U. S. DEPARTMENT OF COMMERCE, ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
IN COOPERATION WITH THE OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER
AND THE OHIO DEPARTMENT OF NATURAL RESOURCES - DIVISION OF WATER
CLIMATOGRAPHY OF THE UNITED STATES NO. 20-33-57

CLIMATOLOGICAL SUMMARY

LATITUDE 39° 44' N
LONGITUDE 82° 13' W
ELEV. (GROUND) 890 Ft.

STATION: NEW LEXINGTON, O.

MEANS AND EXTREMES FOR PERIOD 1942-1965

TEMPERATURE (°F)

MONTH	MEANS: DAILY MAXIMUM	MEANS: DAILY MINIMUM	MEANS: MONTHLY	EXTREMES: RECORD HIGHEST	EXTREMES: YEAR	EXTREMES: DAY	EXTREMES: RECORD LOWEST	EXTREMES: YEAR	EXTREMES: DAY	MEAN DEGREE DAYS**	MEAN NUMBER OF DAYS: MAX. 90° AND ABOVE	MEAN NUMBER OF DAYS: MAX. 32° AND BELOW	MEAN NUMBER OF DAYS: MIN. 32° AND BELOW	MEAN NUMBER OF DAYS: MIN. 0° AND BELOW
JAN	40.1	19.3	29.7	75	50	25	-26	63	28	1089	0	7	26	2
FEB	43.0	20.8	31.9	73	54	15	-26	51	3	932	0	4	25	1
MAR	52.2	28.0	40.1	86	45	25	-12	43	4	769	0	1	21	0
APR	64.9	37.3	51.1	90	42	30	10	64	1	420	0	0	10	0
MAY	75.4	47.3	61.3	94*	62	18	22	47	9	162	0	0	1	0
JUNE	83.1	55.8	69.4	97*	53	21	32	45	6	30	5	0	0	0
JULY	85.9	58.8	72.3	103	54	14	41	63	10	6	8	0	0	0
AUG	85.1	56.8	70.9	100*	53	30	36	65	29	15	7	0	0	0
SEPT	79.2	50.1	64.6	101*	53	3	24	42	29	99	3	0	0	0
OCT	68.8	39.1	53.9	89*	59	3	14	52	30	348	0	0	7	0
NOV	53.6	29.4	41.5	88	50	1	-12	58	30	702	0	0	18	0
DEC	41.3	20.5	30.9	70	56	6	-19	62	13	1053	0	6	26	1
					JULY			JAN						
YEAR	64.3	38.6	51.4	103	54	14	-26	63	28	5625	23	18	134	4

PRECIPITATION TOTALS (INCHES)

MONTH	MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	SNOW, SLEET: MEAN	SNOW, SLEET: MAXIMUM MONTHLY	YEAR	SNOW, SLEET: GREATEST DAILY	YEAR	DAY	MEAN NUMBER OF DAYS: .01 or MORE	.10 or MORE	.50 or MORE	1.00 or MORE	MONTH
JAN	2.68	6.42	50	1.75	51	15	7.1	23.0	48	11.6	64	13	13	6	1.5	.4	JAN
FEB	2.58	5.44	56	1.55	62	24	5.2	17.7	60	8.6	60	14	10	5	1.6	.3	FEB
MAR	3.88	10.38	64	3.60	64	10	5.0	14.1	60	10.0	56	17	12	7	2.1	.8	MAR
APR	3.76	7.60	61	2.06	42	8	.8	5.2	61	3.2	61	18	12	7	2.4	.7	APR
MAY	3.68	7.24	43	2.18	47	19	.0						12	7	2.3	.6	MAY
JUNE	4.07	7.77	58	3.10	50	17	.0						9	6	2.5	1.2	JUNE
JULY	4.15	12.71	58	3.70	63	20	.0						9	6	2.6	1.1	JULY
AUG	2.68	9.45	58	4.06	44	14	.0						7	5	1.6	.7	AUG
SEPT	2.49	7.58	45	2.22	65	1	.0						7	4	1.7	.6	SEPT
OCT	2.00	5.66	59	1.45	59	9	.0	2.3	62	2.3	62	26	7	4	1.2	.2	OCT
NOV	2.43	6.29	45	2.40	45	2	2.8	25.8	50	10.0	50	27	10	6	1.3	.2	NOV
DEC	2.54	5.17	64	1.40	51	8	7.5	28.7	62	10.8	62	7	11	5	1.8	.2	DEC
					JULY			DEC			JAN						
YEAR	36.94	12.71	58	4.06	AUG 44	14	28.4	28.7	62	11.6	64	13	119	68	23.	7.	YEAR

** BASE 65° F *Also on earlier dates, months or years

NARRATIVE CLIMATOLOGICAL SUMMARY

New Lexington is located near the center of Perry County in southeast Ohio. Terrain within the county is rugged and hilly; the elevation of the earth's surface above mean sea level varies from about 720 to 1150 feet. Soils in Perry County are generally thin except in the valleys where most of the agriculture and manufacturing activities are located. Grazing and mining are also important activities throughout this area. Valley areas are subject to extended periods of atmospheric stagnation. During such periods, the ability of the atmosphere to transport and diffuse pollutants emitted into the air is reduced.

