**U. S. DEPARTMENT OF COMMERCE**
**National Oceanic and Atmospheric 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

# CLIMATOLOGICAL SUMMARY

LATITUDE 34° 02' N
LONGITUDE 98° 55' W
ELEV. (GROUND) 1222 ft.

STATION ELECTRA, TEXAS

MEANS AND EXTREMES FOR PERIOD 1953-1969

| 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) | 17 | 17 | 17 | 17 | | 17 | | 14 | 17 | 17 | | 17 | 17 | | 8 | | 14 | 14 | 14 | 14 | 14 | |
| Jan | 53.0 | 28.0 | 40.5 | 85 | 1969 | -4 | 1966 | 772 | 1.02 | 1.80 | 1968 | 0.2 | 1.3 | 1961 | 0 | | 3 | 0 | 3 | 22 | * | Jan |
| Feb | 57.2 | 31.7 | 44.5 | 90 | 1962 | 8 | 1960 | 598 | 1.18 | 1.62 | 1969 | 0.4 | 2.0 | 1960 | 0 | | 3 | * | 2 | 16 | 0 | Feb |
| Mar | 64.8 | 38.2 | 51.5 | 96 | 1967 | 11 | 1962 | 442 | 1.47 | 1.53 | 1961 | 0.6 | 7.0 | 1958 | 3 | 1968 | 4 | 1 | * | 9 | 0 | Mar |
| Apr | 76.9 | 50.7 | 63.8 | 100 | 1959 | 28 | 1957 | 123 | 2.38 | 2.65 | 1964 | 0 | 0 | | 0 | | 4 | 4 | 0 | * | 0 | Apr |
| May | 83.7 | 59.3 | 71.5 | 106 | 1966 | 37 | 1954 | 24 | 4.73 | 4.00 | 1960 | 0 | 0 | | 0 | | 6 | 10 | 0 | 0 | 0 | May |
| Jun | 92.2 | 67.9 | 80.1 | 111 | 1953 | 52 | 1964+ | 1 | 3.20 | 3.06 | 1957 | 0 | 0 | | 0 | | 4 | 20 | 0 | 0 | 0 | Jun |
| Jul | 97.7 | 72.7 | 85.2 | 111 | 1954 | 62 | 1967+ | 0 | 2.13 | 4.02 | 1961 | 0 | 0 | | 0 | | 4 | 28 | 0 | 0 | 0 | Jul |
| Aug | 97.3 | 71.0 | 84.2 | 112 | 1969 | 54 | 1966 | 1 | 1.88 | 2.10 | 1969 | 0 | 0 | | 0 | | 3 | 28 | 0 | 0 | 0 | Aug |
| Sep | 89.3 | 63.8 | 76.6 | 107 | 1965 | 43 | 1967 | 5 | 3.29 | 3.49 | 1955 | 0 | 0 | | 0 | | 4 | 15 | 0 | 0 | 0 | Sep |
| Oct | 78.2 | 52.8 | 65.5 | 100 | 1956 | 28 | 1957 | 98 | 3.26 | 4.85 | 1960 | T | T | 1957 | 0 | | 4 | 4 | 0 | * | 0 | Oct |
| Nov | 65.3 | 40.0 | 52.7 | 90 | 1965 | 16 | 1959 | 362 | 1.55 | 1.65 | 1963 | 0.1 | 1.0 | 1957 | 1 | 1957 | 3 | 0 | 0 | 5 | 0 | Nov |
| Dec | 55.3 | 31.2 | 43.3 | 88 | 1955+ | 9 | 1968 | 667 | 1.31 | 1.68 | 1960 | 1.0 | 10.0 | 1954 | 0 | | 3 | 0 | 1 | 17 | 0 | Dec |
| Year | 75.9 | 50.6 | 63.3 | 112 | Aug. 1969 | -4 | Jan. 1966 | 3093 | 27.40 | 4.85 | Oct. 1960 | 2.3 | 10.0 | Dec. 1954 | 3 | Mar. 1968 | 45 | 110 | 6 | 69 | * | 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 ELECTRA, TEXAS

Electra is located in North Central Texas, 27 miles northwest of Wichita Falls, in west central Wichita County. The surrounding terrain is rolling prairie drained by the Red and Wichita Rivers. Soils are sandy and loam types. Wichita County is a major oil producing county with a total production of over 650 million barrels since 1910. Gas, sand and gravel also are produced. Agricultural income is derived from cattle, grains and cotton. Buffalo Creek reservoir and Lake Wichita provide opportunities for water sports and outdoor recreation, as do Lake Kemp and Diversion Lake in near by Baylor County.

