U. S. DEPARTMENT OF COMMERCE
Environmental Science Services Administration
In cooperation with
Cotton Economic Research and
Bureau of Business Research of
The University of Texas at Austin

CLIMATOGRAPHY OF THE UNITED STATES NO. 20-41

LATITUDE 33° 06' N
LONGITUDE 98° 35' W
ELEV. (GROUND) 1045 ft.

CLIMATOLOGICAL SUMMARY

STATION GRAHAM, TEXAS

MEANS AND EXTREMES FOR PERIOD 1938 - 1967

Month	Temperature (°F) Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest Depth	Year	Mean number of days: Precip. .10 inch or more	Temperatures Max.: 90° and above	32° and below	Min.: 32° and below	0° and below	Month
(a)	30	30	30	30		30		12	30	30		30	30		12		12	12	12	12	12	
Jan	55.5	29.2	42.4	90	1943	-8	1947	748	1.34	1.88	1964	1.6	11.0	1966	-	-	3	0	2	23	*	Jan
Feb	59.7	33.5	46.6	91	1962	0	1951	540	1.39	2.05	1941	1.0	6.0	1961	-	-	4	*	1	16	0	Feb
Mar	68.3	40.0	54.2	98	1940	4	1943	381	1.54	2.65	1949	0.2	3.0	1947	1	1958	3	1	*	8	0	Mar
Apr	77.5	51.0	64.3	100	1963	27	1938	113	3.47	3.76	1957	*	0.5	1955	0		5	4	0	1	0	Apr
May	83.9	59.7	71.8	104	1967+	35	1945+	23	4.18	3.35	1941	0			0		6	10	0	0	0	May
Jun	92.0	68.3	80.2	109	1953	47	1964	1	3.20	3.33	1962	0			0		4	20	0	0	0	Jun
Jul	97.4	71.5	84.5	111	1939	55	1952+	0	1.91	3.80	1941	0			0		3	28	0	0	0	Jul
Aug	98.0	70.5	84.3	112	1964+	52	1961	*	2.20	2.87	1951	0			0		3	28	0	0	0	Aug
Sep	90.5	62.9	76.7	109	1952	30	1942	5	3.15	5.80	1955	0			0		5	15	0	0	0	Sep
Oct	80.5	51.7	66.1	103	1951	27	1952	97	2.42	3.90	1959	0			0		4	4	0	*	0	Oct
Nov	67.6	39.2	53.4	92	1965	10	1950	348	1.83	1.80	1964	*	0.5	1957	1	1957	3	*	0	6	0	Nov
Dec	58.6	31.7	45.2	88	1955	9	1966+	633	1.25	1.60	1943	0.2	2.8	1958	1	1963	3	0	1	20	0	Dec
Year	77.5	50.8	64.2	112	Aug. 1964+	-8	Jan. 1947	2889	27.88	5.80	Sept. 1955	3.0	11.0	Jan. 1966	-	-	46	110	4	74	*	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.

THE CLIMATE OF GRAHAM, TEXAS

Located in the southeastern part of Young County, Graham is a farm-ranch-oil commercial center. Its industries include petroleum supplies and processing, flour and feeds, and the manufacture of structural materials and computer tape. Graham is the county seat of Young County. Elevations within Young County vary from 1,000 to 1,300 feet above sea level. The terrain is broken by the Brazos River system. Soils are sandy loam and limestone types. Gas, oil, sand, and gravel are produced. About seventy percent of agricultural income is derived from beef cattle and other livestock. Wheat and cotton are leading crops.

Graham is the northern gateway to Possum Kingdom Lake and Possum Kingdom State Park, one of the most popular fishing and recreational areas in the state. Lake Graham, just north of the city, and Fort Belknap Park, a short distance west of Graham, are additional attractions.

The climate of Graham is subtropical with dry winters and hot humid summers. Tropical maritime air masses play a predominate role in determining the climate of the area from April through October, while those air masses of polar origin largely control the climate from November through March. There is a wide range in annual extremes of temperature, characteristic of a continental environment. Mean annual rainfall is 27.88 inches with approximately three-fourths of this amount falling during the warm season, April through October. Rainfall totals may vary considerably from month to month, and from year to year. Since 1853, the wettest year of record at Graham is 1957, with a total of 48.99 inches. Only 14.37 inches fell in 1952, the driest year. Prevailing winds are southerly throughout the year, except in January and February, when northerly winds predominate. Mean annual relative humidity is 78 percent at 6:00 a.m., 50 percent at noon, and 47 percent at 6:00 p.m., Central Standard Time. Seasonal variations in relative humidity are small. The area receives approximately 70 percent of the total possible sunshine annually. Mean values vary from about 60 percent in winter to 80 percent in summer. Mean annual lake evaporation is estimated at 64 inches.

