U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH FRANKFORT CHAMBER OF COMMERCE
CLIMATOGRAPHY OF THE UNITED STATES NO. 20 — 12

LATITUDE 40° 19' N.
LONGITUDE 86° 30' W.
ELEV. (GROUND) 833 Feet

CLIMATOLOGICAL SUMMARY

STATION FRANKFORT, INDIANA

MEANS AND EXTREMES FOR PERIOD 1930-1959

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 daily	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			30	30		25	25		25		30	30	30	30	30	
Jan.	36.6	19.3	28.0	70	1950	-22	1936	1150	2.57	2.88	1950	4.0	9.0	1951	5.0	1951	5	0	11	27	3	Jan.
Feb.	39.1	21.6	30.4	69	1944✓	-14	1936	970	2.14	1.70	1936	3.5	8.6	1934	4.0	1939✓	5	0	8	25	2	Feb.
Mar.	48.5	29.0	38.8	81	1939	- 2	1951	810	2.96	3.39	1939	2.6	8.0	1930	4.0	1931✓	6	0	3	21	*	Mar.
Apr.	61.4	39.4	50.4	92	1930	14	1940	440	3.84	2.02	1939	.2	3.0	1940	2.5	1940	8	*	*	8	0	Apr.
May	72.6	49.9	61.3	96	1934	28	1938	180	4.36	4.45	1943	T	T	1954✓	T	1952✓	8	1	0	1	0	May
June	82.6	59.5	71.1	104	1934	36	1940	30	4.24	3.47	1958	0	0		0		8	6	0	*	0	June
July	86.9	62.7	74.8	108	1936	40	1940	0	3.73	3.72	1939	0	0		0		6	11	0	0	0	July
Aug.	85.0	60.4	72.7	102	1936	40	1934	10	2.95	3.28	1954	0	0		0		5	8	0	0	0	Aug.
Sept.	78.1	52.7	65.4	101	1939	26	1942	80	3.26	3.92	1950	0	0		0		5	3	0	1	0	Sept.
Oct.	66.7	42.2	54.5	92	1939✓	18	1952✓	330	2.80	2.11	1949	T	T	1954✓	T	1954	5	*	*	6	0	Oct.
Nov.	49.7	31.0	40.4	78	1933	- 4	1930	740	2.77	2.40	1958	1.7	8.5	1932	8.2	1932	6	0	3	18	*	Nov.
Dec.	38.7	22.4	30.6	68	1949✓	-15	1935✓	1070	2.06	1.76	1936	3.8	13.9	1934	6.8	1934	5	0	9	26	2	Dec.
Year	62.2	40.8	51.5	108	1936	-22	1936	5810	37.68	4.45	1943	15.8	13.9	1934	8.2	1932	72	29	34	133	7	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65° and computed from monthly mean temperatures.

✓ Also on earlier dates, months, or years.

* Less than one half.

CLIMATE OF FRANKFORT, INDIANA

Frankfort has an invigorating climate because of frequent changes of weather. The city is located in the middle latitudes where air of polar and tropical origin frequently clash and where the moderating effects of the oceans are least.

Centers of low air pressure frequently move across the central plains through Indiana, to the St. Lawrence River Valley and the Atlantic Ocean. These storms which accompany most rains usually are preceded by southerly winds, declining air pressure and increased cloudiness; afterwards, lower temperatures, higher air pressure and much sunshine.

Precipitation is rather evenly distributed throughout the year, however, the month of May has a little more than other months while December and February have the least. Spring and summer rains are usually sufficient for common crops, particularly when the soil has several inches of moisture in reserve as the result of earlier spring or winter precipitation.

Temperatures have ranged in the past 30 years from -22° to 108°F. July is the warmest month of the year when days with temperatures exceeding 90° average 11 in number. January is the coldest month. The winter season averages 7 days with temperatures below zero. An average day has a greater range of temperature in the summer than in the winter. Winter days have a mean daily temperature range of 17° compared to 25° in the summer.

Snow has occurred as early as October and as late as May. The most snow comes in December and January. The greatest snowfall of any one day in the last 30 years was 8.2 inches recorded November 16, 1932.

Relative humidity varies during a summer day from the 40's during a typical summer afternoon to 90 percent and higher just before dawn. Relative humidity rises and falls much as temperature does during a 24-hour period but the highest percent usually occurs with the minimum temperature. In the winter, the most probable range of relative humidity from afternoon to night is from the 60's to the 90's. Fog is least apt to occur in the summer. At other times of the year early morning fog is occasionally observed.

