U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH PURDUE AGRICULTURAL EXPERIMENT STATION
CLIMATOGRAPHY OF THE UNITED STATES NO. 20 — 12

LATITUDE 40° 55' N.
LONGITUDE 87° 09' W.
ELEV. (GROUND) 672 Ft.

CLIMATOLOGICAL SUMMARY

STATION COLLEGEVILLE, INDIANA

MEANS AND EXTREMES FOR PERIOD 1934-1963

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	Max. 32° and below	Min. 32° and below	Min. 0° and below	Month
(a)	30	30		30		30		30	30	30		30	30		30		10	30	30	30	30	
Jan.	33.9	16.7	25.3	65	1952	-20	1936	1172	1.79	1.50	1949	5.9	13.8	1959	8.5	1939	4	0	13	29	4	Jan.
Feb.	36.4	19.4	27.9	68	1957+	-16	1951+	1008	2.02	2.40	1942	5.6	16.3	1963	6.9	1961	5	0	9	26	2	Feb.
Mar.	48.3	28.2	38.3	82	1949+	-11	1943	846	2.76	1.75	1939	3.3	17.1	1934	8.5	1934	6	0	3	22	*	Mar.
Apr.	61.6	38.4	50.0	90	1942	18	1957+	447	4.15	4.83	1956	0.8	8.3	1961	5.5	1961+	6	*	*	9	0	Apr.
May	73.3	48.5	60.9	103	1934	25	1938	192	4.10	2.16	1945	T	T	1963+	T	1940	7	1	0	1	0	May
June	83.0	58.6	70.8	109	1934	32	1945	39	4.23	3.85	1958	T	T	1950	T	1950	7	7	0	*	0	June
July	87.1	62.4	74.8	116	1936	41	1947	0	3.69	5.38	1951	0	0		0		6	11	0	0	0	July
Aug.	85.2	60.7	73.0	107	1934	38	1946	6	3.18	4.00	1934	0	0		0		6	9	0	0	0	Aug.
Sept.	78.2	52.6	65.4	104	1939	27	1942	93	3.05	2.33	1960	T	0.5	1942	0.5	1942	5	4	0	*	0	Sept.
Oct.	67.4	42.7	55.1	93	1939	17	1962	335	2.99	2.97	1957	T	1.6	1962	1.6	1962	5	*	0	5	0	Oct.
Nov.	49.9	30.5	40.2	83	1950	-10	1950	747	2.56	2.00	1936	2.3	9.7	1951	8.0	1942	5	0	2	18	*	Nov.
Dec.	37.4	20.7	29.1	69	1949	-19	1958	1101	1.86	2.05	1936	5.8	14.4	1935	5.9	1960	5	0	9	27	2	Dec.
Year	61.8	40.0	50.9	116	July 1936	-20	Jan. 1936	5986	36.38	5.38	July 1951	23.7	17.1	Mar. 1934	8.5	1939+	67	32	36	137	8	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.

CLIMATE OF COLLEGEVILLE, INDIANA

Collegeville, located in Jasper County in Northwest Indiana, has an invigorating climate because of the frequent changes of the weather. Pleasant, cloudless days are interspersed with some rainy days throughout the year. Monsoon rains are unknown but rainfall is usually adequate in all seasons favoring a diversified agriculture. In the summer when moisture utilization is high, a dry month of below normal rainfall affects lawns, pastures, and crops.

Weather changes every few days come from the passing of weather fronts and associated centers of low and high air pressure. In general, a high brings lower temperatures, lower humidity and sunny days. An approaching low brings increasing temperatures, increasing southerly wind, higher humidity, and commencement of rain or showers. This activity is greatest in the spring and least in late summer and early fall. This community is on the edge of the Lake Michigan influence meaning that when winds blow from the north, some moderation of extreme temperatures occur. In the winter, the winds convert vapor from Lake Michigan into snowflurries which fall down-wind from the Lake.

Precipitation is rather evenly distributed throughout the year, a happy contrast to some areas of the United States that have a "dry season" and require irrigation to maintain green vegetation. The table of monthly rainfall for past years in this report shows the variation of rainfall that may be expected. There is a tendency for spring and early summer rains to exceed winter precipitation. The spring rains are very reliable insuring near maximum soil moisture going into summer when evaporation losses exceed rainfall and dry soils become more probable. A severe drought has never been experienced. About one-third of the annual rainfall flows into streams and out of the area. Future needs may require conservation of this water.