Winter: Surges of cold continental air are common. Cold fronts often are accompanied by strong, gusty, northerly winds, and rapid drops in temperature. However, the cloudiness associated with cold frontal passages is usually brief, and sunshine and southerly winds bring rapid warning. Even in January and February the periods of cold are short; and fair, mild weather often occurs. Precipitation is the least during winter and is associated with frontal activity. It may fall as rain, freezing rain, snow or sleet. Snow may fall once or twice a month, but the average accumulation during January and February is less than two inches. Snow usually melts as it falls, only briefly interrupting outdoor activities.

Spring is a pleasant season. Rapid changes in the weather are experienced often in March. Cloudiness and steady, light rain or drizzle decrease while showery precipitation increases. Thunderstorm days increase during the spring, reaching a peak in May. Occationally, late spring and early summer thunderstorms are accompanied by destructive wind and hail. As the spring season progresses, cold fronts are weaker and less frequent. March and April are the windiest months of the year.

Summer: Daytime temperatures are hot with only a few days when maxima do not reach 90°F. June may have some very hot days but thunderstorms (occurring on an average of seven days during the month) tend to break the spells of hot weather. July and August are the hottest months with little variety in the day-to-day weather. Evaporative-type home air-conditioners operate effectively about 90 percent of the time during July and August.

Fall is the most delightful season. Temperatures are moderate, winds are light, and fair weather persists. Fall is well suited to all types of outdoor activities except swimming.

The mean length of the growing season (freeze free period) at Graham is 215 days. The mean dates of the last occurrence of 32°F in the spring and the first occurrence in the fall are April 2 and November 3, respectively. Thunderstorms occur on an average of 45 days per year.

GRAHAM, TEXAS

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1938	46.0	49.8	59.8	59.8	69.2	79.8	82.8	84.3	77.0	68.2	52.6	44.6	64.5
1939	47.8	41.2	58.5	64.2	74.2	82.8	87.5	82.8	80.6	69.0	52.0	47.8	65.7
1940	34.6	45.3	57.0	62.3	71.0	75.6	82.0	80.5	75.1	67.5	49.8	45.4	62.2
1941	47.0	44.8	49.8	62.2	72.0	75.1	81.4	81.1	76.1	68.4	52.8	48.6	63.3
1942	38.0	45.8	54.0	63.1	69.0	77.8	82.0	83.0	71.2	61.6	55.8	45.0	62.2
1943	40.3	48.3	47.8	65.6	71.1	81.3	85.2	88.6	75.5	63.2	51.7	42.0	63.4
1944	44.6	48.7	51.9	61.7	71.0	81.4	84.0	85.7	73.8	63.8	55.4	42.4	63.7
1945	42.8	46.6	57.9	59.9	69.7	78.6	80.8	83.2	76.8	63.8	56.6	40.2	63.1
1946	41.6	48.1	59.0	65.6	68.8	78.4	86.2	84.8	74.4	66.8	52.4	47.4	64.5
1947	40.8	40.6	48.9	63.4	71.0	82.1	85.4	-	79.8	72.8	-	46.3	-
1948	35.7	43.4	50.7	70.2	73.9	82.5	84.7	85.6	77.1	64.2	52.6	50.5	64.3
1949	-	46.2	55.3	61.0	72.5	78.9	85.2	83.0	74.6	64.7	56.5	48.1	-
1950	46.4	50.6	53.2	63.5	71.0	78.9	80.0	80.3	75.1	70.6	53.9	44.3	64.0
1951	45.0	47.9	54.4	64.6	72.2	79.4	85.7	87.6	77.3	68.4	50.0	48.4	65.1
1952	51.9	52.7	54.5	61.2	71.2	84.2	84.8	91.0	78.2	62.9	54.4	44.3	65.9
1953	51.5	49.1	61.5	62.3	72.7	88.8	84.6	83.4	77.8	68.4	53.2	44.6	66.5
1954	44.8	55.5	53.8	69.9	66.3	83.0	89.3	86.6	82.2	68.7	54.0	47.8	66.8
1955	45.1	45.1	57.7	70.7	76.6	78.2	85.6	85.0	79.9	66.4	52.6	44.5	65.6
1956	43.4	48.8	58.9	63.3	77.1	85.3	87.8	87.1	80.4	69.8	50.8	47.5	66.7
1957	41.7	51.3	51.8	61.3	69.7	77.8	86.4	84.4	74.5	60.7	49.2	48.6	63.1
1958	42.0	41.9	45.7	60.4	70.5	81.5	83.7	85.2	77.7	64.8	55.1	42.9	62.6
1959	38.7	45.9	55.1	63.6	75.2	80.0	80.8	85.2	79.4	63.0	47.1	48.2	63.5
1960	42.3	42.0	47.6	66.3	70.0	81.7	84.0	83.3	77.4	67.7	55.7	40.9	63.3
1961	39.1	47.9	56.8	62.7	72.6	76.8	80.4	81.4	75.0	65.7	50.6	43.1	62.7
1962	36.3	51.8	50.9	61.9	77.0	77.1	83.5	83.7	75.7	69.2	53.2	46.1	63.9
1963	35.3	44.9	57.8	69.8	73.4	79.8	87.0	86.4	78.0	71.2	55.5	37.7	64.8
1964	42.6	43.1	53.0	67.2	74.1	80.1	87.8	85.6	76.5	63.6	57.1	44.0	64.6
1965	46.0	43.7	45.4	66.6	71.9	79.2	85.7	82.3	78.3	63.3	59.2	48.5	64.2
1966	37.5	42.8	55.6	63.0	69.8	79.0	86.7	80.7	73.5	61.4	58.0	41.8	62.5
1967	44.7	45.0	61.3	70.1	69.9	80.3	82.7	82.3	72.2	63.9	53.0	43.5	64.1

