

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

LATITUDE 31° 44' N
LONGITUDE 99° 58' W
ELEV. (GROUND) 1575 ft.

CLIMATOLOGICAL SUMMARY

STATION BALLINGER, TEXAS

MEANS AND EXTREMES FOR PERIOD 1934-1969

| 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 Depth | Year | | 90° and above | 32° and below | 32° and below | 0° and below | | | |
| | | | | | | | | | | | | | | | | | | | | | | | Max. | Min. |
| (a) | 36 | 36 | 36 | 36 | | 36 | | 14 | 36 | 36 | | 14 | | | | 14 | 14 | 14 | 14 | | | | | |
| Jan | 58.7 | 30.8 | 44.8 | 90 | 1969+ | - 9 | 1947 | 648 | 1.26 | 2.40 | 1944 | 1.3 | 12.5 | 1944 | T | 1962 | 2 | * | 2 | 20 | 0 | 0 | Jan | |
| Feb | 62.3 | 33.9 | 48.1 | 90 | 1957+ | - 4 | 1951 | 499 | 1.00 | 1.75 | 1935 | 0.6 | 7.0 | 1961 | 3 | 1963 | 3 | * | 1 | 14 | 0 | 0 | 0 | Feb |
| Mar | 70.3 | 40.5 | 55.4 | 99 | 1946 | 9 | 1962 | 338 | 1.06 | 2.90 | 1936 | 0.2 | 4.0 | 1962 | 0 | | 1 | 1 | * | 9 | 0 | 0 | 0 | Mar |
| Apr | 80.7 | 51.2 | 66.0 | 102 | 1943 | 25 | 1947 | 93 | 2.34 | 6.21 | 1951 | 0.1 | 2.5 | 1938 | 0 | | 3 | 6 | 0 | 1 | 0 | 0 | 0 | Apr |
| May | 86.4 | 60.0 | 73.2 | 107 | 1953 | 36 | 1967+ | 16 | 3.97 | 7.05 | 1946 | 0 | 0 | | 0 | | 5 | 13 | 0 | 0 | 0 | 0 | 0 | May |
| Jun | 93.8 | 68.0 | 80.9 | 110 | 1934 | 48 | 1964 | 1 | 2.27 | 3.65 | 1937 | 0 | 0 | | 0 | | 3 | 22 | 0 | 0 | 0 | 0 | 0 | Jun |
| Jul | 97.2 | 70.5 | 83.9 | 110 | 1944 | 54 | 1940 | 0 | 1.53 | 4.11 | 1968 | 0 | 0 | | 0 | | 3 | 28 | 0 | 0 | 0 | 0 | 0 | Jul |
| Aug | 97.4 | 70.0 | 83.7 | 114 | 1936 | 54 | 1961 | 0 | 1.82 | 3.95 | 1966 | 0 | 0 | | 0 | | 3 | 28 | 0 | 0 | 0 | 0 | 0 | Aug |
| Sep | 89.6 | 63.2 | 76.4 | 110 | 1952 | 35 | 1942 | 2 | 3.04 | 6.25 | 1936 | 0 | 0 | | 0 | | 4 | 15 | 0 | 0 | 0 | 0 | 0 | Sep |
| Oct | 81.0 | 52.3 | 66.7 | 105 | 1937 | 26 | 1957 | 89 | 2.12 | 3.60 | 1953 | 0 | 0 | | 0 | | 4 | 4 | 0 | * | 0 | 0 | 0 | Oct |
| Nov | 67.8 | 39.9 | 53.9 | 92 | 1965 | 10 | 1950 | 343 | 1.26 | 1.70 | 1946 | 0.3 | 5.0 | 1957 | 0 | | 3 | * | * | 7 | 0 | 0 | 0 | Nov |
| Dec | 60.7 | 32.8 | 46.8 | 91 | 1954 | 8 | 1953 | 581 | 1.01 | 1.55 | 1936 | 0.5 | 8.4 | 1939 | 0 | | 2 | 0 | * | 18 | 0 | 0 | 0 | Dec |
| Year | 78.8 | 51.1 | 65.0 | 114 | Aug, 1936 | - 9 | Jan, 1947 | 2610 | 22.68 | 7.05 | May 1946 | 3.0 | 12.5 | Jan, 1944 | 3 | Feb, 1963 | 36 | 117 | 3 | 69 | 0 | | | Year |

(a) Average length of record, years.