The probability for unusually heavy rains in just a few hours is indicated by a weather study of the area:

Frequency in 100 years	Rain in 1 hour	6 hours	12 hours
4	2.5	3.7	4.1
10	2.1	3.1	3.4
20	1.7	2.7	3.0

Snowfall has varied reception. None occurs in the summer. Some winters have much snow and others have very little. An occasional snow storm may hamper travel and clog roads but at the same time the snow blanket protects winter grains from the very cold air that invariably follows. Heaviest snow storms are those out of the southwest. As they swirl northeastward, abundant moisture flows in from the Gulf of Mexico. A storm out of the northwest, with an inward flow of colder, drier air, leaves less snow. Some mid-winters are thus cold but snowfall is normal or less.

Relative humidity is not measured at this station but estimates are possible from the climatology of the area. Relative humidity varies on sunny summer days from a percent in the 40's in the early afternoon to the 90's about sunrise. Relative humidity rises and falls much as temperature does during a typical day but the highest percent usually occurs with the minimum temperature and the lowest percent with the maximum temperature. A cold front is next in importance in changing relative humidity downward.

Winds blow most frequently from the southwest, however, in one or two of the winter months, prevailing winds are northwest. Damaging winds have three sources. In the order of diminishing area coverage but increasing intensity, they are: lows passing through the region, thunderstorms, and tornadoes. Only 8 tornadoes have been reported in the county since 1916. Very few were of sufficient size to injure people and property. Thunderstorms, including incidences of lightning and thunder, occur about 46 days of the year. Most of these occur in the spring and early summer. They are seldom so severe as to cause loss of life, property, or crops. Death dealing smog or fog is unknown.

Heating degree days in the above table provide a comparative number for calculating heating requirements between different places and different times. 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 degrees.

The growing season (defined here as the number of days between the last spring and first fall temperature of 32°) averages 158 days in length. The season is 179 days or more in 10% of the years, 169 days or more in 25% of the years, less than 147 days in 25% of the years, and less than 137 days in 10% of the years.

Many days of the year are nearly ideal in temperature. A few days, in the summer when temperatures exceed 90, or decline below zero in the winter, tend to obscure this fact. The fall season is considered by many as the best time of the year for outdoor activities. Spring is also a favorite season but actually this season has more days of rain, and thunderstorms. In the fall the atmosphere in total seems more quiet. Air and soil temperatures are nearer in agreement than any other time of the year, thus, convective activity is diminished. Many days are sunny and showers are less frequent.

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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1934	31.4	22.2	34.2	50.2	67.0	77.3	81.6	73.4	65.4	55.8	45.7	27.2	52.6
1935	27.6	30.8	45.2	47.8	56.0	67.8	77.8	74.3	65.2	53.8	40.1	24.8	50.9
1936	19.3	17.2	41.4	46.9	66.0	72.3	83.2	79.0	69.8	53.6	37.6	33.3	51.6
1937	28.4	28.2	35.4	49.4	62.2	69.2	75.2	76.7	65.0	51.2	36.8	26.4	50.4
1938	28.0	36.8	46.7	54.0	62.2	69.6	75.8	76.4	66.8	59.4	45.6	31.4	54.4
1939	32.2	29.6	40.8	47.0	64.1	73.9	75.9	75.0	69.6	56.0	39.9	33.6	53.1
1940	14.5	30.0	34.8	47.5	58.0	72.5	76.8	75.4	66.3	57.9	38.2	34.3	50.5
1941	28.6	26.0	33.2	55.8	65.2	72.0	75.5	74.0	69.8	56.6	43.0	36.2	53.2
1942	26.5	26.2	41.7	55.6	62.7	71.5	75.8	71.6	63.5	54.8	43.4	23.0	51.4
1943	25.8	30.9	35.4	47.2	59.1	73.7	74.4	72.6	60.6	52.8	36.5	27.4	49.7
1944	32.6	31.3	34.6	48.0	66.1	73.8	74.4	73.0	65.2	52.8	42.7	22.9	51.4
1945	20.1	30.6	50.3	51.0	55.6	67.2	71.6	71.2	64.8	51.2	41.0	21.8	49.6
1946	26.9	30.1	49.6	51.8	57.3	68.9	74.0	67.9	65.6	58.3	43.0	33.2	52.2
1947	29.0	21.3	31.8	47.6	55.4	67.8	69.8	78.0	65.6	60.6	34.2	29.8	49.2
1948	19.7	27.2	39.6	53.4	56.8	68.6	73.7	71.0	66.3	51.2	44.0	30.3	50.1
1949	30.1	29.5	39.4	49.3	61.7	72.2	75.9	70.5	59.0	57.0	42.2	34.2	51.8
1950		25.0	31.8	41.9	59.8	67.5	70.1	68.7	63.1	56.6	34.5	19.9	-
1951	25.7	25.9	36.2	46.0	62.5	67.3	72.5	69.5	62.3	56.2	33.8	27.6	48.8
1952	29.7	33.0	36.9	50.8	59.0	74.5	77.0	-	64.5	47.9	41.9	32.5	-
1953	30.1	32.8	38.3	46.6	62.2	74.0	74.8	72.8	65.4	57.8	41.9	32.0	52.4
1954	27.5	37.5	34.2	54.6	56.8	74.5	75.2	70.8	68.0	53.3	39.8	29.5	51.8
1955	23.5	27.8	37.3	55.1	61.5	66.3	78.0	76.1	66.0	54.8	35.9	25.8	50.7
1956	27.4	29.6	38.6	48.3	61.8	72.1	72.2	72.5	63.4	58.8	39.8	33.6	51.5
1957	18.8	34.6	39.0	50.2	60.9	70.5	75.3	72.2	63.0	50.1	39.8	33.8	50.7
1958	26.6	21.6	36.1	50.9	61.1	64.7	74.2	72.2	65.2	55.1	41.8	20.3	49.2
1959	20.1	27.1	37.5	49.5	64.2	72.6	73.3	77.3	68.1	52.1	34.8	35.5	51.0
1960	28.7	26.2	24.3	55.3	58.0	68.3	72.0	73.0	69.3	53.9	41.9	24.7	49.6
1961	23.2	33.3	40.3	45.0	56.6	68.4	73.0	72.0	69.1	55.4	39.8	-	-
1962	16.4	26.7	-	-	68.0	72.3	71.5	71.8	62.5	-	41.7	-	-
1963	15.3	19.1	42.5	52.8	59.5	72.1	73.2	68.6	64.3	61.9	44.5	-	-
1964	29.0	27.8	-	51.7									