STATION HISTORY

Temperature and precipitation records were taken at Fort Belknap, 10 miles west of Graham, from October 1852 through December 1858. These data were published as Graham in CLIMATIC SUMMARY OF THE UNITED STATES, Section 30. A climatological station was established at Graham in July 1877 and continued through April 1897. The station was re-established on November 1, 1903. There are some data missing from these early years, but records have been reasonably complete since about July 1, 1925, when the Rev. B. W. Black was appointed Cooperative Observer. The Rev. Black served until July 31, 1930, and was succeeded by Miss Leta Black, who served as Cooperative Observer from August 1, 1930 to May 24, 1960. Mr. David H. Baker, the present observer, was appointed May 24, 1960, and the station equipment moved to his residence, 0.5 mile south of the post office, at 804 Oak Street. The station has remained within one mile of the post office at Graham since July 1, 1925. Station equipment consists of a cotton region shelter, maximum and minimum thermometers, and a standard 8-inch rain gage. Temperature and precipitation data are published monthly in CLIMATOLOGICAL DATA-TEXAS. Station index number: 41-3668-03.

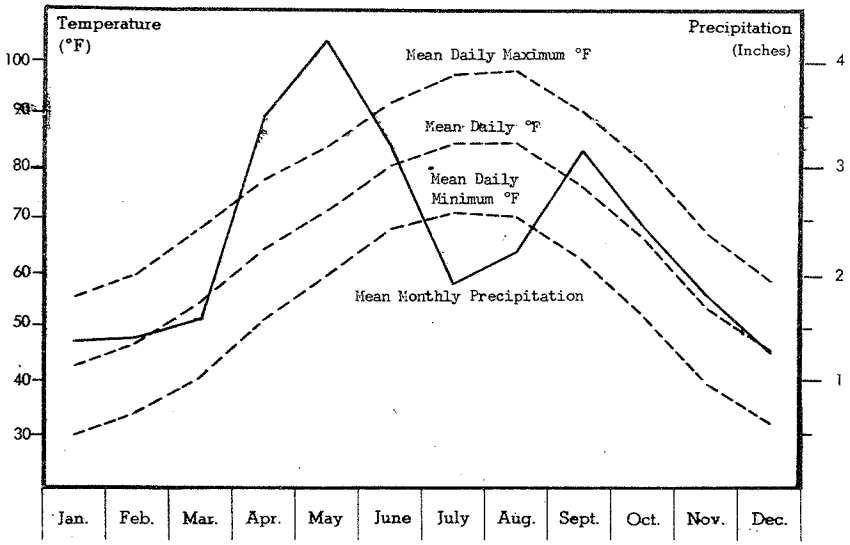
Weather Bureau State Climatologist
Environmental Science Services Administration
3600 Manor Road, Austin, Texas 78723
November 1968

Single copies of this summary are available without charge from the Bureau of Business Research, The University of Texas, Austin, Texas 78712. Quantity rates upon request.