+ Also on earlier dates, months, or years.

T Trace, an amount too small to measure.

* Less than one half.

** Base 65°F

THE CLIMATE OF BALLINGER, TEXAS

Ballinger is the county seat and commercial center for Runnels County. The economy of the surrounding area is based on agribusinesses and oil. Agricultural interests include extensive beef, dairy cattle, sheep and poultry production, as well as cotton, grain sorghums, oats, wheat, barley, melons, peanuts, forage crops and fruits. Minerals production includes oil, gas, brick clay, limestone and coal. Runnels County is level to rolling, with sandy loam and black waxy soils. Elevations range from 1,500 to 2,100 feet above sea level. The Colorado River, popular with fishermen, sportsmen and campers throughout its length, cuts the county from northwest to southeast.

Ballinger has a warm-temperate, subtropical climate, characterized by dry winters and hot humid summers. Mean total annual rainfall is 22.68 inches. The rainfall pattern is typical of the Rolling Plains with a primary maxima in May and a secondary maxima in September. Three-fourths of the mean annual rainfall occurs in the warm season, April through October. A large portion of the warm season rainfall is a result of thunderstorm activity, and wide variations in amounts occur from year to year. Annual precipitation has ranged from a total of 10.69 inches in 1917 to 50.55 inches in 1935. In exceptionally wet years, a significant proportion of the rainfall results from excessive downpours that may be lost to the soil due to rapid runoff.

Ballinger experiences a wide range in summer and winter temperatures, characteristic of a continental type climate. Periods of cold weather are short, however, so that even in January, fair weather is frequent. Hot daytime temperatures prevail for a long period in summer, but these are broken by thunderstorms, which occur about five times a month. Rapid cooling occurs after nightfall. The high temperatures of summer are associated with fair skies, light southwesterly winds and low humidities. The

highest temperature of record at Ballinger is 114°F, and occurred on August 11, 1936. Evaporative-type air-conditioners operate efficiently in this relatively dry climate.

Rapid temperature changes occur in winter and early spring. Frequent "northers" are effective in closing off the supply of moisture from the Gulf of Mexico from about November through March, so that this is a relatively dry season. Precipitation may fall in the form of rain, freezing rain, sleet or snow. The lowest temperature on record at Ballinger is -9°F, and occurred on January 5, 1947.

Ballinger receives and estimated 63 percent of the total possible sunshine in winter, 67 percent in the spring, 78 percent in summer, and 71 percent in the fall. At noon, Central Standard Time, the mean relative humidity is estimated at 51 percent in January, 45 percent in April, 43 percent in July, and 50 percent in October. The prevailing winds are from the south-southeast, April through October; southerly, January through March, and in November, and south-southwesterly in December. Thunderstorms occur on about 38 days each year. In an average year, free water (lake) evaporation exceeds precipitation by 46 inches.

The mean length of the warm season (freeze free period) at Ballinger is 228 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 30 and November 13, respectively.

The spring and fall seasons are the most pleasant at Ballinger, temperatures are more moderate than in winter or summer. Wind speeds are lightest from July through September, and strongest in March and April.