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1934	1.52	0.39	1.86	2.89	0.80	3.03	0.93	7.24	8.51	0.60	4.49	1.09	33.35
1935	2.31	1.39	4.71	2.47	6.12	3.14	5.44	2.65	2.77	1.32	5.68	2.27	40.27
1936	1.13	3.09	2.96	2.53	2.15	0.31	0.19	4.87	3.37	6.07	2.81	3.41	32.89
1937	3.14	1.09	0.66	5.45	3.99	3.84	4.80	2.28	1.96	2.36	1.15	1.35	32.07
1938	0.99	4.16	3.96	2.90	4.71	4.82	6.54	3.22	3.19	1.47	1.39	1.94	39.27
1939	2.92	3.73	2.64	5.74	1.49	6.86	4.50	2.34	0.28	3.76	1.39	0.89	36.54
1940	1.45	0.87	1.53	3.53	5.41	4.66	1.54	2.88	0.92	3.93	2.72	2.12	31.56
1941	1.28	0.58	1.39	2.73	2.63	3.34	1.27	3.17	1.33	7.64	2.72	1.64	29.72
1942	1.58	4.22	4.11	2.43	3.70	2.57	4.17	3.53	4.77	2.07	4.85	1.95	39.95
1943	2.15	1.06	2.77	4.20	9.07	4.81	3.13	4.87	3.07	1.63	2.70	0.38	39.84
1944	0.36	2.38	3.95	7.17	6.11	2.16	0.89	2.55	1.26	3.26	1.55	1.54	33.18
1945	0.84	1.57	4.33	3.36	6.08	3.72	5.09	2.96	8.22	3.88	2.57	2.46	45.08
1946	0.91	1.95	3.46	1.39	4.10	3.95	1.20	1.54	1.64	4.67	2.93	1.29	29.03
1947	2.55	0.29	1.89	5.24	3.62	4.54	1.18	3.21	3.15	1.82	2.53	2.68	32.70
1948	1.51	2.48	2.66	3.17	6.11	4.18	4.89	3.57	2.99	1.05	3.21	3.23	39.05
1949	5.06	2.36	1.87	2.28	4.32	3.03	-	1.71	3.81	4.32	1.50	4.49	-
1950	-	4.06	2.42	7.88	1.38	7.05	4.75	3.49	6.58	1.62	2.80	1.58	-
1951	1.37	3.29	3.67	3.76	3.99	3.94	7.42	3.02	2.40	4.04	2.54	2.54	41.98
1952	2.40	1.12	2.68	5.15	6.32	4.70	1.68	4.75	1.52	1.12	2.20	1.66	35.30
1953	2.22	1.54	4.58	3.93	3.71	5.04	5.57	2.55	1.87	1.25	1.38	1.19	34.83
1954	2.00	2.45	2.91	2.95	2.89	3.37	4.26	4.87	0.36	5.33	1.37	2.46	35.22
1955	2.05	1.55	3.30	4.24	6.21	5.18	2.06	4.44	2.40	4.63	2.45	0.54	39.05
1956	0.77	2.35	1.52	6.36	6.83	2.13	2.99	3.52	0.93	0.53	1.64	1.58	31.15
1957	1.61	0.89	1.26	9.28	3.63	6.92	4.17	4.00	1.40	6.23	2.07	4.00	45.46
1958	1.41	1.16	0.77	2.21	1.43	13.44	4.59	2.73	2.30	1.29	4.49	0.28	36.10
1959	3.05	2.50	3.26	6.00	3.60	2.15	3.64	1.06	4.02	4.06	4.22	1.61	39.17
1960	1.23	3.37	1.30	4.16	3.60	7.47	1.61	3.19	4.50	2.23	1.83	0.68	35.17
1961	0.41	1.98	3.73	5.30	2.93	2.31	6.32	1.67	7.50	2.39	3.33	2.12	39.99
1962	2.94	1.79	2.80	1.34	5.06	2.06	6.02	1.31	3.60	4.08	1.05	0.99	33.04
1963	0.77	1.08	3.94	4.37	1.13	2.23	6.26	2.29	0.89	0.99	1.36	-	-
1964	1.25	1.23	-	3.76									