Heating degree days are an indication of heating requirements for dwellings in the community. Fuel consumption for heating is proportional to degree day totals, so a month with twice the heating degree days of another month requires twice as much fuel for heating. Degree days for a single day are obtained by subtracting the mean temperature from 65. The need for heating buildings is considered to be slight if the outdoor average temperature exceeds 65° F.

Frequency of brief heavy rainfall may be estimated from the climatology of the area. A rain of 1.3 inches in one hour occurs about once in 2 years; a rain of 2.1 inches in one hour occurs about once in 10 years; and a rain of 2.5 inches in one hour happens about once in 25 years. In a 6-hour period, 2 inches should be expected about every other year. The probability of 3.4 inches in 6 hours is 1 in 10 years and for 4.1 inches, about 1 in 25 years.

Climatology of the area indicates that thunderstorms occur on about 47 days of the year. The average is about 8 a month in the late spring and early summer, and less than one a month in the winter. The thunderstorms are seldom so severe as to cause loss of life, property, or crops. Only 4 tornadoes occurred in Clinton County during a 35-year period.

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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1930	22.4	40.4	38.5	53.4	62.8	70.6	75.6	73.6	67.6	53.0	42.8	30.2	52.6
1931	32.2	36.8	35.2	52.2	59.4	73.5	78.9	72.6	70.2	58.4	50.4	40.2	55.0
1932	38.2	37.4	33.9	54.2	63.4	72.5	76.5	72.6	62.4	53.5	35.3	30.9	52.6
1933	38.0	-	38.5	50.8	63.6	76.8	76.9	71.6	70.8	52.3	39.8	34.4	-
1934	33.3	22.4	36.2	51.8	66.0	77.6	79.6	72.0	66.2	55.5	45.4	28.1	52.8
1935	30.6	32.4	46.9	46.5	55.4	67.1	76.8	74.0	65.8	53.6	40.7	24.1	51.2
1936	20.0	20.0	42.2	46.2	63.8	70.3	80.2	77.4	68.8	53.8	37.4	33.8	51.1
1937	30.6	28.8	35.6	49.0	61.2	69.1	73.0	74.8	63.8	50.2	36.7	27.0	50.0
1938	27.4	37.4	46.0	52.5	60.8	68.4	74.7	75.1	67.5	58.4	43.5	31.6	53.6
1939	33.6	30.3	41.6	46.8	64.2	72.2	73.4	71.4	70.6	56.2	39.8	33.6	52.8
1940	13.8	30.2	35.8	47.6	57.7	72.2	73.1	74.6	63.6	57.2	38.6	35.4	50.0
1941	28.8	26.4	34.4	55.0	63.5	70.2	74.7	72.8	69.3	57.0	42.6	36.2	52.6
1942	26.9	26.2	41.3	55.1	61.8	70.2	75.2	71.0	63.4	53.7	43.8	25.4	51.2
1943	27.8	31.5	36.2	47.8	60.8	74.6	74.0	72.9	61.3	51.1	36.4	27.8	50.2
1944	31.2	31.8	35.9	49.0	66.6	74.8	74.6	73.8	66.0	52.3	42.8	24.0	53.2
1945	21.4	31.3	50.3	52.2	55.6	68.0	72.2	72.0	66.6	51.2	41.6	22.8	50.4
1946	28.2	32.0	50.8	51.6	58.0	69.3	73.6	67.3	64.4	57.5	45.2	35.1	52.8
1947	31.5	22.4	32.1	50.0	57.0	66.7	69.8	78.0	65.8	60.4	35.2	30.2	49.9
1948	20.0	28.6	39.6	54.2	58.4	69.7	73.9	73.3	66.3	49.5	44.9	33.1	50.9
1949	30.3	30.0	40.0	49.8	62.9	74.3	78.5	73.1	59.5	58.5	41.8	35.8	52.8
1950	35.6	28.2	35.1	44.6	63.7	68.5	71.3	69.3	63.6	59.3	35.9	22.4	49.8
1951	29.3	29.6	36.5	47.5	63.7	68.2	72.3	69.9	62.2	56.0	34.0	27.6	49.8
1952	29.1	32.8	38.2	50.5	59.8	74.5	75.5	70.3	63.7	47.2	41.2	33.7	51.4
1953	30.6	33.2	39.7	46.2	62.3	73.1	74.1	71.7	63.4	56.1	42.1	31.5	52.0
1954	28.0	37.9	34.9	54.9	55.9	73.1	74.9	71.9	67.6	53.2	40.5	30.7	52.0
1955	25.6	29.7	39.5	55.9	62.4	66.3	79.0	74.8	66.2	54.5	35.8	26.6	51.4
1956	25.1	29.0	37.7	46.1	61.1	72.3	72.3	71.9	62.5	59.5	39.7	34.8	51.0
1957	20.4	34.8	37.8	50.9	60.1	69.9	74.4	71.5	62.5	49.0	39.1	34.1	50.4
1958	26.3	21.6	34.5	50.2	59.5	65.6	72.7	70.6	63.7	54.1	42.1	21.3	48.5
1959	21.6	28.8	38.3	50.1	65.4	71.2	73.6	76.5	66.8	52.7	34.4	35.3	51.2

