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 32° 58' N
LONGITUDE 97° 03' W
ELEV. (GROUND) 585 ft.

CLIMATOLOGICAL SUMMARY

STATION GRAPEVINE RESERVOIR, TEXAS

MEANS AND EXTREMES FOR PERIOD 1950-1967

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	Max. 32° and below	Min. 32° and below	Min. 0° and below	Month
(a)	14	14	14	14		14		12	18	18		18	18		12		12	12	12	12	12	
Jan	53.6	30.8	42.2	81	1957	6	1963+	719	1.80	2.98	1950	1.3	9.0	1964	-		3	0	2	20	0	Jan
Feb	58.6	35.2	46.9	88	1956	14	1960	526	1.90	2.84	1965	0.2	2.0	1959	-		4	0	1	13	0	Feb
Mar	65.9	41.9	53.9	96	1956	17	1962	365	2.04	2.00	1964	0	0				4	*	*	5	0	Mar
Apr	75.9	54.2	65.1	98	1963	30	1957	103	5.07	3.96	1966	0	0				6	1	0	*	0	Apr
May	82.9	61.9	72.4	98	1967+	40	1954	15	4.36	4.13	1957	0	0				6	5	0	0	0	May
Jun	90.5	68.8	79.7	102	1960+	51	1964	1	2.85	3.30	1951	0	0				5	19	0	0	0	Jun
Jul	95.9	73.3	84.6	110	1954	62	1967	0	2.68	4.20	1962	0	0				4	28	0	0	0	Jul
Aug	96.0	72.1	84.1	110	1956	56	1967	0	1.89	3.30	1960	0	0				3	27	0	0	0	Aug
Sep	88.9	66.2	77.6	102	1963+	46	1963	3	3.89	8.64	1964	0	0				5	14	0	0	0	Sep
Oct	78.7	55.1	66.9	97	1963	30	1957	73	2.45	5.01	1959	0	0				4	3	0	*	0	Oct
Nov	66.8	43.9	55.4	88	1965+	18	1959	302	2.30	2.55	1964	*	0.2	1951	-		4	0	0	3	0	Nov
Dec	57.1	34.6	45.9	89	1955	10	1963	597	1.61	1.32	1963	0.1	2.0	1963	-		4	0	1	13	0	Dec
Year	75.9	53.2	64.6	110	Aug. 1956+	6	Jan. 1963+	2704	32.84	8.64	Sept. 1964	1.6	9.0	Jan. 1964	-		52	97	4	54	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.

For the period 1954-1967

THE CLIMATE OF GRAPEVINE RESERVOIR

Grapevine Reservoir is on Denton Creek in Denton and Tarrant Counties, about 25 miles northeast of Fort Worth. The reservoir has a surface area of 12,740 acres and a storage capacity of 435,500 acre feet. The reservoir is located in the narrow hilly, East Cross Timbers section west of the Blacklands.

The climate of the area surrounding Grapevine Reservoir is humid subtropical with hot summers. There is a wide range between winter and summer temperature extremes, a characteristic of continental climates. Precipitation occurs mostly as the result of thunderstorm activity during the warm season. The greatest monthly rainfall totals occur in April, May and September. Winter is a dry season. August is usually a relatively dry month also. Rainfall occurs more frequently during the night.

Sudden drops in temperature and strong northerly winds often accompany the passage of cold fronts during the winter and early spring. Periods of cold weather are short, rarely lasting longer than about 48 hours before rapid warming begins. Short periods of fair, mild weather occur throughout the winter season. Winter precipitation may fall as rain, freezing rain, sleet or snow. Snowfall is not significant. Rare, heavy snows bias the data so that the arithmetic mean is a poor estimate of expected snowfall.

Daytime temperatures are hot in summer. The average daily maximum is 96°F in both July and August. The highest temperatures are associated generally with fair skies, westerly winds and comparatively dry air. Refrigerated air-conditioning is recommended for maximum comfort indoors.

