U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH EDW. J. FUNK & SONS, INC.
CLIMATOGRAPHY OF THE UNITED STATES NO. 20 — 12

CLIMATOLOGICAL SUMMARY

LATITUDE 40° 46' N.
LONGITUDE 87° 27' W.
ELEV. (GROUND) 685 Ft.

STATION KENTLAND, INDIANA

MEANS AND EXTREMES FOR PERIOD 1939-1963

Month	Temperature (°F)							**	Precipitation Totals (Inches)								Mean number of days					Month
	Means			Extremes								Snow, Sleet						Temperatures				
																		Max.		Min.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean degree days	Mean	Greatest daily	Year	Mean	Maximum monthly	Year	Greatest daily	Year	Precip. .10 inch or more	90° and above	32° and below	32° and below	0° and below	
(a)	24	24		24		24		13	24	24		24	24		24		10	24	24	24	24	
Jan.	33.6	16.8	25.2	65	1952	-18	1963	1240	1.78	1.12	1949+	5.4	12.5	1940	6.5	1940	4	0	13	29	4	Jan.
Feb.	37.8	21.2	29.5	70	1957	-21	1963	995	2.03	2.50	1942	6.7	16.3	1963	5.0	1961	5	0	8	25	2	Feb.
Mar.	48.1	29.3	38.7	90	1949	-11	1943	836	2.77	1.50	1963	3.4	12.0	1960	4.2	1948	7	*	3	21	*	Mar.
Apr.	63.0	39.9	51.5	92	1942	15	1957	410	4.12	4.00	1959	0.8	8.0	1961	5.5	1961	8	*	0	7	0	Apr.
May	73.6	50.0	61.8	96	1942	27	1954	157	4.22	2.62	1954	T	T	1960+	T	1960+	8	1	0	1	0	May
June	83.3	60.1	71.7	99	1954+	34	1945	23	4.21	3.30	1958	0	0		0		6	7	0	0	0	June
July	86.7	63.5	75.1	104	1954	43	1963	1	4.25	6.40	1963	0	0		0		7	10	0	0	0	July
Aug.	85.3	61.7	73.5	100	1947+	41	1963	6	2.95	2.68	1955	0	0		0		5	8	0	0	0	Aug.
Sept.	79.3	54.0	66.7	101	1939	27	1942	76	2.45	2.20	1947	T	T	1942	T	1942	5	4	0	*	0	Sept.
Oct.	68.6	44.1	56.4	92	1954	16	1952	300	2.94	3.17	1951	T	T	1962+	T	1962+	6	*	0	4	0	Oct.
Nov.	50.1	31.9	41.0	81	1950	-9	1950	740	2.42	1.20	1960	2.4	13.0	1951	8.0	1951	6	0	2	17	*	Nov.
Dec.	37.2	21.2	29.2	67	1950	-18	1960	1139	1.86	1.85	1949	5.4	13.4	1945	7.0	1944	5	0	10	26	3	Dec.
Year	62.2	41.1	51.7	104	July 1954	-21	Feb. 1963	5923	36.00	6.40	July 1963	24.1	16.3	Feb. 1963	8.0	Nov. 1951	72	30	36	130	9	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 KENTLAND, INDIANA

Kentland, located in Benton 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 occurs. In the winter, the winds convert vapor from Lake Michigan into snowflurries which fall downwind 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 7 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 167 days in length. Spring freezing temperatures have occurred as late as April 27 (1961) and in the fall as early as September 18 (1959).