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1930	6.70	1.85	2.51	3.41	1.30	2.12	2.49	1.43	3.14	1.40	2.26	0.16	28.77
1931	1.21	1.45	2.50	2.54	2.65	3.80	1.06	4.34	5.14	3.92	3.13	3.26	35.00
1932	5.22	1.62	2.55	4.23	1.35	3.16	3.08	3.61	3.43	2.92	1.50	4.51	37.18
1933	3.15	0.79	4.28	4.50	9.84	0.45	1.73	3.59	5.38	3.75	1.01	2.15	40.62
1934	2.47	0.94	3.03	1.74	1.54	3.14	4.01	4.66	7.25	0.50	3.72	1.68	34.68
1935	2.38	0.47	3.15	1.90	5.67	4.70	5.72	1.20	3.25	0.85	4.10	0.80	34.19
1936	0.79	3.24	2.17	2.44	3.36	1.14	1.33	6.10	6.71	3.78	3.17	2.87	37.10
1937	5.68	2.43	1.83	7.47	2.95	5.12	3.97	2.19	2.15	4.67	2.06	2.45	42.97
1938	1.10	4.23	5.86	4.40	5.61	6.32	5.64	3.14	1.77	0.82	2.38	2.08	43.35
1939	3.29	2.40	4.88	5.24	0.72	4.50	4.97	1.46	0.43	2.56	1.14	0.89	32.48
1940	1.23	1.22	1.57	3.20	3.87	3.31	1.10	2.42	2.07	3.33	3.14	2.30	28.76
1941	1.28	0.24	0.92	2.41	2.02	6.66	1.76	1.83	1.52	4.98	3.24	0.75	27.61
1942	1.08	3.33	3.64	3.11	3.78	3.95	2.95	2.58	3.17	2.30	3.49	1.04	34.42
1943	0.94	0.69	2.69	2.60	12.82	5.57	3.31	3.22	3.13	1.23	2.56	0.58	39.34
1944	0.22	2.65	3.03	6.33	6.93	1.89	1.72	2.07	2.13	0.80	2.22	1.01	31.00
1945	0.29	1.37	6.35	2.97	5.47	6.92	1.39	3.68	5.99	3.29	2.65	2.34	42.71
1946	1.57	2.69	2.70	1.67	6.75	3.98	2.02	1.79	0.34	2.81	3.08	2.31	31.71
1947	2.94	0.38	1.87	6.96	3.91	5.74	4.07	2.17	3.90	1.87	1.50	1.58	36.89
1948	1.74	2.36	6.96	5.40	4.47	5.50	3.39	2.23	2.64	2.60	4.26	2.75	44.30
1949	7.20	3.43	-	2.44	2.39	2.52	2.26	1.32	1.26	8.66	1.32	3.38	-
1950	9.76	4.85	3.23	4.46	2.55	5.13	3.18	3.36	6.59	1.07	4.21	1.68	50.07
1951	1.74	3.05	1.48	2.70	3.94	2.75	4.01	1.94	2.38	1.74	2.95	2.90	31.58
1952	2.29	2.59	3.32	4.40	6.17	4.67	3.57	3.94	5.02	1.24	3.39	2.34	42.94
1953	1.92	1.20	4.80	2.98	3.52	3.17	8.04	3.99	1.02	1.40	1.20	1.01	34.25
1954	2.06	1.79	2.04	3.31	5.06	2.93	2.90	7.05	1.00	5.97	1.28	2.31	37.70
1955	2.76	3.08	2.74	3.67	4.71	3.92	5.44	0.60	5.16	4.82	3.52	0.29	40.71
1956	0.67	2.13	1.18	2.56	5.86	2.31	7.16	2.46	0.86	1.24	3.10	4.07	33.60
1957	1.23	2.94	1.10	8.03	6.27	8.15	8.06	2.23	4.09	3.18	2.57	5.22	53.07
1958	0.92	0.52	1.10	1.79	2.82	12.82	7.75	4.50	2.17	2.29	6.84	0.47	43.99
1959	3.21	4.27	2.47	6.41	2.47	1.04	4.01	3.29	4.87	4.03	2.25	2.82	41.14