Average Temperature (°F)

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Ann'l |
|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|
| 1934 | 49.8 | 47.6 | 55.2 | 68.2 | 74.8 | 85.8 | 88.0 | 87.8 | 80.4 | 72.6 | 58.3 | 48.2 | 68.1 |
| 1935 | 51.6 | 50.6 | 59.4 | 68.2 | 72.0 | 79.8 | 83.7 | 87.8 | 72.9 | 69.8 | 53.4 | 43.2 | 65.8 |
| 1936 | 44.8 | 45.6 | - | 65.9 | 74.8 | 83.8 | 84.7 | 87.8 | 64.8 | 64.8 | 52.0 | 51.0 | - |
| 1937 | 40.6 | 45.2 | 50.0 | 68.5 | 74.2 | 81.7 | 83.6 | 85.6 | 68.3 | 68.2 | 52.9 | 47.9 | 64.6 |
| 1938 | 46.9 | 50.5 | 57.1 | 65.4 | 73.4 | 80.7 | 81.6 | 82.5 | 77.0 | 68.2 | 53.8 | 48.7 | 66.2 |
| 1939 | 49.4 | - | 58.6 | 67.0 | 75.9 | 83.4 | 84.7 | 82.5 | 69.6 | 68.0 | 52.8 | 48.7 | - |
| 1940 | 36.7 | 50.6 | 60.0 | 64.4 | 73.2 | 76.8 | 81.8 | 81.2 | 75.1 | 68.0 | 53.0 | 49.4 | 64.2 |
| 1941 | 48.0 | 48.6 | 55.8 | 66.0 | 72.4 | 80.6 | 82.8 | 80.9 | 69.0 | 65.3 | 51.8 | 49.8 | 64.1 |
| 1942 | 44.0 | 50.0 | 55.8 | 66.0 | 70.0 | 80.6 | 82.8 | 82.3 | 73.2 | 65.3 | 51.8 | 49.8 | 64.1 |
| 1943 | 44.4 | 51.4 | 50.4 | 69.4 | 73.4 | 82.2 | 85.0 | 88.4 | 74.6 | 64.5 | 54.0 | 44.8 | 65.2 |
| 1944 | 44.4 | 51.4 | 53.4 | 63.9 | 71.6 | 80.2 | 85.0 | 83.5 | 73.8 | 65.2 | 55.2 | 43.8 | 64.5 |
| 1945 | 45.8 | 49.9 | 62.4 | 63.8 | 73.4 | 80.2 | 80.6 | 83.1 | 78.5 | 63.4 | 60.2 | 44.4 | 65.5 |
| 1946 | 44.0 | 41.2 | 49.4 | 70.1 | 72.6 | 80.3 | 84.6 | 86.4 | 76.1 | 69.2 | 50.6 | 47.5 | 63.4 |
| 1947 | 40.2 | 41.2 | 51.5 | 70.4 | 75.6 | 83.2 | 82.9 | 83.3 | 78.4 | 72.1 | 50.6 | 47.5 | 63.4 |
| 1948 | - | 45.1 | 59.1 | 70.4 | 75.6 | 83.2 | 82.9 | 83.3 | 78.4 | 72.1 | 50.6 | 47.5 | 63.4 |
| 1949 | 37.8 | 48.2 | 55.0 | 59.1 | 71.7 | 79.2 | 84.0 | 80.0 | 64.0 | 64.0 | 52.4 | 51.1 | 63.1 |
| 1950 | 48.3 | 51.4 | 54.3 | 64.7 | 73.0 | 82.6 | 86.8 | 85.5 | 69.8 | 69.8 | 53.1 | 43.9 | 64.7 |
