1974	1974 Max.	1974 Min.	Mean 1974	Average 1958-1974	1974 Max.	1974 Min.
Jan.	53.6	50.3	84	23	57.2	56.9	90	46	57.2	55.0	90	34
Feb.	55.4	54.9	86	23	64.4	60.2	97	32	62.6	58.8	88	34
Mar.	69.8	64.1	104	39	69.8	66.8	93	50	71.6	66.5	99	45
Apr.	69.8	74.0	100	39	73.4	76.0	97	50	75.2	76.1	102	43
May	80.6	77.9	104	54	80.6	79.8	108	55	84.2	80.6	100	64
June	82.4	81.2	113	61	82.4	83.9	108	64	84.2	84.5	109	64
July	84.2	83.6	104	63	82.4	85.0	106	64	84.2	86.3	104	68
Aug.	82.4	82.9	104	64	86.0	84.9	106	66	87.8	86.2	104	70
Sept.	71.6	77.9	97	48	73.4	80.5	102	50	78.8	82.0	104	61
Oct.	68.0	69.8	90	43	73.4	74.3	100	50	75.2	74.7	91	48
Nov.	59.0	60.0	82	27	60.8	65.2	86	28	64.4	65.4	90	34
Dec.	44.6	52.2	68	27	55.4	59.3	86	36	55.4	57.9	86	34
Yearly	68.4	69.1	113	23	71.6	72.7	108	28	73.4	72.8	109	34

Month	Cd. Mier, Tamaulipas				Retamal, Tamaulipas							
	Mean 1974	#Average October 1955-1974	1974 Max.	1974 Min.	Mean 1974	#Average 1951-1974	1974 Max.	1974 Min.				
Jan.	57.2	55.2	88	34	59.0	60.6	88	34				
Feb.	62.6	59.0	93	32	60.8	63.0	90	34				
Mar.	71.6	67.1	100	45	73.4	69.4	95	41				
Apr.	75.2	75.7	100	46	75.2	76.8	99	45				
May	82.4	80.1	106	63	80.6	80.3	97	63				
June	80.6	84.2	106	61	80.6	83.7	95	61				
July	86.0	86.2	104	72	82.4	85.6	100	66				
Aug.	89.6	86.2	104	72	84.2	86.2	99	68				
Sept.	80.6	82.0	104	61	78.8	83.1	99	50				
Oct.	75.2	74.4	93	48	73.4	76.8	93	48				
Nov.	64.4	64.8	99	32	66.2	68.3	97	32				
Dec.	55.4	58.3	86	32	59.0	62.2	97	36				
Yearly	73.4	72.8	106	32	72.8	74.7	100	32				

Some months missing

TEMPERATURE, HUMIDITY AND WIND

Mean Wind Speed - Miles Per Hour
In United States

Month	Martin King Ranch, Texas		Amistad Dam, Texas		Eagle Pass, Texas		Falcon Dam, Texas	
	1974	Average 1957-1974	1974	#Average March 1963-1974	1974	#Average December 1963-1974	1974	#Average July 1950-1974
Jan.	3.2	3.9	3.1	3.3	2.4	2.4	3.5	3.8
Feb.	3.9	4.7	3.7	3.9	3.0	3.0	4.2	4.5
Mar.	4.3	6.2	3.6	4.8	3.7	3.5	3.0	4.9
Apr.	3.1	6.2	4.9	4.8	3.6	3.6	4.4	5.6
May	8.9	6.9	4.5	4.8	3.5	3.4	4.2	5.6
June	6.5	7.2	4.8	5.2	3.6	3.5	4.3	5.9
July	6.7	6.8	5.0	4.9	3.5	3.5	5.6	6.3
Aug.	5.4	6.0	3.9	4.2	3.1	3.0	6.3	5.3
Sept.	3.9	5.1	3.3	3.8	2.7	2.6	4.1	4.2
Oct.	4.6	4.7	3.1	3.5	2.2	2.1	3.6	3.6
Nov.	3.6	4.0	3.1	3.2	2.0	1.9	3.5	3.9
Dec.	2.1	3.6	2.6	3.2	2.1	2.0	2.6	3.6
Yearly	4.7	5.4	3.8	4.1	3.0	2.9	4.1	4.8

