

**APPENDIX A : CLIMATOLOGICAL  
DATA**

# Local Climatological Data

Annual Summary With Comparative Data

1978

DALLAS - FORT WORTH, TEXAS



## Narrative Climatological Summary

The Dallas-Fort Worth Metroplex is located in North Central Texas, approximately 250 miles north of the Gulf of Mexico. It is near the headwaters of the Trinity River, which lie in the upper margins of the Coastal Plain. The rolling hills in the area range from 500-800 feet in elevation.

The Dallas-Fort Worth climate is humid, subtropical with hot summers. It is also continental, characterized by a wide range in annual temperature extremes. Precipitation averages near 32 inches annually, but varies considerably from year to year ranging from less than 20 to more than 50 inches.

Winters are mild, but "northers" occur about three times each month, and often are accompanied by sudden drops in temperature. Periods of extreme cold that occasionally occur are short-lived, so that even in January mild weather occurs frequently. In an average year, temperature minima of 20° or below occur on only six days.

The highest temperatures of summer are associated with fair skies, westerly winds and low humidities. Characteristically, hot spells in summer are broken into three-to-five day periods by thunderstorm activity. There are only a few nights each summer when the minimum temperature exceeds 80°, but a year when the temperature does not exceed 100° is rare. Refrigerated-type air conditioners are recommended for maximum comfort indoors and traveling via automobile.

Throughout the year, rainfall occurs more frequently during the night. Usually, periods of rainy weather last for only a day or two, and are followed by several days with fair skies. A large part of the annual precipitation results from thunderstorm activity, with occasional heavy rainfall over brief periods of time. Greatest amounts of rain occur during the months of April and May. July and August are relatively dry months. Thunderstorms occur throughout the year, but are most frequent in the spring. Hail falls on about two or three days a year, ordinarily with only slight and scattered damage. Windstorms occurring during thunderstorm activity are sometimes destructive. Snowfall is rare with a measurable fall occurring only once in an average year.

The average length of the warm season (freeze-free period) in the Dallas-Fort Worth Metroplex is 249 days. Since 1940, the longest was 292 days in 1973; the shortest was 196 days in 1957. The average date of the last occurrence of 32° or below is March 16. During the period 1940-1970, the earliest occurrence was February 14, 1946; the latest was April 13, 1957. The average date of the first occurrence of 32° or below in the Fall is November 21. The earliest occurrence during the period 1940-1970, was October 27, 1957; the latest was January 4, 1972.

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NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION

ENVIRONMENTAL DATA AND  
INFORMATION SERVICE

NATIONAL CLIMATIC CENTER  
ASHEVILLE, N.C.