The climate of Electra is subtropical with dry winters and hot humid summers. The climate is typically continental, with large differences between summer and winter temperature extremes. The highest temperature of record at Electra (since 1953) is 112°F and occurred on August 14, 1969, while a record low of -4°F occurred on January 23, 1966. Tropical Maritime air masses are predominant from May through September, while Polar Pacific and Polar Canadian air masses move through the area in the late fall, winter, and early spring. The mean annual total precipitation at Electra is 27.40 inches, of which four-fifths falls during the warm season, April through October. The prevailing winds are southerly or southeasterly in all months except January and February, when northerly winds are the most frequent. The mean relative humidity at noon, Central Standard Time, is estimated at 55 percent in January, 49 percent in April, 42 percent in July and 47 percent in October.

Winter: Electra experiences frequent surges of cold Polar Canadian air during the winter season. With the passage of cold fronts, or "northers", abrupt temperature drops may occur. While the area subjected to a wide range of temperature, cold spells are short, d winters are relatively mild. In an average winter, the amount of sunshine received is about 62 percent of the total possible. Moisture laden tropical air masses from the Gulf of Mexico are closed off rather effectively in winter so that this is a relatively dry season. Precipitation may fall as rain, freezing rain, sleet or snow. Snow usually melts almost as rapidly as it falls so that accumulations on the ground are rare.

Spring is a season of rapidly changing weather. During March and most of April, warm and cool spells of short duration follow each other in rapid succession. Temperature changes are often quite pronounced. The drizzle, light rain, and snow flurries of the winter season decrease while shower-type precipitation increases. Thunderstorm activity increases in April and reaches a peak in May: a few late spring or early summer thunderstorms may be accompanied by violent winds and hail. March and April are the windiest months. Duststorms, although rare, are most likely to occur during these months.

Summer: Daytime temperatures are hot in summer. There are few days in July and August when the daily maximum does not equal or exceed 90°F, and readings of 100°F or above are not uncommon: however, thundershowers, averaging about six per month, help to break the hottest weather into short periods. Evaporative-type home air-conditioners are effective for cooling about 90 percent of the time.

Fall is a delightful season with moderate temperatures. Warm weather continues through September, but temperature maxima are not excessive. Rainfall increases in September and October, then decreases in November. The weather has greater variety than in summer, yet continues mild. Winds are lighter than in other seasons.

The mean length of the warm season (freeze free period) at Electra is 229 days. The mean dates of the last occurrence of 32°F or below in the spring and the first occurrence of 32°F or below in the fall are March 27 and November 11, respectively. In an average year, free water evaporation exceeds precipitation by 40 inches.