Mean Relative Humidity-Percent
In United States

Month	Amistad Dam, Texas		Eagle Pass, Texas		Falcon Dam, Texas	
	1974	Average March 1963-1974	1974	#Average 1964-1974	1974	Average July 1950-1974
Jan.	57.2	60.3	73.1	63.6	70.8	66.8
Feb.	43.8	59.4	53.8	61.6	49.0	64.0
Mar.	66.0	54.6	72.4	58.3	65.4	62.0
Apr.	50.6	57.8	66.5	60.8	55.8	61.8
May	61.2	62.8	73.3	66.9	60.0	64.7
June	49.7	61.9	65.8	64.9	53.3	64.0
July	50.0	57.6	60.3	60.3	50.1	60.0
Aug.	64.2	60.8	68.1	64.0	52.3	61.4
Sept.	72.2	67.6	73.2	71.7	59.5	66.2
Oct.	72.2	67.6	70.0	70.7	59.8	67.1
Nov.	73.3	64.2	72.2	68.7	62.7	66.9
Dec.	63.5	62.3	68.2	66.1	63.3	65.1
Yearly	60.3	61.4	68.1	64.8	58.5	64.2

In Mexico

Month	Nueva Cd. Guerrero, Tamaulipas	
	1974	Average August 1961-1974
Jan.	83	79
Feb.	76	78
Mar.	73	73
Apr.	69	73
May	77	79
June	74	78
July	68	74
Aug.	66	75
Sept.	72	81
Oct.	79	80
Nov.	77	79
Dec.	77	80
Yearly	74	77

Some months missing

DRAINAGE BASIN AND IRRIGATED AREAS

Along the Rio Grande and Tributaries – 1974

The total area within the outer rim of the Rio Grande basin is about 335,500 square miles but it contains large areas, especially along its southwestern boundary, that contribute no surface runoff to the Rio Grande. Such noncontributing areas constitute about 47 percent of the total area, leaving 176,333 square miles of productive watershed which is the only one included in the list below.

The irrigated areas shown below are listed in accordance with the location of their diversion points and are all within the Rio Grande basin, except in the Lower Rio Grande Valley where large portions of irrigated lands in both countries lie outside the basin boundary line.

Only areas irrigated in 1974 are shown except that, in the United States below Falcon Dam, the figures shown represent acreages which were subject to irrigation in 1974 but for which data on the portion actually irrigated is not known. On the Mexican side part of the data may have been gathered previous to 1974.

DESIGNATION OF AREAS AND GAGING STATIONS	Drainage Basin Square Miles			Irrigated Areas - Acres		
	United States	Mexico	Total	United States	Mexico	Total
Above Elephant Butte Dam	25,923	0	25,923			
Elephant Butte Dam to Caballo Dam	1,295	0	1,295	0	0	0
Above Caballo Dam	27,218	0	27,218	0	0	0
Caballo Dam to El Paso Station	2,049	0	2,049	93,358	0	93,358
Above El Paso Gaging Station	29,267	0	29,267	93,358	0	93,358
El Paso Station to American Dam	4	0	4	13,112	0	13,112
Above American Dam	29,271	0	29,271	106,470	0	106,470
American Dam to Island Station	187	285	472	32,101	13,329	45,430
Above Island Gaging Station	29,458	285	29,743	138,571	13,329	151,900
Island Station to County Line Station	485	259	744	0	0	0
American Dam to County Line Station - Total	672	544	1,216	32,101	13,329	45,430
Above County Line Gaging Station	29,943	544	30,487	138,571	13,329	151,900
County Line Station to Fort Quitman Station	663	794	1,457	12,446	0	12,446
Above Fort Quitman Gaging Station	30,606	1,338	31,944	151,017	13,329	164,346
Fort Quitman Station to Above Presidio Station	1,621	1,401	3,022	1,128	279	1,407
Above Presidio Station above Rio Conchos	32,227	2,739	34,966	152,145	13,608	165,753
Rio Conchos above Boquilla Dam	0	8,131	8,131	0	a) 5,832	5,832
Rio Conchos above Luis L. Leon Dam	0	22,992	22,992	0		
Rio Conchos - Total	0	26,404	26,404	0	356,107	356,107
Alamito Creek above Gaging Station	1,504	0	1,504	40	0	40
Presidio Station above Rio Conchos to Presidio Station below Rio Conchos - excluding above tributaries	367	98	465	4,149	360	4,509
Presidio Station above Rio Conchos to Presidio Station below Rio Conchos - Total	1,871	26,502	28,373	4,189	356,467	360,656
Above Presidio Station below Rio Conchos	34,098	29,241	63,339	156,334	370,075	526,409
Terlingua Creek above Gaging Station	1,070	0	1,070	b) 1,140	0	1,140
Presidio Station below Rio Conchos to Johnson Ranch Station - excluding Terlingua Creek	1,093	2,258	3,351	1,049	1,839	2,888
Presidio Station below Rio Conchos to Johnson Ranch Station - Total	2,163	2,258	4,421	2,189	1,839	4,028
Above Johnson Ranch Gaging Station	36,261	31,499	67,760	158,523	371,914	530,437
Johnson Ranch Station to Foster Ranch Station	6,412	6,570	12,982	c) 2,930	0	2,930
Above Foster Ranch Gaging Station	42,673	38,069	80,742	161,453	371,914	533,367
Foster Ranch Station to Langtry Station	182	505	687	0	0	0
Above Langtry Gaging Station (Discontinued)	42,855	38,574	81,429	161,453	371,914	533,367
Pecos River above Girvin	29,562	0	29,562		0	
Pecos River, Girvin to Station near Langtry	5,617	0	5,617	0	0	0
Pecos River above Station at Mouth (Discontinued)	35,308	0	35,308	0	0	0
Devils River above Pafford Crossing Station	3,961	0	3,961	0	0	0
Devils River above Station near Mouth (Discontinued)	4,305	0	4,305	0	0	0
Langtry Station to Amistad Dam - excluding above tributaries	217	1,875	2,092	0	0	0
Langtry Station to Amistad Dam - Total	39,830	1,875	41,705	0	0	0