### Average Temperature

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
1939	50.8	45.9	47.1	55.7	73.9	81.0	86.6	85.4	83.7	71.4	53.1	52.6	67.7
1940	51.9	47.8	47.1	56.2	71.9	76.8	81.5	81.7	76.4	62.4	48.9	48.9	64.7
1941	48.2	45.7	51.9	65.4	75.6	78.1	84.6	84.9	79.4	71.2	55.2	55.0	66.0
1942	48.1	44.7	51.2	65.4	75.4	81.4	85.8	85.4	80.7	67.5	47.5	47.5	65.3
1943	48.5	53.2	51.4	62.2	73.4	82.7	86.1	84.3	76.2	64.3	55.4	44.5	64.0
1944	46.5	51.8	54.9	64.5	72.2	83.1	85.5	85.9	77.2	58.9	44.2	44.2	56.0
1945	45.4	47.4	51.6	63.7	71.9	75.0	81.7	83.2	78.2	65.4	59.4	43.4	53.2
1946	48.1	52.4	57.6	69.4	69.7	76.4	85.4	85.0	78.2	69.8	54.4	52.2	66.5
1947	45.2	49.9	47.4	54.3	71.2	81.3	84.2	84.2	75.2	73.2	51.4	48.0	54.9
1948	46.4	46.3	54.9	71.0	82.8	84.8	85.8	77.6	66.5	55.4	51.4	65.5	65.8
1949	37.1	48.6	54.0	63.6	75.7	82.2	86.0	83.0	75.4	65.5	58.8	49.8	65.4
1950	47.9	53.6	57.9	67.6	73.7	80.2	81.3	82.2	75.2	71.8	54.6	46.5	65.5
1951	46.1	47.8	54.8	64.7	72.6	80.5	87.1	97.3	79.4	69.4	52.3	50.1	66.6
1952	50.0	50.0	54.0	64.0	73.0	81.0	86.0	85.0	78.0	65.0	50.0	47.0	64.0
1953	51.9	50.7	51.0	62.4	72.8	82.0	85.1	84.0	79.1	65.8	53.7	44.9	66.9
1954	45.6	50.3	58.9	70.7	80.0	83.9	88.8	81.9	69.9	55.6	49.7	68.1	65.0
1955	46.3	48.4	57.9	69.6	76.9	78.0	85.4	84.2	80.8	64.3	55.4	47.1	66.5
1956	44.9	50.1	58.4	64.8	77.7	83.3	89.0	80.9	71.1	57.7	50.0	45.0	67.5
1957	43.7	54.1	57.6	61.6	71.3	80.2	87.6	85.1	75.1	62.3	51.6	51.7	64.8
1958	44.4	43.6	48.7	61.5	73.1	82.3	85.7	85.0	78.4	65.8	57.4	43.6	64.2
1959	42.5	48.9	56.4	63.4	75.1	80.7	83.1	84.8	79.7	66.1	49.5	50.2	65.0
1960	44.1	43.6	44.1	67.3	72.0	82.9	84.0	84.0	79.0	67.0	57.5	43.7	64.8
1961	40.9	50.3	50.3	64.0	73.1	77.9	82.3	82.7	76.9	67.3	57.7	45.8	64.5
1962	39.4	53.3	54.0	64.3	77.0	79.9	85.5	85.6	77.1	70.4	55.5	47.2	65.8
1963	37.8	46.4	51.2	70.4	75.0	83.1	87.4	87.3	79.2	73.5	58.4	40.3	60.7
1964	43.8	43.8	58.8	68.8	73.2	81.0	87.1	85.3	76.9	61.6	47.1	47.1	65.2
1965	47.1	45.4	47.7	68.4	72.9	79.9	86.3	84.1	79.4	66.6	62.9	52.8	66.1
1966	47.3	45.8	54.3	63.3	70.8	80.3	82.7	75.8	65.7	45.3	45.3	64.4	64.4
1967	48.3	46.8	53.3	71.1	71.4	81.4	82.9	83.1	74.1	65.4	55.6	47.0	65.9
1968	44.4	44.2	54.4	63.4	72.4	79.5	81.0	83.5	74.6	67.8	53.9	47.4	63.9
1969	49.0	50.0	49.8	65.4	71.9	79.8	87.9	84.2	77.1	65.3	55.1	49.9	65.5
1970	46.6	48.8	59.1	66.2	71.7	79.1	84.0	84.0	78.2	65.1	54.7	53.6	65.0
1971	46.7	49.2	55.6	64.0	70.3	82.9	84.4	79.5	77.1	70.1	57.0	52.2	65.8
1972	45.0	51.5	62.1	70.1	72.7	81.4	83.1	84.7	80.8	67.5	50.1	46.0	66.1
1973	42.9	47.9	60.0	60.7	71.7	79.3	83.9	82.9	76.1	64.3	59.8	48.4	65.1
1974	43.6	52.9	60.9	65.8	75.7	78.7	86.1	82.9	70.9	69.2	54.5	47.2	65.9
1975	49.0	49.6	59.8	66.7	72.4	80.2	83.6	84.8	75.6	69.6	57.3	49.0	65.6
1976	45.0	50.4	59.4	64.9	68.0	78.6	82.1	84.2	76.1	67.2	49.5	45.2	64.3
1977	34.7	49.4	57.2	66.8	77.4	84.1	87.1	84.9	81.6	66.7	54.4	47.6	66.2
1978	33.8	36.7	54.1	67.1	73.1	82.3	88.4	84.6	80.2	68.9	57.7	46.1	64.4
1979	48.3	48.9	58.0	68.3	72.7	80.9	84.5	84.6	77.3	67.7	56.1	47.5	65.7
1980	58.6	59.4	68.0	75.9	82.7	91.3	94.8	95.1	88.2	78.6	66.6	57.7	76.1
1981	35.0	38.0	45.7	54.6	62.7	70.7	74.2	75.0	67.5	56.8	45.5	37.5	53.2

