

M 82.2/73
 4587 C1
 Rio Grande City

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 IN COOPERATION WITH RIO GRANDE CITY CHAMBER OF COMMERCE
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 41

LATITUDE 26° 23' N
 LONGITUDE 98° 52' W
 ELEV. (GROUND) 170 Ft.

CLIMATOLOGICAL SUMMARY

STATION RIO GRANDE CITY, TEXAS

MEANS AND EXTREMES FOR PERIOD 1931-1962

Month	Temperature (°F)							** Mean degree days	Precipitation Totals (Inches)						Mean number of days						Month			
	Means			Extremes					Mean #	Greatest daily	Year	Snow, Sleet				Precip. .10 inch or more	Temperatures							
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year					Mean	Maximum monthly	Year	Greatest daily		Year	90° and above	32° and below	32° and below		0° and below	Max.	Min.
(a)	32	32	32	32		32		9	30	71		31	31		31		10	12	12	12	12			
Jan	71.1	46.2	58.7	96	1950	10	1962	308	0.94	3.30	1915	0	0				2	1	*	3	0	0	Jan	
Feb	76.0	49.7	62.9	102	1960	15	1951	167	0.79	6.75	1901	T	T	1960	T	1960	3	4	0	2	0	0	Feb	
Mar	82.1	54.7	68.4	108	1954	28	1931	87	0.85	2.45	1953	0	0				2	9	0	*	0	0	Mar	
Apr	89.6	62.0	75.8	112	1937	32	1944+	16	1.26	3.00	1954	0	0				2	18	0	0	0	0	Apr	
May	94.0	68.8	81.4	112	1955+	44	1944	2	2.10	6.30	1904	0	0				3	26	0	0	0	0	May	
Jun	97.8	73.0	85.4	112	1943	56	1939	0	2.01	3.50	1896	0	0				3	29	0	0	0	0	Jun	
Jul	99.7	74.3	87.0	110	1962+	59	1942	0	1.37	4.32	1938	0	0				1	31	0	0	0	0	Jul	
Aug	100.3	73.8	87.1	115	1947	60	1942	0	1.69	3.78	1944	0	0				2	30	0	0	0	0	Aug	
Sep	94.5	70.5	82.5	107	1961+	52	1948	0	3.13	4.17	1951	0	0				3	27	0	0	0	0	Sep	
Oct	88.8	62.8	75.8	101	1950+	39	1957+	11	1.84	3.20	1899	0	0				4	15	0	0	0	0	Oct	
Nov	78.5	52.6	65.6	99	1947+	27	1956	122	0.61	4.10	1914	0	0				2	4	0	1	0	0	Nov	
Dec	72.4	47.6	60.0	96	1951	23	1932	255	0.68	1.90	1924	0	0				1	*	0	2	0	0	Dec	
Year	87.1	61.3	74.2	115	Aug 1947	10	Jan 1962	968	17.27	6.75	Feb 1901	T	T	Feb 1960	T	Feb 1960	28	194	*	8	0	0	Year	

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F

+ Also on earlier dates, months, or years.

* Less than one half.

Mean for period 1931-1960

THE CLIMATE OF RIO GRANDE CITY, TEXAS

Rio Grande City has a warm-temperate subtropical steppe climate with short summer humidity. Although the city lies only about 95 miles west of the Gulf of Mexico, and is largely dominated by airflow from this source region, it has few, if any, characteristics of a marine climate. Average annual rainfall is only about 17 inches.

Most of the precipitation falls in the form of thundershowers, with the result that amounts are unevenly distributed, both geographically and seasonally. Large variations may exist over relatively small areas. Occasional tropical disturbances in the early fall produce heavy rains and cause rainfall averages to show a September maximum. A secondary rainfall maximum or "peak" occurs in late May and early June as the result of squall line thunderstorms.

In Starr County, the general inadequacy and variability of natural rainfall necessitates the use of supplemental irrigation water for successful agricultural production.