a) Includes area above Madero Reservoir b) Includes 1,000 acres irrigated by spreader dams
c) Includes 2,700 acres irrigated by spreader dams

DRAINAGE BASIN AND IRRIGATED AREAS

Along the Rio Grande and Tributaries – 1974

DESIGNATION OF AREAS AND GAGING STATIONS	Drainage Basin Square Miles			Irrigated Areas - Acres		
	United States	Mexico	Total	United States	Mexico	Total
Above Amistad Dam	82,685	40,449	123,134	161,453	371,914	533,367
Amistad Dam to Below Amistad Dam Gaging Station	5	4	9	0	0	0
Above the Below Amistad Dam Gaging Station	82,690	40,453	123,143	161,453	371,914	533,367
Below Amistad Dam Station to Del Rio Station	60	100	160	460	0	460
Above Del Rio Gaging Station	82,750	40,553	123,303	161,913	371,914	533,827
Arroyo Las Vacas above Gaging Station	0	350	350	0	1,142	1,142
San Felipe Creek above Gaging Station	46	0	46	2,300	0	2,300
Pinto Creek above Gaging Station	249	0	249	400	0	400
Rio San Diego above Gaging Station	0	853	853	0	12,624	12,624
Rio San Diego - Total	0	859	859	0	14,057	14,057
Del Rio Station to Below Maverick Dam Station near Quemado - excluding above tributaries	669	110	779	39,516	3,541	43,057
Del Rio Station to Below Maverick Dam Station near Quemado - Total	964	1,319	2,283	42,216	18,740	60,956
Above the Below Maverick Dam Gaging Station near Quemado	83,714	41,872	125,586	204,129	390,654	594,783
Rio San Rodrigo near Mouth above Gaging Station	0	1,049	1,049	0	6,067	6,067
Rio San Rodrigo - Total	0	1,049	1,049	0	6,067	6,067
Below Maverick Dam Station near Quemado to Maverick Power Plant - excluding Rio San Rodrigo	287	114	401	1,530	0	1,530
Below Maverick Dam Station near Quemado to Maverick Power Plant - Total	287	1,163	1,450	1,530	6,067	7,597
Above Maverick Power Plant	84,001	43,035	127,036	205,659	396,721	602,380
Maverick Power Plant to Eagle Pass Station	244	32	276	225	741	966
Above Eagle Pass Gaging Station	84,245	43,067	127,312	205,884	397,462	603,346
Rio Escondido above Gaging Station	0	1,459	1,459	0	10,235	10,235
Rio Escondido - Total	0	1,471	1,471	0	10,235	10,235
Eagle Pass Station to San Antonio Crossing Station - excluding Rio Escondido	237	206	443	250	143	393
Eagle Pass Station to San Antonio Crossing Station - Total	237	1,677	1,914	250	10,378	10,628
Above San Antonio Crossing Gaging Station	84,482	44,744	129,226	206,134	407,840	613,974
San Antonio Crossing Station to Palafox Station	629	1,683	2,312	1,082	986	2,068
Above Palafox Gaging Station	85,111	46,427	131,538	207,216	408,826	616,042
Palafox Station to Laredo Station	607	433	1,040	5,167	3,032	8,199
Above Laredo Gaging Station	85,718	46,860	132,578	212,383	411,858	624,241
Rio Salado above Venustiano Carranza Dam	0	15,831	15,831	0	61,282	61,282
Rio Salado above Las Tortillas Gaging Station	0	23,155	23,155	0	121,595	121,595
Rio Salado above River Road Crossing	0	23,323	23,323	0	121,595	121,595
Laredo Station to Falcon Dam - excluding Rio Salado	2,042	1,327	3,369	d) 7,486	2,167	9,653
Laredo Station to Falcon Dam - Total	2,042	24,650	26,692	7,486	123,762	131,248
Amistad Dam to Falcon Dam - excluding above tributaries	4,780	4,009	8,789	55,716	10,610	66,326
Above Falcon Dam	87,760	71,510	159,270	219,869	535,620	755,489
Rio Alamo above Gaging Station	0	1,675	1,675	0	7,660	7,660
Rio San Juan above Marte Gomez Dam	0	12,745	12,745	0	102,548	102,548
Rio San Juan - Marte Gomez Dam to Camargo Gaging Station	0	195	195	0	161,982	161,982
Rio San Juan - Total	0	12,949	12,949	0	264,530	264,530
Falcon Dam to Ft. Ringgold Station - excluding above tributaries	222	246	468	5,605	4,579	10,184
Falcon Dam to Ft. Ringgold Station - Total	222	14,870	15,092	5,605	276,769	282,374
Above Fort Ringgold Gaging Station	87,982	86,380	174,362	225,474	812,389	1,037,863
Fort Ringgold Station to Anzalduas Dam	952	798	1,750	178,640	502,550	681,190
Above Anzalduas Dam	88,934	87,178	176,112	404,114	1,314,939	1,719,053
Anzalduas Dam to Progreso Station	13	163	176	140,669	6,366	147,035
Above Progreso Gaging Station	88,947	87,341	176,288	544,783	1,321,305	1,866,088
Progreso Station to San Benito Station	7	9	16	316,524	3,017	319,541
Above San Benito Gaging Station	88,954	87,350	176,304	861,307	1,324,322	2,185,629
San Benito Station to Brownsville Station	14	15	29	100,470	2,772	103,242
Falcon Dam to Brownsville Station - excluding Rio Alamo and Rio San Juan	1,208	1,231	2,439	741,908	519,284	1,261,192
Above Brownsville Gaging Station	88,968	87,365	176,333	961,777	1,327,094	2,288,871