### Heating Degree Days

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
1939	50.8	45.9	47.1	55.7	73.9	81.0	86.6	85.4	83.7	71.4	53.1	52.6	67.7
1940	51.9	47.8	47.1	56.2	71.9	76.8	81.5	81.7	76.4	62.4	48.9	48.9	64.7
1941	48.2	45.7	51.9	65.4	75.6	78.1	84.6	84.9	79.4	71.2	55.2	55.0	66.0
1942	48.1	44.7	51.2	65.4	75.4	81.4	85.8	85.4	80.7	67.5	47.5	47.5	65.3
1943	48.5	53.2	51.4	62.2	73.4	82.7	86.1	84.3	76.2	64.3	55.4	44.5	64.0
1944	46.5	51.8	54.9	64.5	72.2	83.1	85.5	85.9	77.2	58.9	44.2	44.2	56.0
1945	45.4	47.4	51.6	63.7	71.9	75.0	81.7	83.2	78.2	65.4	59.4	43.4	53.2
1946	48.1	52.4	57.6	69.4	69.7	76.4	85.4	85.0	78.2	69.8	54.4	52.2	66.5
1947	45.2	49.9	47.4	54.3	71.2	81.3	84.2	84.2	75.2	73.2	51.4	48.0	54.9
1948	46.4	46.3	54.9	71.0	82.8	84.8	85.8	77.6	66.5	55.4	51.4	65.5	65.8
1949	37.1	48.6	54.0	63.6	75.7	82.2	86.0	83.0	75.4	65.5	58.8	49.8	65.4
1950	47.9	53.6	57.9	67.6	73.7	80.2	81.3	82.2	75.2	71.8	54.6	46.5	65.5
1951	46.1	47.8	54.8	64.7	72.6	80.5	87.1	97.3	79.4	69.4	52.3	50.1	66.6
1952	50.0	50.0	54.0	64.0	73.0	81.0	86.0	85.0	78.0	65.0	50.0	47.0	64.0
1953	51.9	50.7	51.0	62.4	72.8	82.0	85.1	84.0	79.1	65.8	53.7	44.9	66.9
1954	45.6	50.3	58.9	70.7	80.0	83.9	88.8	81.9	69.9	55.6	49.7	68.1	65.0
1955	46.3	48.4	57.9	69.6	76.9	78.0	85.4	84.2	80.8	64.3	55.4	47.1	66.5
1956	44.9	50.1	58.4	64.8	77.7	83.3	89.0	80.9	71.1	57.7	50.0	45.0	67.5
1957	43.7	54.1	57.6	61.6	71.3	80.2	87.6	85.1	75.1	62.3	51.6	51.7	64.8
1958	44.4	43.6	48.7	61.5	73.1	82.3	85.7	85.0	78.4	65.8	57.4	43.6	64.2
1959	42.5	48.9	56.4	63.4	75.1	80.7	83.1	84.8	79.7	66.1	49.5	50.2	65.0