| 1951 | 42.8 | 47.4 | 55.9 | 64.6 | 74.7 | 81.4 | 86.8 | 85.5 | 69.0 | 69.0 | 51.0 | 48.7 | 65.5 |
| 1952 | 51.4 | 52.1 | 53.8 | 63.6 | 71.7 | 83.1 | 84.0 | 88.2 | 74.8 | 62.1 | 52.8 | 45.7 | 65.3 |
| 1953 | 50.7 | 48.1 | 59.9 | 63.3 | 72.8 | 86.7 | 84.8 | 82.9 | 76.8 | 66.5 | 52.6 | 43.3 | 65.7 |
| 1954 | 46.2 | 54.0 | 54.3 | 69.6 | 69.8 | 81.6 | 86.3 | 86.4 | 79.9 | 68.4 | 52.7 | 46.0 | 65.4 |
| 1955 | 45.0 | 46.7 | 57.3 | 70.0 | 76.0 | 79.8 | 83.4 | 82.7 | 79.1 | 65.9 | 50.7 | 47.5 | 65.7 |
| 1956 | 43.5 | 46.4 | 56.2 | 64.7 | 76.3 | 84.6 | 85.6 | 84.7 | 78.2 | 69.2 | 50.7 | 47.5 | 65.7 |
| 1957 | 44.2 | 53.2 | 55.0 | 62.1 | 68.1 | 77.4 | 85.2 | 85.1 | 74.1 | 61.6 | 48.4 | 47.4 | 63.5 |
| 1958 | 42.1 | 42.9 | 46.3 | 60.1 | 69.8 | 81.3 | 84.3 | 82.9 | 75.2 | 61.5 | 52.0 | 43.0 | 61.8 |
| 1959 | 42.2 | 46.0 | 54.2 | 63.0 | 74.2 | 82.8 | 78.9 | 82.2 | 68.9 | 62.5 | 45.9 | 44.7 | 62.5 |
| 1960 | 43.6 | 42.3 | 48.7 | 66.0 | 74.0 | 77.1 | 79.0 | 80.0 | 74.8 | 65.1 | 49.9 | 44.7 | 62.5 |
| 1961 | 39.7 | 43.7 | 55.3 | 63.6 | 74.0 | 77.1 | 79.0 | 80.0 | 74.8 | 65.1 | 49.9 | 44.7 | 62.5 |
| 1962 | 38.7 | 46.1 | 51.3 | 70.6 | 76.2 | 80.4 | 84.3 | 85.9 | 71.4 | 71.4 | 58.0 | 42.5 | 66.0 |
| 1963 | 37.9 | 46.6 | 58.2 | 69.7 | 76.3 | 81.8 | 86.3 | 86.1 | 77.1 | 64.6 | 57.2 | 48.2 | 66.6 |
| 1964 | 47.3 | 46.4 | 50.6 | 69.6 | 72.9 | 79.4 | 82.5 | 83.2 | 79.2 | 62.8 | 60.9 | 44.8 | 64.7 |
| 1965 | 50.0 | 46.4 | 50.6 | 66.4 | 74.2 | 80.5 | 86.4 | 83.4 | 74.2 | 62.8 | 58.9 | 44.8 | 64.7 |
| 1966 | 41.2 | 45.5 | 59.7 | 66.4 | 74.2 | 83.1 | 86.4 | 80.6 | 72.1 | 64.2 | 55.9 | 45.1 | 66.1 |
| 1967 | 46.6 | 50.4 | 64.8 | 73.3 | 73.1 | 77.7 | 79.9 | 81.0 | 68.6 | 62.2 | 52.1 | 47.0 | 63.5 |
| 1968 | 45.5 | 45.6 | 55.0 | 63.0 | 73.1 | 77.7 | 79.9 | 81.0 | 68.6 | 62.2 | 52.1 | 47.0 | 63.5 |
| 1969 | 51.7 | 49.7 | 50.1 | 66.5 | 70.6 | 79.5 | 85.4 | 82.7 | 73.8 | 63.9 | 52.8 | 48.1 | 64.6 |