d) Includes 110 acres irrigated from small reservoirs

DRAINAGE BASIN AND IRRIGATED AREAS

Along the Rio Grande and Tributaries – 1974

DESIGNATION OF AREAS AND GAGING STATIONS	Drainage Basin Square Miles			Irrigated Areas - Acres		
	United States	Mexico	Total	United States	Mexico	Total
Brownsville Station to Gulf of Mexico				4,211	35	4,246
Falcon Dam to Gulf of Mexico - excluding Rio Alamo and Rio San Juan				746,119	519,319	1,265,438
Amistad Dam to Gulf of Mexico - excluding above tributaries				801,835	529,929	1,331,764
Above Gulf of Mexico				965,988	1,327,129	2,293,117

SUPPLEMENTARY DATA–INTERNATIONAL FALCON RESERVOIR

Deduced Inflows

Considering that a knowledge of the mean daily inflows reaching the International Falcon Reservoir would serve a useful purpose, such data have been deduced for 1974 showing the flows as close as they can be approximated. These data are based on the daily operation of the International Falcon Reservoir, taking into account: a) record of gage-heights at the dam; b) releases as measured at both hydroelectric plants and outlet works; c) elevation-area-capacity tables based on 1971-1972 surveys; and d) rate of evaporation measured at the dam and at Nueva Co. Guerrero applied to an area one foot higher than the average area of two consecutive days.

Flow contributions from different sources, irrigation diversion between Laredo and Falcon, river channel losses, reservoir evaporation, accuracy of gage-height records, displacement due to wind action on the reservoir, and bank storage and return incident to changes in reservoir level, all tend to cause variations in the deduced determinations and the inflows shown below should not necessarily be in agreement with the combined flow of the Rio Grande at Laredo and the Rio Salado at Las Tortillas.