The climate of Perry County is classified as continental. Such a climate is characteristic of a land mass the size of North America and is marked by large annual, daily, and day to day ranges of temperature. In the New Lexington area, summers are moderately warm and humid with an average of 23 days with temperatures of 90°F or higher. Winters are reasonably cold and cloudy with an average of 4 days with sub-zero temperatures. Weather changes occur every few days from the passing of cold or warm fronts and their associated centers of high and low pressure.

As is characteristic of continental climates, precipitation in the New Lexington area varies widely from year to year, however, it is normally abundant and well distributed throughout the year with fall being the driest season. Showers and thundershowers account for most of the rainfall during the growing season. Thunderstorms occur on about 40 days each year and are most frequent from April through August. Heavy rains of 2.2, 3.0, 3.5, 4.2, 4.7, and 5.1 inches in 24-hours can be expected to occur at least once every 2, 5, 10, 25, 50, 100 years respectively. As is typical of much of Ohio, most precipitation during the winter months comes in the form of rain. During any year, snowfall may fluctuate widely from the annual mean of 28 inches.

Evaporation is greatest during the warm months and is then most critical for agriculture. When evaporation greatly exceeds precipitation for prolonged periods a drought may occur. During the period 1929-1967, extended periods of moderate to extreme drought in southeast Ohio as determined from the Palmer Drought Severity Index have occurred during the 1930, 1931, 1932, 1934, 1936, 1953, and 1954 growing seasons. The longest continuing period of moderate to extreme drought in southeast Ohio is 21 months (November 1952-July 1954).

New Lexington's normal average annual temperature is about two degrees below the average for southeast Ohio. In 1 of 10 years the average annual temperature will be equal to or less than 50.0°F and in a like number of years the average temperature for the year will be equal to or greater than 52.9°F. On nights with clear skies and light winds there is often a large variation in observed surface temperatures within Perry County. This is especially true in the vicinity of hills. On such nights, the air near the tops of hills becomes cooler and denser than air at the same heights over the valleys. These air temperature and density differences cause the cool air to drain down the slopes and into the valleys. This drainage often results in large differences in surface temperatures between valley floors and the tops of hills. The daily range in temperature is usually greatest in late summer and least in winter. Annual extremes in temperature normally occur soon after June 21 and December 22. The highest temperature during the year is equal to or greater than 92°F in 9 of 10 years, 96°F in 5 of 10 years, and 100°F in 1 of 10 years. Lowest temperature during the year is equal to or less than -1°F in 9 of 10 years, -11°F in 5 of 10 years, and -22°F in 1 of 10 years.

Taking the number of days between the last freezing temperature (32°F) of spring and the first freezing temperature in fall as the crop-growing season, this season averages 150 days at New Lexington. The growing season is longer than 171 days in 10% of the years and shorter than 129 days in 10% of the years. Similar information for other locations within Perry County may differ significantly from the New Lexington data due to the variations in topography within the county.

Heating degree days as shown in the above table are a measure of the departure of the average daily temperature from 65°F. When the average daily temperature is above 65°F, the degree day value for that day is zero. The daily totals are accumulated from July 1 through June 30. At any point during the year, the accumulated degree days can be used as an index of past temperature effect upon power consumption and fuel consumption for heating of homes and businesses.

Relative humidity, the ratio between the amount of moisture in the air and the amount which could be present without condensation at the same temperature and pressure, is an important factor in human and animal comfort and in the growth and development of vegetation. Generally, humidity rises and falls inversely with the daily temperature and is lowest in summer and highest in winter. For the year, relatively humidity averages about 80% at 1 and 7 AM, 60% at 1 PM, and 70% at 7 PM. During summer afternoons, the relative humidity is often in the 45-55% range. Cloudiness is greatest in winter and least in summer. This seasonal variation in cloudiness is most clearly illustrated by the percentage of possible sunshine which is about 70% in July and 35% in December. Fog that reduces visibility to less than 1/4 mile is most frequent in summer and fall. Damaging winds of 35 to 85 mph occur most often during spring and summer. Such storms are usually associated with migrating thunderstorms.