STATION HISTORY

Daily weather observations by students of St. Joseph College since December 8, 1907, make this summary possible. In earlier years the station was in Rensselaer and operated at the homes of: David W. Shields, November 12, 1894 to December 31, 1895; J.F. Bruner, May 3, 1900 to July 31, 1901; G.E. Marshall, August 1, 1901 to September 30, 1907; and George H. Healy, October 1, 1907 to October 28, 1907.

An automatic rain gage was installed on the St. Joseph College campus, east of the administration building, January 24, 1945. Hourly rainfall from this gage is published in "Hourly Precipitation Data" by the U.S. Weather Bureau. Daily temperature and precipitation data are published in "Climatological Data--Indiana."

EXTREMES AND DATES OF OCCURRENCE (1901-1963)

Month	Highest Temperature		Lowest Temperature		Greatest Daily Precipitation		Greatest Monthly Snowfall	
Jan.	68	1/23/09	-25	1/24/15	1.50	1/5/49	30.5	1918
Feb.	69	2/21/30	-23	2/13/05	2.40	2/6/42	18.0	1905
Mar.	87	3/24/10	-11	3/8/43	3.07	3/27/07	17.1	1934
Apr.	94	4/11/30	9	4/6/20	4.83	4/29/56	8.3	1961
May	103	5/31/34	25	5/13/38	3.85	5/11/05	2.0	1923
June	109	6/1/34	32	6/4/45	3.85	6/9/58	T	1950
July	116	7/14/36	41	7/23/47	5.38	7/9/51		
Aug.	107	8/9/34	33	8/3/20	4.00	8/15/34		
Sept.	104	9/15/39	25	9/6/28	4.30	9/15/11	0.5	1942
Oct.	93	10/8/39	13	10/30/25	3.65	10/12/01	4.5	1929
Nov.	83	11/1/50	-10	11/25/50	2.00	11/2/36	9.7	1951
Dec.	69	12/12/49	-27	12/28/24	2.55	12/13/01	19.3	1929

PROBABILITY OF LOW TEMPERATURES IN SPRING AND FALL

Minimum Temp.	Percent of occurrence after the date in spring					Percent of occurrence before the date in fall				
	90%	75%	50%	25%	10%	10%	25%	50%	75%	90%
40	5/9	5/16	5/23	5/30	6/6	9/4	9/12	9/21	9/30	10/8
36	5/6	5/12	5/18	5/24	5/30	9/15	9/22	9/30	10/8	10/15
32	4/18	4/25	5/3	5/11	5/18	9/25	10/2	10/9	10/16	10/23
28	3/31	4/9	4/19	4/29	5/8	10/7	10/15	10/24	11/2	11/10
24	3/20	3/27	4/5	4/14	4/21	10/24	10/30	11/5	11/11	11/17
20	3/3	3/12	3/21	3/30	4/8	10/31	11/8	11/16	11/24	12/2
16	2/23	3/3	3/12	3/21	3/29	11/8	11/17	11/26	12/5	12/14

This table summarizes for a 30-year period the dates when low temperatures such as 32°F. last occurred in the spring and first occurred in the fall. The average date is given in the 50% column. The table shows that the last temperature of 32° or lower in the spring occurs after May 11 in 25% of the years, and before October 2 in the fall. Probabilities for other temperatures are indicated. Reference: "Risks of Freezing Temperatures--Spring and Fall in Indiana," by L.A. Schaal, J.E. Newman, and F.H. Emerson, Research Bulletin No. 721, Purdue University Agricultural Experiment Station.