Summer temperatures are quite hot with July and August daily maxima usually 100°F or above. Winter temperatures are pleasantly mild with nighttime lows usually in the upper 40's. Freezes do not occur every year at Rio Grande City. A fall freeze will occur only about seven out of ten years, on an average, while a spring freeze will occur about nine years out of ten. The average growing season (freeze free period) is 305 days. There have been severe cold spells that have caused extensive damage to crops, fruits, and vegetables, but these are quite rare. The most severe cold spells occurred

in February 1899 (minimum 7°F), February 1951 (minimum 15°F) and January 1962 (minimum 10°F).

Humidity decreases westward from the Gulf of Mexico, so that the climate of Rio Grande City is less humid than that of the other Lower Valley cities to the east. Mean annual relative humidity ranges from 65 to 70 per cent in Starr County, compared to 75 to 80 per cent in Willacy and Cameron Counties. Although monthly variations are small, lowest mean monthly relative humidities occur in March and April, and again in July and August. Daily values are usually highest during the early morning hours just before sunup, and lowest during mid-afternoon.

Average annual percentage of possible sunshine is between 60 and 65; however, this varies from about 50 per cent in January to 80 per cent in August. Average annual lake evaporation in Starr County ranges between 66 and 74 inches, increasing from east to west.

The frequency of hurricanes in the area is very small, as these storms usually follow a north-south path just off shore, whenever they enter the West Gulf. Wind velocities usually diminish rapidly once the storm moves inland, so that the primary effect of such storms as far west as Rio Grande City is the occurrence of very heavy rain. No tornadoes are known to have touched ground within Starr County during the 68 year period, 1896-1963; although a few funnels have been observed aloft. Hail and wind storms are extremely rare.



RIO GRANDE CITY, TEXAS
Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	58.8	63.8	64.4	70.2	78.4	84.0	84.5	84.2	84.3	81.4	71.9	61.8	74.0
1932	55.0	71.7	67.0	76.8	80.6	87.4	85.4	83.6	82.0	72.4	63.6	58.1	75.0
1933	66.8	62.0	74.0	78.6	85.8	82.4	85.4	83.6	82.0	74.0	66.8	65.0	75.9
1934	61.0	61.0	64.6	71.6	80.4	87.0	85.8	87.4	82.2	70.4	70.4	61.7	73.0
1935	61.7	61.0	74.3	71.6	82.2	83.8	87.4	85.4	80.8	74.9	68.4	58.4	72.0
1936	55.5	59.0	70.5	73.2	78.6	85.2	81.5	85.4	85.0	69.4	62.4	60.0	73.0
1937	57.7	61.0	67.8	73.2	80.8	84.6	84.6	84.6	84.6	71.0	57.9	57.9	73.0
1938	59.2	65.8	75.1	74.4	82.3	82.2	86.6	84.9	79.4	73.8	65.2	60.1	73.0
1939	59.2	65.8	71.6	73.8	80.3	82.2	86.6	84.9	79.4	73.8	65.2	60.1	73.0
1940	19.8	62.3	69.6	73.8	79.9	83.2	87.0	88.4	82.0	75.8	65.2	61.4	73.4
1941	56.1	58.8	65.6	73.8	77.9	83.2	85.8	86.4	83.6	79.6	65.2	59.8	73.4
1942	53.2	67.6	66.5	73.8	77.9	81.9	81.6	81.7	80.6	75.9	65.2	59.8	73.4
1943	M	M	M	M	M	M	M	M	M	M	M	M	M
1944	M	M	M	M	M	M	M	M	M	M	M	M	M
1945	M	M	M	M	M	M	M	M	M	M	M	M	M
1946	56.6	64.9	73.6	79.8	85.6	84.6	89.9	89.0	87.4	75.0	69.8	63.6	75.1
1947	55.8	57.2	66.4	78.2	83.4	89.4	88.9	85.1	84.7	67.4	61.7	61.0	75.1
1948	55.1	61.3	67.5	78.2	84.2	87.5	88.9	88.8	80.7	73.1	64.2	64.8	74.8
1949	54.8	63.3	69.9	78.5	M	M	M	M	M	M	M	M	M
1950	59.2	68.3	69.9	78.5	M	M	M	M	M	M	M	M	M
1951	59.5	60.3	68.3	75.5	80.8	86.7	88.7	87.5	83.1	79.2	67.1	59.4	74.6
1952	64.9	64.4	69.5	74.7	79.3	82.6	85.2	87.6	81.6	70.3	63.8	56.8	73.4
1953	60.3	60.2	75.2	79.0	83.3	89.6	88.4	86.1	79.2	71.3	62.4	55.1	74.2
1954	61.5	67.1	68.7	78.6	80.4	86.8	86.5	88.5	84.2	76.2	64.1	61.9	75.4
1955	58.2	61.1	71.7	79.5	86.4	86.4	88.2	87.9	82.1	72.4	65.3	58.6	74.5
1956	60.1	64.6	70.0	75.8	81.9	86.4	88.2	88.2	83.7	76.7	62.4	61.0	75.6
1957	63.2	68.8	68.8	75.5	80.9	87.2	88.8	89.5	83.9	75.1	66.9	55.9	73.4
1958	54.0	58.4	63.3	77.0	80.9	85.8	87.8	88.3	86.7	72.5	60.7	60.0	73.4
1959	51.5	58.4	63.7	72.1	84.3	85.8	87.8	88.3	85.1	71.8	60.7	60.0	73.4
1960	56.4	57.7	63.4	75.4	80.5	87.0	88.3	88.3	82.0	74.8	61.7	60.6	73.6
1961	52.0	61.2	73.0	76.4	83.7	85.9	88.4	88.5	81.8	74.8	64.2	57.0	73.9
1962	51.0	70.6	61.1	74.3	81.4	85.1	88.9	88.5	84.1	79.2	65.2	57.0	73.4
1963	50.9	56.8	71.2	82.4	81.4	86.3	87.2	88.3	83.3	75.2	67.0	50.5	73.4