STATION HISTORY

A climatological station was established at Ballinger on July 1, 1895. The station has been relocated several times, but each site has been within two miles of the Ballinger Post Office Building. Radio Station KRUN was appointed Cooperative Weather Observer on July 10, 1964; and the climatological station was moved to its present site, at the KRUN studio, 0.8 mile southwest of the post office. Station equipment consists of a cotton region shelter, maximum and minimum thermometers, and a standard, eight-inch, non-recording rain gage. Daily temperature and precipitation data are published monthly in CLIMATOLOGICAL DATA-TEXAS. Station Index Number 41-0439-02.

ESSA State Climatologist for Texas
 Airport Administration Building
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 October 1970

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Total Precipitation (Inches)

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Ann'l |
|------|------|------|------|------|-------|------|------|------|-------|------|------|------|-------|
| 1934 | 0.94 | 0.90 | 3.55 | 4.47 | 2.25 | 0.45 | 0.15 | 0.10 | 1.05 | 2.60 | 1.90 | 0 | 15.76 |
| 1935 | 0.38 | 3.42 | 0.25 | 3.75 | 9.24 | 7.44 | 3.75 | 2.02 | 16.45 | 2.70 | 0.80 | 0.45 | 50.55 |
| 1936 | 0.80 | 0.15 | 3.00 | 1.30 | 5.35 | 0.10 | 2.95 | 0.30 | 13.93 | 2.70 | 1.55 | 1.55 | 31.38 |
| 1937 | 0.80 | 0.15 | 1.70 | 1.32 | 1.71 | 6.96 | 2.27 | 0.70 | 0.30 | 1.70 | 0.94 | 1.79 | 19.54 |
| 1938 | 2.30 | 0.85 | 1.75 | 3.35 | 2.40 | 0.57 | 3.13 | 2.85 | 0.10 | 0.70 | 1.27 | 1.65 | 18.07 |
| 1939 | 2.10 | 2.10 | 0.10 | 2.98 | 1.40 | 4.68 | 0.57 | 2.85 | 0.02 | 1.55 | 3.45 | 0.94 | 20.55 |
| 1940 | 0.50 | 2.51 | 0.05 | 3.40 | 4.15 | 5.38 | 0.55 | 0.59 | 1.42 | 0.45 | 2.70 | 0.65 | 22.19 |
| 1941 | 0.50 | 2.28 | 2.55 | 6.89 | 3.65 | 5.38 | 1.28 | 5.46 | 3.99 | 5.82 | 0.58 | 0.70 | 34.44 |
| 1942 | 0.50 | 0.21 | 0.59 | 4.16 | 4.24 | 1.15 | 0.80 | 4.55 | 2.44 | 5.82 | 0.30 | 0.82 | 27.52 |
| 1943 | 3.90 | 2.05 | 1.04 | 0.70 | 3.10 | 0.20 | 2.48 | 0 | 4.70 | 2.87 | 0.92 | 1.63 | 15.07 |
| 1944 | 3.90 | 2.15 | 1.70 | 0.60 | 0.62 | 0.62 | 0.62 | 4.02 | 4.18 | 4.01 | 0.20 | 0.45 | 22.21 |
| 1945 | 0 | 0.70 | 0.67 | 0.20 | 10.65 | 0.83 | 0.10 | 1.90 | 1.87 | 0.53 | 1.96 | 1.73 | 23.42 |
| 1946 | 2.74 | 0.24 | 2.23 | 1.32 | 4.07 | 2.86 | 0.03 | 1.34 | 1.34 | 1.34 | 1.17 | 1.56 | 18.80 |