1960	44.1	43.6	44.1	67.3	72.0	82.9	84.0	84.0	79.0	67.0	57.5	43.7	64.8
1961	40.9	50.3	50.3	64.0	73.1	77.9	82.3	82.7	76.9	67.3	57.7	45.8	64.5
1962	39.4	53.3	54.0	64.3	77.0	79.9	85.5	85.6	77.1	70.4	55.5	47.2	65.8
1963	37.8	46.4	51.2	70.4	75.0	83.1	87.4	87.3	79.2	73.5	58.4	40.3	60.7
1964	43.8	43.8	58.8	68.8	73.2	81.0	87.1	85.3	76.9	61.6	47.1	47.1	65.2
1965	47.1	45.4	47.7	68.4	72.9	79.9	86.3	84.1	79.4	66.6	62.9	52.8	66.1
1966	47.3	45.8	54.3	63.3	70.8	80.3	82.7	75.8	65.7	45.3	45.3	64.4	64.4
1967	48.3	46.8	53.3	71.1	71.4	81.4	82.9	83.1	74.1	65.4	55.6	47.0	65.9
1968	44.4	44.2	54.4	63.4	72.4	79.5	81.0	83.5	74.6	67.8	53.9	47.4	63.9
1969	49.0	50.0	49.8	65.4	71.9	79.8	87.9	84.2	77.1	65.3	55.1	49.9	65.5
1970	46.6	48.8	59.1	66.2	71.7	79.1	84.0	84.0	78.2	65.1	54.7	53.6	65.0
1971	46.7	49.2	55.6	64.0	70.3	82.9	84.4	79.5	77.1	70.1	57.0	52.2	65.8
1972	45.0	51.5	62.1	70.1	72.7	81.4	83.1	84.7	80.8	67.5	50.1	46.0	66.1
1973	42.9	47.9	60.0	60.7	71.7	79.3	83.9	82.9	76.1	64.3	59.8	48.4	65.1
1974	43.6	52.9	60.9	65.8	75.7	78.7	86.1	82.9	70.9	69.2	54.5	47.2	65.9
1975	49.0	49.6	59.8	66.7	72.4	80.2	83.6	84.8	75.6	69.6	57.3	49.0	65.6
1976	45.0	50.4	59.4	64.9	68.0	78.6	82.1	84.2	76.1	67.2	49.5	45.2	64.3
1977	34.7	49.4	57.2	66.8	77.4	84.1	87.1	84.9	81.6	66.7	54.4	47.6	66.2
1978	33.8	36.7	54.1	67.1	73.1	82.3	88.4	84.6	80.2	68.9	57.7	46.1	64.4
1979	48.3	48.9	58.0	68.3	72.7	80.9	84.5	84.6	77.3	67.7	56.1	47.5	65.7
1980	58.6	59.4	68.0	75.9	82.7	91.3	94.8	95.1	88.2	78.6	66.6	57.7	76.1
1981	35.0	38.0	45.7	54.6	62.7	70.7	74.2	75.0	67.5	56.8	45.5	37.5	53.2