In spite of the deficiencies noted above and others that may occur, the data shown below represent a reasonable approximation of the flows entering the International Falcon Reservoir.

Mean Daily Discharge in Second-Feet 1974 —— Annual and Period Summary

Day	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	855	749	3,670	1,740	2,020	3,270	675	876	6,390	27,500	8,690	6,820
2	364	1,850	3,670	1,380	2,450	2,150	632	1,090	6,990	20,700	10,200	6,890
3	171	1,920	4,170	1,330	6,460	1,080	1,790	1,390	5,830	17,800	14,000	7,800
4	197	809	5,190	1,590	7,380	978	1,590	1,700	13,900	16,200	11,300	8,230
5	836	660	5,050	164	7,800	484	646	298	10,800	16,100	9,100	8,230
6	1,460	1,650	4,240	1,020	5,930	1,150	491	3,280	6,500	16,200	10,800	7,950
7	981	1,130	4,520	989	6,570	2,420	1,010	6,990	6,250	15,600	10,100	7,800
8	946	109	5,090	1,180	4,410	2,460	1,090	6,850	5,930	16,000	8,900	7,880
9	1,360	590	4,520	271	5,370	2,470	837	3,220	4,730	15,700	10,500	7,350
10	1,530	285	5,120	929	8,050	4,200	1,320	3,740	5,270	14,800	11,200	7,700
11	1,060	364	3,890	1,590	5,370	5,860	576	2,950	5,440	15,400	10,100	7,730
12	335	703	5,090	1,590	4,170	5,330	1,460	406	5,540	14,900	9,460	7,100
13	883	1,110	6,890	2,140	2,530	4,980	1,200	915	5,970	14,500	10,600	5,050
14	611	1,620	6,390	1,950	3,320	3,050	1,210	1,800	5,870	15,500	9,990	3,230
15	1,320	865	7,880	735	1,710	2,550	936	2,060	5,510	16,700	5,860	2,710
16	1,060	1,000	6,600	1,020	2,340	3,570	862	2,290	5,230	14,700	9,360	1,290
17	1,130	964	4,240	491	1,280	2,930	1,010	2,180	5,330	13,900	7,590	2,140
18	1,860	1,200	4,270	1,700	2,390	2,850	833	1,560	5,190	14,600	8,020	2,890
19	788	399	2,600	671	2,930	2,460	593	2,140	5,370	14,800	8,580	2,030
20	848	1,080	3,740	1,620	2,070	2,720	1,730	1,190	10,700	14,700	8,400	1,890
21	1,960	1,040	1,270	2,020	2,340	1,990	2,010	1,330	20,000	13,100	7,770	1,980
22	1,250	622	1,030	2,400	2,340	1,280	678	1,610	27,800	12,800	7,980	2,150
23	1,880	911	1,440	2,140	1,410	1,380	473	1,550	36,000	12,200	8,760	2,120
24	346	1,360	1,210	1,420	1,880	1,180	614	1,500	43,100	13,600	8,900	2,960
25	160	399	699	417	3,160	872	427	858	46,600	15,100	7,880	2,730
26	463	643	826	399	2,920	646	1,650	1,110	55,100	13,000	7,880	2,260
27	2,200	795	685	579	3,480	953	2,090	777	60,000	9,640	7,700	2,670
28	929	2,870	2,140	780	2,950	1,630	2,040	1,860	62,200	13,300	8,020	2,620
29	505		2,330	918	4,310	340	579	1,420	56,900	10,300	7,060	3,570
30	1,640		1,650	2,100	4,660	388	498	2,550	47,300	11,200	7,060	3,160
31	1,480		2,040		4,730		756	4,370		13,300		2,860
Sum	31,488	27,697	112,150	37,273	118,730	67,621	32,306	66,360	587,840	463,840	271,760	141,790

Month	Current Year 1974								Period 1968-1974		
	Extreme Gage Feet		∅ Extreme Second-Feet				Average Second-Feet	Total Acre-Feet	Acre-Feet		
	High	Low	Day	High	Day	Low			Average	Maximum	Minimum
Jan.			27	2,200	25	160	1,010	62,390	83,571	124,065	50,635
Feb.			28	2,870	8	109	989	54,934	153,721	453,053	54,934
Mar.			15	7,880	27	685	3,600	222,436	104,594	222,436	53,054
Apr.			22	2,400	5	164	1,240	73,961	90,598	138,122	40,911
May			10	8,050	17	1,280	3,810	235,556	178,096	254,054	101,854
June			11	5,860	29	340	2,250	134,145	254,522	770,709	46,609
July			27	2,090	25	427	1,040	64,091	202,705	834,367	33,481
Aug.			7	6,990	5	298	2,140	131,696	197,107	581,600	64,413
Sept.			28	62,200	9	4,730	19,600	1,165,974	554,398	1,442,682	137,408
Oct.			1	27,500	27	9,640	15,000	920,186	491,005	1,365,884	122,189
Nov.			3	14,000	15	5,860	9,040	538,929	177,004	538,929	45,260
Dec.			† 4	8,230	16	1,290	4,590	281,211	120,758	281,211	42,870
Yearly				62,200		109	5,370	3,885,509	2,608,079	6,234,950	1,280,067