ELECTRA, TEXAS

## Average Temperature (°F)

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Ann'l |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1953 | 46.5 | 46.2 | 56.9 | 58.9 | 70.9 | 89.3 | 83.7 | 82.2 | 78.9 | 66.9 | 52.7 | 42.7 | 64.7 |
| 1954 | 42.1 | 53.4 | 51.0 | 68.2 | 65.6 | 81.0 | 90.0 | 88.4 | 82.1 | 68.0 | 54.9 | 46.1 | 65.9 |
| 1955 | 41.4 | - | 53.1 | 67.2 | - | 77.6 | 86.0 | 84.6 | 78.6 | 65.6 | 52.1 | 41.5 | - |
| 1956 | 41.1 | 43.4 | 54.6 | 62.7 | 76.8 | 84.3 | 88.1 | 88.3 | 80.8 | 70.0 | 50.4 | 46.9 | 65.6 |
| 1957 | 39.5 | 48.4 | 49.5 | 59.1 | 69.1 | 77.6 | 86.7 | 84.9 | 73.6 | 61.2 | 48.6 | 47.2 | 62.1 |
| 1958 | 42.3 | 41.4 | 45.6 | 60.4 | 71.6 | 81.6 | 83.8 | 84.7 | 77.4 | 65.1 | 54.7 | 41.5 | 62.5 |
| 1959 | 37.2 | 44.5 | 54.4 | 63.4 | 73.8 | 79.0 | 80.6 | 83.8 | 77.2 | 61.7 | 45.3 | 47.1 | 62.3 |
| 1960 | 39.9 | 39.1 | 44.3 | 65.9 | 69.8 | 81.0 | 83.0 | 83.3 | 77.8 | 66.8 | 54.9 | 40.3 | 62.2 |
| 1961 | 38.9 | 45.1 | 54.3 | 61.9 | 70.7 | 76.3 | 81.5 | 80.9 | 73.7 | 64.6 | 48.2 | 40.8 | 61.4 |
| 1962 | 35.1 | 49.8 | 49.9 | 61.2 | 76.4 | 77.3 | 84.6 | 84.9 | 76.1 | 68.4 | 53.1 | 44.2 | 63.4 |
| 1963 | 33.6 | 43.7 | 56.4 | 67.9 | 73.2 | 80.9 | 86.9 | 85.8 | 77.8 | 72.8 | 54.6 | 36.7 | 64.2 |
| 1964 | 42.1 | 41.5 | 50.6 | 65.8 | 73.2 | 79.6 | 87.8 | 85.2 | 74.7 | 63.8 | 54.6 | 41.5 | 63.4 |
| 1965 | 45.0 | 43.9 | 43.0 | 67.4 | 72.5 | 78.5 | 87.6 | 84.1 | 77.6 | 64.2 | 58.3 | 48.5 | 64.2 |
| 1966 | 35.7 | 40.4 | 55.6 | 61.4 | 71.2 | 79.6 | 86.6 | 79.9 | 73.1 | 62.3 | 56.7 | 40.4 | 61.9 |
| 1967 | 44.4 | 44.3 | 60.4 | 68.9 | 70.1 | 80.2 | 81.9 | 82.8 | 72.8 | 65.1 | 52.8 | 42.5 | 63.9 |
| 1968 | 40.4 | 41.1 | 52.2 | 61.4 | 69.5 | 78.9 | 81.9 | 82.6 | 74.1 | 66.2 | 51.0 | 42.4 | 61.8 |
| 1969 | 43.4 | 45.3 | 44.1 | 63.6 | 69.9 | 78.6 | 88.2 | 84.7 | 75.8 | 61.0 | 51.6 | 45.3 | 62.6 |

ELECTRA, TEXAS

## Total Precipitation (Inches)

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Ann'l |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1953 | 0.24 | 1.53 | 2.70 | 1.63 | 1.28 | 2.97 | 3.59 | 3.32 | 0.82 | 6.23 | 1.17 | 0.65 | 26.13 |
| 1954 | 0.47 | 0 | 0.01 | 3.15 | 9.18 | 1.75 | 0 | 0.18 | 0 | 1.30 | 0.56 | 2.25 | 18.85 |
| 1955 | 1.74 | 1.14 | 2.02 | 1.02 | 5.94 | 4.54 | 1.55 | 2.61 | 6.39 | 3.80 | 0 | 0.18 | 30.93 |
| 1956 | 0.53 | 1.62 | 0.05 | 0.31 | 4.48 | 0.43 | 1.14 | 0.43 | 0.57 | 5.88 | 0.59 | 1.57 | 17.60 |
| 1957 | 1.43 | 1.48 | 2.58 | 6.23 | 10.45 | 5.66 | 0.81 | 0.10 | 1.35 | 3.98 | 5.28 | 0.26 | 39.61 |
| 1958 | 1.83 | 1.35 | 2.35 | 2.10 | 2.95 | 1.58 | 4.01 | 1.55 | 3.45 | 0.72 | 0.72 | 0.52 | 23.13 |
| 1959 | 0.10 | 0.15 | 0.49 | 1.73 | 4.36 | 6.13 | 2.79 | 1.35 | 2.44 | 5.93 | 1.18 | 3.54 | 30.19 |
| 1960 | 1.44 | 1.26 | 0.85 | 0.21 | 8.55 | 2.16 | 3.41 | 1.98 | 3.87 | 8.27 | 0.66 | 4.09 | 36.75 |
| 1961 | 0.28 | 1.98 | 3.00 | 0.08 | 3.05 | 5.55 | 6.05 | 0.91 | 6.42 | 2.29 | 3.83 | 1.17 | 34.61 |
| 1962 | 0.18 | 0.28 | 0.72 | 5.32 | 0.43 | 7.09 | 1.49 | 0.83 | 5.34 | 3.31 | 1.64 | 1.87 | 28.50 |
| 1963 | 0.07 | 0.53 | 1.83 | 2.72 | 4.39 | 1.65 | 1.35 | 1.81 | 2.47 | 0.19 | 3.38 | 0.91 | 21.30 |
| 1964 | 0.80 | 1.84 | 1.06 | 3.89 | 6.24 | 1.98 | 0.33 | 3.85 | 4.90 | 1.72 | 3.21 | 0.68 | 30.50 |
| 1965 | 1.77 | 0.79 | 0.41 | 3.20 | 5.68 | 3.80 | 0.62 | 0.40 | 2.12 | 2.90 | 0.10 | 0.89 | 22.68 |
| 1966 | 1.26 | 1.39 | 0.91 | 3.63 | 0.12 | 1.35 | 2.77 | 6.53 | 5.87 | 0.88 | 0.26 | 0.13 | 25.10 |
| 1967 | 0.30 | 0.05 | 0.80 | 3.57 | 3.60 | 2.52 | 2.13 | 0.14 | 3.38 | 2.43 | 0.33 | 1.06 | 20.31 |
| 1968 | 3.75 | 1.17 | 2.16 | 1.25 | 3.80 | 2.16 | 3.85 | 1.88 | 1.54 | 1.60 | 2.84 | 0.95 | 26.95 |
| 1969 | 1.12 | 3.50 | 2.99 | 0.39 | 5.84 | 3.15 | 0.37 | 4.13 | 4.94 | 4.04 | 0.58 | 1.47 | 32.52 |