| 1947 | - | 0.66 | 0.24 | 2.12 | 2.38 | 2.80 | 3.88 | 0 | 1.69 | 1.87 | 0.67 | - | - |
| 1948 | 3.26 | 1.57 | 1.21 | 3.54 | 5.25 | 2.45 | 0.16 | 2.33 | 2.04 | 3.55 | 0 | 1.95 | 27.65 |
| 1949 | 0.39 | 0.27 | 0.16 | 1.49 | 3.54 | 2.45 | 0.27 | 3.72 | 2.04 | 0 | 0 | 0 | 13.63 |
| 1950 | 0.01 | 0.40 | 1.16 | 0.83 | 3.54 | 3.22 | 1.28 | 3.45 | 2.20 | 1.22 | 0.41 | 0.10 | 17.82 |
| 1951 | 0.69 | 0.39 | 0.59 | 1.13 | 3.59 | 0.91 | 0.91 | 0.41 | 5.82 | 0.02 | 2.70 | 0.61 | 17.77 |
| 1952 | 0.16 | 0.34 | 2.98 | 1.45 | 2.21 | 0.40 | 0.75 | 1.70 | 5.06 | 5.06 | 1.32 | 0.32 | 17.78 |
| 1953 | 0.43 | 0 | 0 | 7.21 | 4.24 | 2.07 | 0 | 0.02 | 0.39 | 0.59 | 0.92 | 0.29 | 16.08 |
| 1954 | 1.33 | 1.33 | 0.13 | 0.29 | 5.24 | 0.98 | 1.32 | 1.58 | 3.46 | 2.20 | 0.01 | 0.23 | 18.08 |
| 1955 | 1.25 | 0.42 | 0.06 | 1.15 | 2.92 | 0.15 | 0.16 | 0.38 | 0.70 | 2.94 | 1.19 | 0.61 | 11.93 |
| 1956 | 0.25 | 1.59 | 0.51 | 3.99 | 5.79 | 3.70 | 0.29 | 0.32 | 2.65 | 4.14 | 2.23 | 0.76 | 26.22 |
| 1957 | 0.75 | 3.13 | 1.49 | 2.08 | 4.06 | 0.63 | 1.24 | 1.95 | 3.76 | 1.41 | 1.07 | 0.03 | 23.60 |
| 1958 | 0 | 0.90 | 0 | 2.01 | 2.73 | 6.18 | 5.04 | 3.82 | 1.25 | 5.95 | 2.19 | 2.19 | 28.81 |
| 1959 | 3.42 | 0.56 | 0.09 | 1.89 | 2.53 | 3.09 | 3.09 | 3.82 | 0.41 | 3.16 | 0.10 | 0.97 | 27.29 |
| 1960 | 3.93 | 0.94 | 0.13 | 0 | 2.71 | 7.15 | 1.64 | 3.82 | 2.41 | 2.66 | 1.64 | 0.49 | 27.06 |
| 1961 | 0.03 | 0.54 | 0 | 2.39 | 0.18 | 1.85 | 2.54 | 0.99 | 3.53 | 2.11 | 1.64 | 0.85 | 14.15 |
| 1962 | 0.03 | 0.54 | 0 | 2.39 | 0.18 | 1.85 | 2.54 | 0.99 | 3.53 | 2.11 | 1.64 | 0.85 | 14.15 |
| 1963 | 1.38 | 1.65 | 0.73 | 1.12 | 4.81 | 0 | 0 | 4.62 | 0.41 | 0.24 | 2.59 | 0.41 | 18.58 |
| 1964 | 1.19 | 2.92 | 0.36 | 0.28 | 8.29 | 1.80 | 0.25 | 2.50 | 1.52 | 0.83 | 1.80 | 0.24 | 16.53 |
| 1965 | 0.65 | 0.10 | 1.47 | 2.13 | 1.77 | 0.74 | 0.63 | 8.10 | 3.12 | 1.40 | 0.30 | 1.40 | 23.50 |
| 1966 | 0 | 0.53 | 2.18 | 0.29 | 3.52 | 1.85 | 1.99 | 0.53 | 6.44 | 1.34 | 0.04 | 0.04 | 20.88 |
| 1967 | 4.00 | 1.65 | 1.67 | 3.72 | 4.76 | 1.85 | 1.99 | 2.40 | 2.32 | 0.21 | 1.85 | 1.85 | 23.43 |
| 1968 | 0.16 | 0.89 | 1.73 | 4.93 | 4.40 | 1.83 | 0.85 | 1.50 | 4.77 | 4.11 | 4.99 | 4.99 | 33.79 |
| 1969 | 0.16 | 0.89 | 1.73 | 4.93 | 4.40 | 1.83 | 0.85 | 1.50 | 4.77 | 4.11 | 4.99 | 4.99 | 30.65 |

Monthly Temperatures and Precipitation