∅ Mean daily

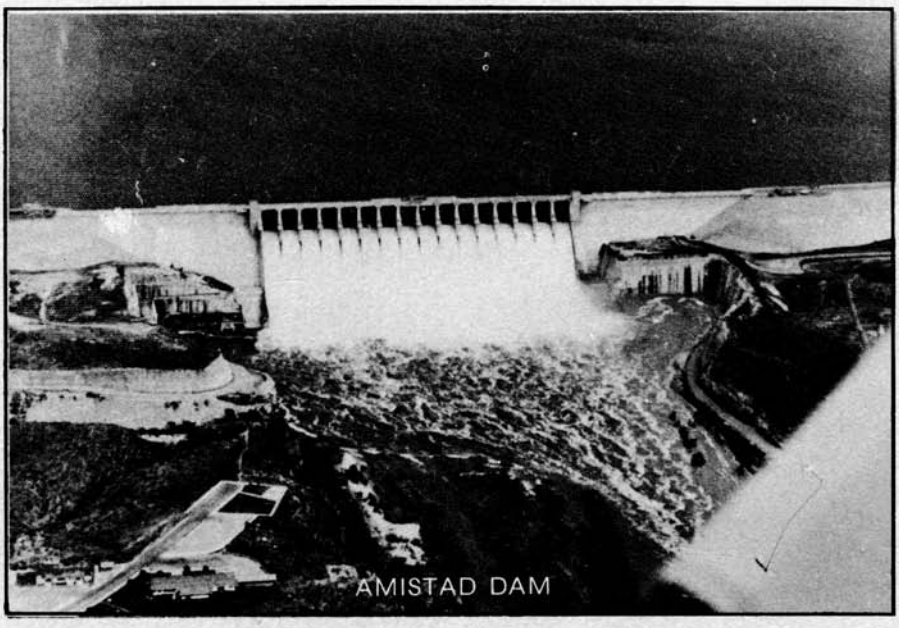
CORRECTIONS TO PREVIOUS WATER BULLETINS

Water Bulletin and Page Numbers	Heading	Reference	Published As	Correction
Summary Water Bulletin #1 Page 34	Rio Grande at Eagle Pass, Texas	Monthly Discharge in Acre-Feet, for October 1943	207,100	270,100
40-16	Rio Grande above Rio Conchos near Presidio, Texas	Annual Summary, total acre-feet for January	38.3	883
41-36	Maris Spring near Cd. Acuna, Coahuila	DESCRIPTION, first line, weir capacity	11.1	106
41-90	Stored Water in Large Reservoirs of the Rio Grande in United States	Heron Reservoir, capacity	400.1	401.3
42-125 43-125	Rainfall on Rio Grande Watershed in Mexico	Rancho La Chuparrosa, Coahuila	Rancho La Chuparrosa, Chihuahua	Rancho La Chuparrosa, Coahuila
43-44	Rio Grande below Maverick Dam near Quemado, Texas	Annual Summary, total acre-feet for May	200,481	200,487
		Period Summary, maximum acre-feet for May for period of record	200,481	200,487
43-87	Stored Water in Large Reservoirs of the Rio Grande in United States	Laguna de Salinillas Max. for period of record Min. for period of record	 9.1 6.7	 15.8 0

OMS

Flow of the Rio Grande and Related Data

1974



44

UNITED STATES OF AMERICA
DEPARTMENT OF STATE

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

WATER BULLETIN NUMBER 44

COVER PHOTOGRAPH

Amistad Dam and Reservoir is the second major international storage dam constructed jointly by the United States and Mexico under the authority of the 1944 Water Treaty between the two countries.

The picture shows the spillway discharging about 60,000 c.f.s. on September 25, 1974. This is the maximum discharge experienced since completion of the structure in 1968.