### Cooling Degree Days

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1939	50.8	45.9	47.1	55.7	73.9	81.0	86.6	85.4	83.7	71.4	53.1	52.6	67.7
1940	51.9	47.8	47.1	56.2	71.9	76.8	81.5	81.7	76.4	62.4	48.9	48.9	64.7
1941	48.2	45.7	51.9	65.4	75.6	78.1	84.6	84.9	79.4	71.2	55.2	55.0	66.0
1942	48.1	44.7	51.2	65.4	75.4	81.4	85.8	85.4	80.7	67.5	47.5	47.5	65.3

# Meteorological Data For The Current Year

Station: Dallas-Fort Worth, Texas REGIONAL AIRPORT Standard time used: CENTRAL Latitude: 32° 54' N Longitude: 97° 02' W Elevation (ground): 531 feet Year: 1978

Month	Temperature °F				Precipitation in inches				Relative humidity, pct.			Wind			Sunshine			Number of days				Average station pressure mb								
	Averages	Extremes	Extremes	Extremes	Water equivalent	Snow, ice pellets	Snow, ice pellets	Hour	Hour	Hour	Resultant	Fastest mile	Direction	Percent of possible sunshine	Average sky cover, tenths, sunrise to sunset	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/4 mile or less	90° and above	32° and below	32° and below	32° and below	0° and below	Elev. feet		
JAN	42.3	28.3	33.8	77	6	13	21	9	19	19	30	32	28	7	3	2	1	1	7	1	3	3	0	0	0	0	0	0	0	1002.0
FEB	44.4	29.0	36.7	74	24	13	24	9	19	19	30	32	28	7	3	2	1	1	7	1	3	3	0	0	0	0	0	0	999.7	
MAR	60.3	41.8	51.1	64	22	21	4	4	346	16	16	16	16	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	997.2	
APR	79.4	51.8	67.1	95	4	4	20	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	995.2	
MAY	84.0	62.2	73.1	95	4	4	20	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	993.2	
JUN	93.5	71.8	82.3	100	25	49	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	991.6	
JUL	100.1	78.4	88.4	107	13	72	29	0	733	0.33	0.30	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	989.6
AUG	99.0	73.1	84.6	104	20	66	31	0	614	0.53	1.25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	987.6
SEP	90.8	69.4	80.2	101	4	57	29	27	193	0.93	1.11-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	992.2
OCT	82.4	55.3	66.9	94	2	44	27	27	152	0.50	0.50	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	997.6
NOV	67.9	47.3	57.7	86	2	33	10	10	67	0.78	0.78	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	0	997.6
DEC	57.4	34.8	46.1	78	2	20	10	10	578	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	997.3
YEAR	73.4	53.4	64.4	107	15	91	19	19	3041	2965	24.37	3.54	28	18.4	7.51	69	79	54	51	19	2.5	9.3	41	32	28	28	28	28	0	995.6

## Normals, Means, And Extremes

Month	Temperatures °F				Precipitation in inches				Relative humidity, pct.			Wind			Sunshine			Mean number of days				Average station pressure mb								
	Normal	Extremes	Extremes	Extremes	Normal	Water equivalent	Snow, ice pellets	Hour	Hour	Hour	Resultant	Fastest mile	Direction	Percent of possible sunshine	Average sky cover, tenths, sunrise to sunset	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms		Heavy fog, visibility 1/4 mile or less	90° and above	32° and below	32° and below	32° and below	0° and below	Elev. feet	
JAN	55.1	33.9	44.8	88	6	13	21	9	19	19	30	32	28	7	3	2	1	1	7	1	3	3	0	0	0	0	0	0	0	999.7
FEB	59.0	37.0	48.7	88	25	13	24	9	19	19	30	32	28	7	3	2	1	1	7	1	3	3	0	0	0	0	0	0	0	997.2
MAR	60.0	42.1	55.0	90	25	21	4	4	346	16	16	16	16	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	0	995.2
APR	65.1	44.1	57.2	93	25	20	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	993.2
MAY	70.0	46.3	60.6	105	25	21	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	991.6
JUN	75.2	48.4	64.8	109	25	21	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	989.6
JUL	82.2	50.8	71.7	115	25	21	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	987.6
AUG	87.5	44.4	55.8	115	25	21	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	992.2
SEP	81.7	37.0	47.9	108	25	21	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	997.6
OCT	68.1	37.0	47.9	108	25	21	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	997.6
YEAR	70.3	34.4	45.5	109	25	21	19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	995.4

Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows: Highest temperature 112 in August 1936; lowest temperature -8 in February 1899; maximum monthly precipitation 17.64 in April 1921; minimum monthly precipitation 0.00 in November 1903; maximum precipitation in 24 hours 9.57 in September 1932.

(1) Length of record, years, through the current year unless otherwise noted.  
 (2) Based on January data.  
 (3) Based on 1941-1970 period.  
 (4) PREVALENT WIND DIRECTION - The most recent in cases of multiple observations.  
 (5) FASTEST WIND - Speed is fastest observed 1-minute value when the direction is in tens of degrees.

RELATIVE HUMIDITY - Based on record for the 1941-1970 period.  
 DATE OF AN EXTREME - The most recent in cases of multiple observations.  
 PREVALENT WIND DIRECTION - Numerals indicate tens of degrees clockwise from true north. 00 indicates calm.  
 FASTEST WIND - Speed is fastest observed 1-minute value when the direction is in tens of degrees.