STATION HISTORY

Rainfall observations began at Electra in January 1937. From February 10, 1938 through November 30, 1943, rainfall observations were made under the sponsorship of the U. S. Department of Agriculture, Soil Conservation Service, and the rain gage was located eight miles northwest of the town. Mr. W. H. Sikes was appointed Cooperative Weather Observer for the U. S. Weather Bureau on December 22, 1943, and the rain gage was moved to a site behind the City Hall in the Electra business district. Radio Station KELT became the official observer on September 17, 1949, and the gage was moved to the transmitter site, three-fourths of a mile northwest of the post office. Ray Mills was appointed the observer on July 25, 1952: a recording rain gage was added to the station equipment, and the station was relocated to a site 1.15 miles northwest of the post office. The station was relocated to the City of Electra Power Plant, one-fourth mile southeast of the post office, on October 30, 1953. The recording rain gage was removed on October 31, 1963. To improve exposure, the station was relocated to 509 East Garrison Street, 0.6 mile east-northeast of the post office, on August 27, 1970. Temperature observations were discontinued. Mrs. Ruby E. Coats was appointed Cooperative Weather Observer. Daily rainfall data from Electra are published monthly in Climatological Data-Texas. Station index number: 41-2818-02.

Environmental Data Service
National Oceanic and Atomospheric Administration
Airport Administration Building
3600 Manor Road, Austin, Texas 78723
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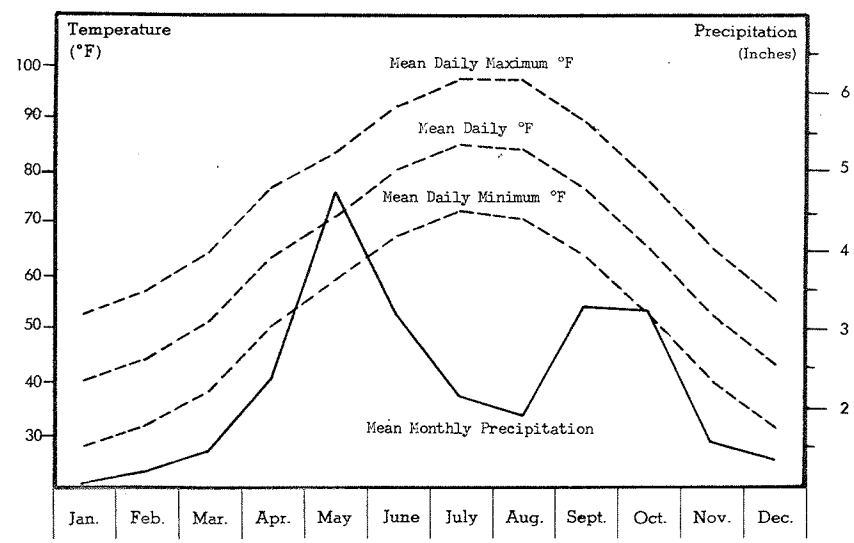
Monthly Temperatures and Precipitation