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 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
1940	14.4	30.0	34.8	47.2	57.5	71.8	75.4	74.2	64.8	58.0	39.0	34.1	50.1
1941	28.3	25.8	35.6	54.4	64.5	71.0	74.6	74.0	70.0	56.7	43.4	36.7	52.8
1942	26.8	26.0	42.0	55.1	62.6	71.2	75.8	72.0	63.5	54.8	43.4	21.4	51.2
1943	26.1	31.8	35.9	48.5	60.2	74.3	75.9	74.8	62.6	53.4	37.7	27.7	50.7
1944	32.4	31.4	35.2	48.8	67.6	74.8	75.5	74.0	67.7	54.2	44.4	23.4	52.4
1945	20.4	31.0	50.6	52.6	56.3	67.8	73.3	73.2	66.8	53.0	42.5	23.2	50.9
1946	26.9	31.4	50.1	53.5	59.0	70.5	75.0	69.5	66.9	59.8	45.4	35.6	53.6
1947	30.4	23.4	33.4	49.6	57.2	68.6	71.8	80.2	67.2	63.3	36.2	31.4	51.0
1948	26.5	28.8	39.6	55.5	58.8	71.2	78.8	74.3	68.7	52.3	44.8	32.5	52.2
1949	30.7	32.1	40.7	50.2	63.0	74.4	78.5	73.3	60.7	58.4	42.3	33.2	53.1
1950	-	28.2	35.0	44.4	62.6	70.4	72.2	70.8	65.2	59.2	35.8	20.2	-
1951	-	29.2	38.0	48.0	64.1	69.3	73.7	70.7	63.3	57.5	34.1	28.1	-
1952	29.7	33.7	37.5	52.0	60.5	76.1	77.6	72.6	65.7	49.1	42.4	32.6	52.5
1953	31.3	33.6	40.6	47.7	62.8	74.6	75.9	73.7	67.3	58.4	42.4	31.5	53.3
1954	28.2	38.3	36.1	55.9	57.6	75.6	76.5	72.7	69.5	54.9	40.9	30.5	53.1
1955	25.1	28.6	38.5	56.2	63.3	66.5	78.7	75.2	65.9	54.3	36.2	26.8	51.3
1956	27.7	27.4	39.9	49.6	62.5	73.7	73.1	73.4	66.0	59.9	40.8	34.5	52.4
1957	19.9	34.6	39.5	51.1	62.6	71.4	75.5	73.2	64.0	50.7	40.7	35.3	51.5
1958	27.3	22.2	36.3	52.6	62.0	64.9	73.0	72.7	65.5	55.4	42.8	21.9	49.7
1959	20.8	28.7	38.4	51.4	66.5	73.8	74.7	77.9	68.6	53.0	35.0	35.7	52.0
1960	27.7	26.3	25.0	55.0	59.6	69.1	72.9	73.9	70.6	54.7	42.9	25.6	50.3
1961	23.4	33.9	42.5	45.9	57.2	-	-	71.4	69.5	55.7	41.3	27.2	-
1962	19.8	28.0	36.2	50.6	68.2	71.8	70.8	72.5	63.8	57.6	41.1	25.1	50.5
1963	15.5	19.6	42.8	53.8	60.0	72.3	73.6	69.0	65.0	63.1	45.4	17.5	49.8
1964	29.8	27.6	38.0	52.1									

STATION HISTORY

Through the cooperation of the U.S. Weather Bureau and Edw. J. Funk & Sons, Inc., this station was established on August 25, 1939. One of the purposes was to get weather statistics for corn breeding and research conducted by Carl E. Funk and Chas. W. Dienhart. Assistant corn breeder Erwin Hammond has been keeping these records for many years. In 1961, he received a letter of citation from the U.S. Weather Bureau for his accurate and conscientious records. In the past and future years, weather records from the Corn Belt states will be one of the contributing factors in determining better strains of corn to fit given localities.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1940	2.10	1.42	1.49	2.65	4.99	2.46	0.65	3.84	0.79	2.11	3.21	1.99	27.70
1941	1.62	1.01	0.78	2.89	2.96	4.31	0.28	1.89	1.68	8.90	2.69	1.50	30.51
1942	2.02	4.12	3.79	2.67	4.31	2.12	5.73	4.50	2.39	1.46	3.84	2.41	39.36
1943	2.01	1.16	2.62	3.74	9.82	3.09	3.92	2.08	1.87	2.14	2.67	0.25	35.37
1944	0.34	2.16	3.00	6.70	5.40	1.62	0.83	2.61	1.26	0.86	0.93	1.59	27.30
1945	0.79	1.75	5.01	3.63	6.10	2.96	3.07	3.22	6.33	3.10	3.00	2.11	41.07
1946	1.26	2.22	3.02	1.57	5.40	5.05	1.07	2.29	2.12	3.77	2.77	1.91	32.45
1947	2.41	0.31	2.08	5.18	4.28	3.73	1.50	5.85	4.06	2.89	2.29	2.71	37.29
1948	1.29	2.02	4.59	3.59	4.17	5.77	5.09	1.35	2.76	0.71	2.72	3.34	37.40
1949	5.12	3.95	1.86	1.95	4.63	2.07	7.64	1.82	3.02	4.43	1.19	4.82	42.50
1950	-	4.00	1.30	6.99	1.48	5.64	3.68	1.80	3.73	2.07	2.40	0.84	-
1951	1.46	2.89	2.99	4.19	3.51	4.33	6.73	1.70	2.95	4.57	2.28	3.06	40.66
1952	2.00	1.37	3.13	4.83	5.42	4.53	1.82	5.48	1.06	0.91	2.59	1.84	34.98
1953	2.42	1.65	5.21	2.45	4.11	4.00	7.39	1.28	1.27	0.89	1.21	1.44	33.32
1954	1.33	2.91	2.82	5.73	4.37	2.99	3.84	4.26	0.19	4.94	1.10	2.29	36.77
1955	1.95	1.63	3.18	4.01	4.90	3.94	5.68	4.42	2.43	5.08	2.31	0.65	40.18
1956	0.88	2.30	1.94	4.53	4.52	2.43	2.92	3.12	0.70	0.52	1.46	1.77	27.09
1957	2.06	1.12	1.26	8.99	3.29	8.09	8.21	4.69	1.17	5.08	2.71	4.95	51.62
1958	1.38	1.11	0.96	1.95	2.69	12.68	5.61	3.36	3.46	1.47	4.94	0.59	40.20
1959	2.52	2.09	3.78	7.71	4.00	0.51	2.32	1.59	4.72	4.32	3.20	1.96	38.72
1960	1.73	4.01	1.40	4.26	3.15	7.92	1.37	4.33	2.86	2.49	2.52	0.51	36.55
1961	0.28	1.63	3.97	3.24	2.90	5.66	4.23	1.47	7.28	2.18	3.50	2.00	38.34
1962	3.03	1.17	2.08	1.94	3.76	2.43	5.80	1.61	2.46	3.08	1.17	0.32	28.85
1963	0.87	0.69	4.31	3.40	1.21	2.81	12.69	2.27	0.65	1.32	2.09	0.70	33.01
1964	2.06	0.39	3.73	5.32									