STATION HISTORY

This weather summary would not be possible without the cooperation of the Frankfort Department of Sanitation in the daily reading since June 1931 of U. S. Weather Bureau thermometers and raingage. The weather station is 1.5 miles north-northeast of the Frankfort Post Office, 833 feet above mean sea level, latitude 40° 19' North, and longitude 86° 30' West.

The earliest Frankfort weather data were recorded for three years beginning in 1882 by E. H. Staley. Not until January 1, 1914 were they resumed by C. A. Stevenson at a location .5 mile northwest of the post office. He was the observer until Max Fowler began taking readings about .8 mile southeast of the post office on February 1, 1921, and continued to August 31, 1927. He was succeeded by Robert W. McCarty until April 2, 1931; his location was 8 blocks northeast of the post office. Adron W. Barbee and O. M. Leonard were observers from April 1, 1931 to June 30, 1932. For the period of 1914 - 1932 the station was listed as 858 feet above mean sea level, latitude 40° 16' North and longitude 86° 15' West.

A continuous recording raingage is operated by the City Power and Light Plant in cooperation with the U. S. Weather Bureau. The amount of rain falling during any period of time may be calculated from charts of this gage. Hourly and 24-hour amounts are published.

EXTREMES AND DATE OF OCCURRENCE (1914 - 1959)

Month	Highest Temperature		Lowest Temperature		Greatest Daily Precipitation		Greatest Monthly Snowfall	
Jan.	70	1/25/50	-23	1/24/15	3.01	1/10/27	24.4	1927
Feb.	73	2/8/25	-14	2/18/36	1.70	2/26/36	21.2	1914
Mar.	82	3/24/29	- 2	3/21/51	3.39	3/12/39	13.3	1924
Apr.	92	4/11/30	14	4/12/40	2.42	4/17/22	4.0	1920
May	97	5/28/14	28	5/13/38	4.92	5/18/27	2.4	1923
June	104	6/28/34	36	6/21/40	3.47	6/13/58		
July	108	7/14/36	40	7/13/40	4.66	7/11/23		
Aug.	102	8/22/36	40	8/29/34	3.28	8/17/54		
Sept.	101	9/13/39	26	9/28/42	3.92	9/1/50		
Oct.	92	10/8/39	18	10/21/52	5.05	10/18/17	2.5	1917
Nov.	78	11/1/33	- 4	11/28/30	2.95	11/30/27	8.5	1932
Dec.	68	12/12/49	-15	12/30/35	2.24	12/19/24	18.0	1915

DATES OF CRITICAL TEMPERATURES IN SPRING AND FALL (1921-59)

Minimum Temperature	Last in Spring: Earliest	Last in Spring: Average	Last in Spring: Latest	First in Fall: Earliest	First in Fall: Average	First in Fall: Latest
40 or lower	4/27/52	5/13	6/21/40	7/13/40	9/18	10/17/31
36 or lower	4/16/52	5/23	6/21/40	8/26/45	9/26	10/12/22
32 or lower	4/8/55	5/1	6/5/45	9/12/55	10/7	11/16/22
28 or lower	3/10/29	4/16	5/13/38	9/28/42	10/22	11/21/22
24 or lower	3/3/22	3/31	4/23/36	10/1/46	10/31	11/26/31
20 or lower	2/25/42	3/20	4/14/43	10/21/52	10/16	12/18/21
16 or lower	2/15/46	3/10	4/12/40	11/2/51	11/26	1/9/32

Use of the table: The average date of the last temperature of 32 or colder in the spring is May 1. The earliest date of this event in all springs of the 1921-59 period was April 8 in 1955. The latest date was June 5 in 1945. In the fall, 32 or colder occurred as early as September 12, (1955) and as late as November 16, (1922). The average date is October 7.