STATION HISTORY

Temperature and rainfall observations were taken at Fort Ringgold, located about one mile southeast of the Rio Grande City Post Office from January 1871 to June 1906. A climatological station, known as Rio Grande was established in town, January 1, 1901. On September 1, 1937, the station was moved back to Fort Ringgold, on a site about one-half mile east-southeast of the Rio Grande City Post Office, where it remained until March 31, 1944. Observations during this period were taken by the U. S. Army Air Corps. On April 1, 1944, the station was moved near the picnic grounds at the south edge of Fort Ringgold, about 0.8 mile southeast of the Rio Grande City Post Office. The station name was changed from Rio Grande to Rio Grande City in June 1948; and to Rio Grande City 1 E, October 1, 1956. On March 5, 1957, the instruments were moved to a new location 2.3 miles ENE of the Post Office, and the name changed to Rio Grande City 2 ESE. On January 1, 1962 the station was moved three miles west of the Rio Grande City Post Office, and an evaporation pan installed. The station is designated, Rio Grande City 3 W. Climatological data from 1871 to 1990 are published in Section 31 of CLIMATIC SUMMARY OF THE UNITED STATES under the name Rio Grande, and in the 1931-1992 SUPPLEMENT to this publication under the name Rio Grande City. Data for subsequent years are published monthly in CLIMATOLOGICAL DATA - TEXAS.