DATES OF OCCURRENCE OF CRITICAL TEMPERATURES

	Last in Spring					First in Fall				
Year	16 or lower	20 or lower	24 or lower	28 or lower	32 or lower	32 or lower	28 or lower	24 or lower	20 or lower	16 or lower
1939						10/1	10/1	11/5	12/14	12/14
1940	3/25	4/13	4/13	4/14	5/4	10/16	11/7	11/12	11/12	11/13
1941	3/17	3/17	3/24	4/2	4/26	10/28	10/29	11/24	11/24	11/24
1942	2/21	2/24	3/28	3/31	4/22	9/25	9/28	10/24	10/27	11/27
1943	3/8	4/3	4/14	4/19	5/1	10/5	11/4	11/11	11/11	11/28
1944	3/11	3/26	4/3	4/6	5/6	10/12	10/15	11/24	11/30	12/2
1945	2/19	3/1	3/8	4/19	5/9	10/9	10/15	11/4	11/4	12/10
1946	2/15	2/15	3/11	4/27	4/27	10/13	11/17	11/18	11/23	12/18
1947	3/26	3/26	3/30	5/9	5/10	11/8	11/9	11/12	11/13	11/26
1948	3/13	3/13	3/13	4/3	4/30	10/17	10/18	10/18	12/1	12/10
1949	3/17	3/19	3/19	4/16	4/25	10/26	11/1	11/1	11/22	11/22
1950	3/14	4/13	4/13	4/21	4/28	10/5	11/5	11/5	11/11	11/11
1951			3/26	3/26	4/23	10/20	11/2	11/2		
1952			4/11	4/16	4/16	10/3	10/3	10/6	10/6	
1953			4/19	4/21	4/21	10/7	11/5	11/6	11/6	
1954	4/4	4/9	4/9	5/5	5/6	10/19	10/30	10/31	11/30	12/6
1955	3/27	3/28	3/29	4/8	4/8	10/14	10/25	11/3	11/3	11/4
1956	2/29	3/20	4/23	4/24	4/24	10/10	11/8	11/9	11/9	11/17
1957	4/9	4/9	4/13	4/15	4/15	10/12	11/6	11/9	11/10	11/30
1958	2/20	3/17	3/23	3/29	4/30	10/1	11/7	11/7	11/26	11/27
1959	2/21	3/22	3/22	4/11	4/22	9/18	10/28	11/7	11/7	11/15
1960	3/25	3/26	4/10	4/10	5/13	10/20	10/20	11/10	11/30	12/1
1961	2/8	3/17	4/8	4/16	5/27	10/15	11/4	11/6	11/18	12/8
1962	3/3	3/5	3/16	4/20	4/20	10/24	10/24	10/26	10/26	12/9
1963	3/2	3/2	3/22	4/14	5/23	10/30	11/2	11/24	12/1	12/1
Average	3/9	3/20	3/31	4/15	4/29	10/13	10/27	11/6	11/15	11/28