GRAHAM, TEXAS

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1938	1.79	2.14	4.50	2.17	2.78	3.51	4.37	0.58	0.97	T	1.55	0.63	24.99
1939	2.47	0.58	0.56	1.18	2.81	1.61	0.55	2.63	T	0.72	2.23	0.45	15.79
1940	0.39	2.10	0.75	3.17	4.23	8.29	0.50	5.06	2.04	0.15	5.51	2.89	35.08
1941	0.74	4.66	1.75	5.83	6.07	5.25	3.99	3.63	3.02	9.65	0.60	1.32	46.51
1942	0.48	0.45	0.59	8.67	1.71	6.39	0.34	3.48	5.34	7.51	0.30	1.99	37.25
1943	T	0.47	2.86	0.75	2.44	2.33	1.26	0	0.25	1.34	0.98	3.40	16.08
1944	2.46	3.99	2.21	5.87	3.65	1.55	1.61	3.53	0.70	2.68	3.60	2.40	34.25
1945	1.20	2.32	3.55	2.93	0.49	3.50	1.20	1.49	3.97	3.46	1.07	0.53	25.71
1946	2.89	0.95	2.89	1.61	4.00	0.92	0.33	3.87	5.28	2.97	1.78	1.84	29.33
1947	0.47	0.47	2.64	2.10	5.78	0.85	0.20	-	0.23	2.89	-	1.83	-
1948	0.90	1.76	1.29	2.40	4.13	4.99	1.63	0.42	0.25	1.31	0.25	0.28	19.61
1949	4.00	1.32	3.37	1.99	8.98	3.30	0.51	1.30	4.32	4.60	0	1.30	-
1950	1.13	1.81	0.19	5.28	5.67	2.75	5.04	3.34	3.54	0.08	0	0	28.83
1951	0.35	0.65	0.57	0.86	4.16	7.33	1.99	2.87	3.90	0.86	0.62	0	24.16
1952	0.22	0.40	1.27	3.07	3.65	0.08	0.34	0.45	0.90	0	3.26	0.70	14.37
1953	0.15	0.57	1.55	1.33	4.33	0.85	2.00	2.75	1.29	5.71	1.34	0.70	22.57
1954	1.75	0.24	0.26	4.65	4.25	0.10	2.58	0.40	0.65	1.09	2.72	1.45	20.14
1955	0.98	1.18	1.28	2.48	4.88	6.58	0.98	1.23	6.68	0.20	0	0.55	27.02
1956	1.75	0.24	0.26	4.65	4.25	0.10	2.58	0.40	0.65	1.09	2.72	1.45	20.14
1957	1.00	5.58	1.41	10.88	12.54	2.69	1.99	0	3.37	4.37	4.61	0.55	48.99
1958	1.18	0.87	2.99	3.95	3.36	1.71	3.54	1.33	2.01	0.78	1.13	1.00	23.85
1959	0.31	0.64	0.90	1.17	3.09	7.88	3.02	1.64	1.49	6.83	0.43	2.11	29.51
1960	2.91	1.86	1.00	3.81	2.88	1.41	3.20	2.96	4.88	1.82	0.05	2.92	29.70
1961	3.51	1.73	1.94	0.49	1.09	5.80	3.03	1.05	3.48	1.65	4.28	1.04	29.09
1962	0.17	0.20	2.34	2.28	0.51	7.91	7.44	0.53	8.40	2.03	2.04	1.74	35.59
1963	0.06	0.33	0.13	5.91	4.48	3.41	0.49	2.51	2.17	3.66	3.58	0.95	27.68
1964	2.68	1.12	1.45	1.14	4.35	0.15	0.56	3.35	2.07	0.16	6.23	0.52	23.78
1965	2.40	1.56	0.44	4.07	10.52	1.01	T	3.83	4.55	2.54	0.56	1.37	32.85
1966	1.82	1.13	0.39	7.36	1.10	2.11	0.28	5.82	11.13	0.84	0.42	0.09	32.49
1967	0.03	0.45	0.88	2.12	3.25	1.57	1.88	0.23	6.91	1.48	1.27	1.52	21.59

T - Trace

Monthly Temperatures and Precipitation