Prevailing winds are southerly the year around. Hourly wind speeds are highest in March and April, averaging about 14 miles per hour and lowest in the late summer and early fall, averaging slightly more than 10 miles per hour. The strongest winds are the peak gusts and squalls associated with thunderstorms. Mean annual relative humidity is estimated at 81 percent at 6:00 a.m., 55 percent at noon, and 53 percent at 6:00 p.m., Central Standard Time. Mean annual sunshine is estimated at 55 percent of the total possible in winter and 76 percent of the total possible in summer. Mean lake evaporation is estimated at 57 inches annually.

Thunderstorms occur on an average of 44 days each year. These are most frequent in April, May and June, occurring on six or seven days each month. The average number of thunderstorm occurrences is one per month in November, December and January. A few of these thunderstorms may be accompanied by damaging hail or high winds or excessive rainfall.

GRAPEVINE RESERVOIR, TEXAS

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1954	45.7	55.3	54.7	69.2	68.6	81.8	89.0	87.8	81.3	69.4	55.2	49.1	67.3
1955	45.3	46.4	56.0	67.9	75.5	77.5	84.9	84.6	80.3	68.7	55.3	45.7	65.7
1956	42.9	47.3	56.4	64.3	76.6	82.3	88.5	87.5	80.8	69.4	51.0	49.7	66.4
1957	42.5	52.8	51.9	60.4	71.1	80.1	86.6	85.1	76.1	62.1	51.9	50.4	64.2
1958	43.9	42.0	47.7	60.8	72.4	81.8	84.7	85.0	78.4	64.7	56.6	42.4	63.4
1959	40.6	46.8	54.7	61.6	73.1	78.9	80.9	82.7	78.1	64.8	49.3	49.2	63.4
1960	42.9	42.1	47.1	66.2	69.9	80.5	82.7	81.7	78.1	69.2	56.5	42.7	63.3
1961	40.1	49.5	57.9	62.6	72.0	77.1	81.2	82.0	76.6	66.9	53.7	44.8	63.7
1962	37.2	52.6	52.1	62.0	76.1	78.2	83.1	83.8	76.4	70.5	54.4	46.1	64.4
1963	35.6	45.1	59.8	70.0	73.0	81.8	86.1	86.4	78.5	72.9	57.7	38.0	65.4
1964	41.9	42.4	52.8	65.4	71.8	79.4	87.1	85.2	76.3	63.7	57.4	45.0	64.0
1965	46.5	44.3	46.3	67.8	72.1	78.2	84.5	82.9	78.1	65.3	61.6	50.0	64.8
1966	39.9	44.3	55.7	63.4	71.0	77.8	84.4	80.5	74.2	64.2	59.7	44.3	63.3
1967	45.8	45.7	61.9	69.5	70.7	80.2	81.7	82.2	72.7	64.8	54.3	44.8	64.5

STATION HISTORY

Both a recording and a standard eight inch non-recording rain gage were installed at the Grapevine Damsite on June 23, 1949. A standard, Weather Bureau type Class A evaporation pan, maximum and minimum thermometers, and a cotton region shelter were installed on June 25, 1953. Weather observations are taken and recorded by the U.S. Army Corps of Engineers. Daily temperature maxima and minima, 24-hour precipitation, and evaporation data are published monthly in CLIMATOLOGICAL DATA-TEXAS; hourly precipitation data are published monthly in HOURLY PRECIPITATION DATA-TEXAS, under the name Grapevine Dam, station index number 41-3691-03.