RIO GRANDE CITY, TEXAS
Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	3.21	0.40	1.51	1.46	3.30	5.64	3.63	1.02	1.11	1.24	0.26	0.69	23.47
1932	0.41	0.22	0.83	3.59	1.21	1.21	0.63	1.97	7.92	0.83	0.06	0.52	19.13
1933	0.11	0.83	0.41	1.13	2.98	0.69	3.05	5.13	5.11	0.46	1.11	0.14	20.98
1934	3.89	0.22	0.41	2.10	1.18	1.18	2.25	0.19	3.37	1.06	0.10	0.57	15.68
1935	0.12	0.88	0.99	1.09	1.67	3.66	2.19	0.99	1.66	1.79	0.84	1.94	18.39
1936	0.11	0.27	0.32	2.66	2.99	0.42	4.74	1.99	3.32	0.15	0.07	1.15	18.50
1937	0.65	0.37	0.46	0.26	5.49	1.18	4.32	2.71	1.57	0.45	0.12	1.95	13.14
1938	1.00	0.70	1.69	0.26	1.18	2.09	0.72	1.78	0.27	0.09	0.57	0.57	14.99
1939	1.35	0.11	0.14	0.26	3.28	3.24	1.28	1.78	3.50	1.19	0.20	0.28	14.09
1940	0.13	0.13	3.04	T	3.19	3.14	0.65	0.84	0.60	1.42	0.12	2.08	13.62
1941	0.13	0.82	1.45	0.11	0.01	3.65	1.56	0.52	7.94	1.50	0.44	1.77	30.51
1942	0.46	0.49	0.03	0.11	0.01	3.65	1.82	0.41	3.96	2.33	0.10	1.11	13.47
1943	1.66	0.79	0.91	0.30	2.42	2.00	0.89	T	3.16	2.22	1.70	1.11	14.92
1944	0.57	0.16	0.62	T	2.42	2.00	1.41	0.28	0.28	0.10	0.86	0.66	16.76
1945	0.57	0.21	0.62	4.17	0.83	1.34	0.16	1.80	M	M	0.29	M	-
1946	1.45	0.16	0.16	1.30	3.56	1.74	1.07	1.07	M	M	0.36	0.36	14.32
1947	0.16	0.00	0.00	2.43	1.49	1.49	6.06	0.00	0.00	1.98	1.63	1.30	16.72
1948	0.10	4.13	2.23	0.53	3.40	2.02	1.80	1.80	7.95	3.78	1.67	1.02	26.03
1949	0.53	1.75	M	M	M	M	M	M	M	M	M	M	-
1950	0.06	0.26	0.97	0.11	M	M	M	M	M	M	M	M	-
1951	0.07	0.11	1.71	0.83	2.16	1.95	0.25	0.00	7.09	1.31	0.03	0.14	19.03
1952	0.16	0.16	0.23	0.35	1.02	3.73	3.00	3.00	1.37	0.36	0.26	0.26	8.55
1953	0.02	0.16	2.94	0.67	0.57	0.08	1.28	2.88	1.89	5.82	1.08	0.37	17.42
1954	0.20	0.23	0.23	4.99	1.81	3.92	0.06	1.10	2.54	4.76	0.47	0.47	21.08
1955	0.82	0.49	0.08	0.07	0.98	0.46	1.23	1.05	4.37	0.81	0.81	0.35	11.72
1956	T	0.21	0.02	0.07	2.85	0.15	0.03	2.24	0.75	2.50	0.19	0.05	10.00
1957	0.04	0.24	0.74	4.58	0.96	0.53	0.00	0.05	1.32	0.28	0.08	1.93	35.98
1958	4.23	2.06	0.45	0.17	3.67	0.63	3.67	0.61	3.89	2.19	0.64	0.44	29.98
1959	1.05	1.97	0.42	4.45	0.19	2.90	2.02	2.02	0.86	2.38	0.54	0.22	18.60
1960	1.25	1.19	0.12	0.47	0.10	0.51	1.63	3.15	3.74	1.51	1.76	2.12	18.70
1961	1.32	0.19	0.70	1.27	0.10	1.43	1.03	3.45	6.58	0.61	1.71	1.12	16.61
1962	0.42	0.02	1.79	0.52	0.22	1.06	0.00	0.70	4.30	0.67	0.73	1.66	12.31
1963	0.22	0.34	T	0.01	3.11	1.78	0.76	1.70	3.97	0.47	0.47	1.87	17.57

Observer

Fort Ringgold
Unknown
Mrs. D. N. Garza
Frank Doyno
Sofia Margo
Frank Doyno
H. A. McCallum
U. S. Army Air Corp
Post Engineer
Mrs. Bess F. Onatfield
C. N. Gilmer, Jr.
O. O. Huggins
Elder P. Mele
Mrs. Effie R. Purcell

Began

January, 1871
January 1, 1901
December, 1912
May, 1927
June, 1921
January, 1928
May, 1929
September, 1937
April 1, 1944
November 16, 1945
December 22, 1945
July 14, 1948
May 3, 1949
October 1, 1956

Ended

June, 1906
November 30, 1912
December, 1920
December, 1927
April, 1927
April, 1929
August, 1937
March 31, 1944
November 15, 1945
December 21, 1945
July 13, 1948
May 2, 1949
September 30, 1956

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