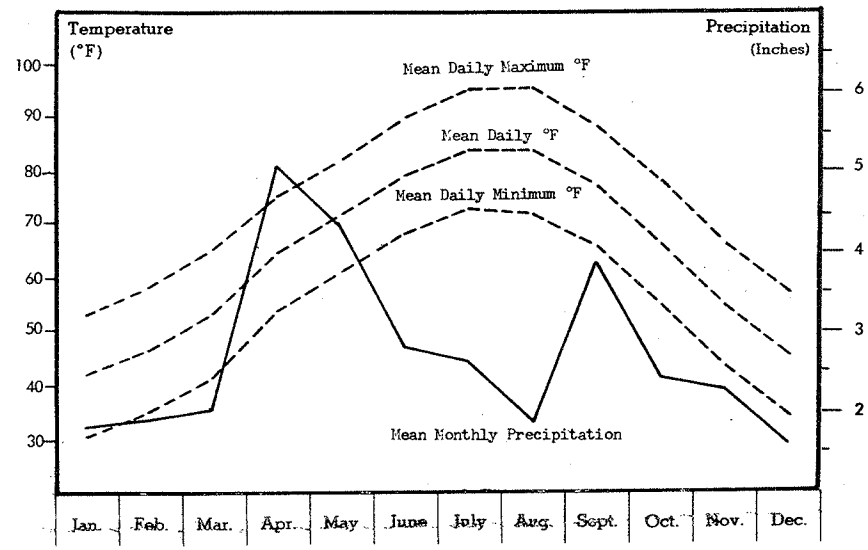
Weather Bureau State Climatologist
Environmental Science Services Administration
3600 Manor Road, Austin, Texas 78723
February 1969

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.

GRAPEVINE RESERVOIR, TEXAS

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1950	5.10	2.92	1.66	4.25	6.70	3.10	5.48	3.75	2.60	0.39	0.07	T	36.02
1951	1.34	2.13	1.48	1.36	3.95	5.24	2.04	1.19	3.73	1.74	0.91	0.31	25.42
1952	0.44	1.31	1.90	5.87	3.53	0.18	0.84	0.54	0.19	0.02	7.45	2.62	24.89
1953	0.42	1.54	2.93	5.26	3.22	0.99	0.77	0.65	2.07	3.70	2.56	1.15	25.26
1954	2.11	0.46	0.63	4.30	5.04	2.15	0.91	1.24	2.53	3.79	1.76	1.39	26.31
1955	1.31	2.32	2.31	2.14	6.58	5.27	0.60	1.46	3.52	0.17	0.02	0.82	26.52
1956	1.44	3.02	0.22	3.68	3.26	2.07	0.44	0.14	0.06	2.12	2.83	2.31	21.59
1957	1.78	2.01	3.23	16.76	11.40	2.91	0.67	0.32	3.79	3.34	4.85	1.71	52.77
1958	2.08	0.89	4.06	8.07	2.34	2.94	1.80	1.01	5.61	1.06	2.14	0.89	32.89
1959	0.29	1.62	0.81	2.16	2.82	5.34	7.75	0.98	1.43	10.02	0.99	2.14	36.35
1960	3.12	1.57	0.67	2.49	3.72	2.01	7.36	6.62	0.94	1.78	0.49	5.29	36.06
1961	3.82	2.90	3.53	0.31	1.89	5.51	3.90	0.09	4.26	2.52	2.99	1.86	33.58
1962	0.83	1.43	1.83	5.33	1.05	4.76	6.38	2.43	5.54	4.86	3.24	0.93	38.61
1963	0.37	0.11	1.76	4.02	2.55	0.37	2.36	0.25	0.96	0	1.36	1.69	15.80
1964	2.97	1.30	3.81	3.43	4.51	0.82	0.68	3.29	16.70	0.94	5.90	1.09	45.44
1965	2.92	4.98	1.18	2.63	7.34	2.22	0.32	3.30	5.51	1.67	2.03	1.45	35.55
1966	1.87	2.52	2.09	13.08	2.71	4.65	3.41	5.23	4.49	1.36	0.61	1.23	43.25
1967	0.20	1.17	2.59	6.19	5.95	0.68	2.47	1.52	6.06	4.60	1.11	2.08	34.62

T - Trace

Monthly Temperatures and Precipitation