The tornado, one of the most destructive of all atmospheric storms, is characterized by a violently rotating column of air which is nearly always observerable as a "funnel cloud". It frequently leaves great destruction along a narrow path and is usually accompanied by heavy rain and hail and often by lightning and thunder. Since 1900, 3 such storms have been reported in Perry County. During the last decade, Ohio has averaged about 11 tornadoes per year.

May 1968

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ESSA Weather Bureau State Climatologist
Box 357
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PROBABILITY OF FREEZES OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS DATES SHOWN IN THE FOLLOWING TABLE

PERCENT CHANCE OF LATER DATE IN SPRING	TEMPERATURE LEVELS 16°	20°	24°	28°	32°	36°
90	FEB 24	MAR 18	MAR 30	APR 13	APR 19	MAY 2
70	MAR 7	MAR 26	APR 7	APR 20	APR 29	MAY 11
50	MAR 16	MAR 31	APR 12	APR 25	MAY 6	MAY 17
30	MAR 24	APR 6	APR 18	APR 30	MAY 13	MAY 23
10	APR 4	APR 14	APR 26	MAY 7	MAY 23	JUNE 1
PERCENT CHANCE OF EARLIER DATE IN FALL						
10	NOV 5	OCT 20	OCT 9	OCT 1	SEPT 20	SEPT 7
30	NOV 15	OCT 29	OCT 20	OCT 9	SEPT 28	SEPT 16
50	NOV 22	NOV 5	OCT 28	OCT 15	OCT 3	SEPT 22
70	NOV 28	NOV 11	NOV 4	OCT 20	OCT 9	SEPT 28
90	DEC 8	NOV 20	NOV 15	OCT 28	OCT 17	OCT 7

STATION HISTORY

DATE	LOCATION (From Post Office)	ELEVATION (Ft MSL)	OBSERVER
1/1942-8/1955	1.5 miles NW	890	R. A. Cotterman
8/1955-2/1957	1.5 miles NW	890	J. I. Vernon
2/1957-5/1957	1.5 miles NW	890	E. B. Chute
5/1957-9/1965	1.5 miles NW	890	C. B. Martindale
10/1965-Present	1.5 miles NW	890	Fred Carney

AVERAGE TEMPERATURE (°F)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
42	29.3	27.9	44.0	54.1	62.9	71.9	74.7	71.0	65.6	56.9	43.1	29.8	52.6
43	32.6	34.3	37.8	45.3	62.5	74.5	73.8	71.6	64.8	53.1	38.6	29.7	51.6
44	32.1	33.1	38.2	49.8	66.0	72.8	72.8	72.9	65.7	52.4	41.7	25.7	51.9
45	23.4	31.5	49.9	52.4	56.8	67.7	72.2	71.1	67.9	51.5	42.7	26.0	51.1
46	31.9	34.1	50.3	50.7	59.4	68.9	72.0	66.8	64.2	56.5	45.8	36.1	53.0
47	36.0	22.9	32.9	52.2	58.4	67.6	67.2	76.0	64.8	59.5	39.4	30.8	50.6
48	20.1	25.4	42.4	54.5	58.8	71.0	74.2	72.0	65.9	49.0	43.9	33.8	51.2
49	36.4	35.8	41.2	48.7	61.4	71.8	76.1	71.7	59.5	58.8	41.9	35.9	53.3
50	40.0	33.2	36.6	46.4	61.6	66.5	69.3	66.9	61.5	55.6	35.5	24.4	49.8
51	30.9	30.4	39.1	48.0	62.1	68.3	71.6	68.5	62.5	53.8	34.2	31.3	50.1
52	35.1	33.9	36.1	50.4	59.2	72.5	73.6	69.5	61.9	45.7	40.1	34.1	51.2
53	35.8	35.2	41.7	48.1	64.2	71.3	73.0	70.7	63.4	55.0	40.6	32.2	52.6
54	29.1	36.1	38.3	55.1	53.9	69.0	70.3	69.2	66.7	55.7	42.9	32.3	51.4
55	29.4	32.7	42.0	55.9	62.6	65.0	76.8	75.6	67.4	54.4	38.5	28.4	52.4
56	26.9	35.2	39.2	48.2	60.5	69.3	71.8	70.6	61.0	56.2	40.8	39.2	51.6
57	24.7	36.7	40.3	53.7	62.1	71.5	73.0	70.2	64.8	48.0	40.7	36.0	51.8
58	27.9	24.8	37.9	52.4	59.3	65.7	72.0	69.7	65.1	52.6	43.9	23.1	49.5
59	26.3	35.2	40.2	53.2	66.4	69.5	73.6	75.5	68.3	55.5	41.0	36.5	53.4
60	33.4	30.0	27.6	55.5	58.9	68.5	70.0	72.8	67.4	54.2	43.1	23.6	50.4
61	23.5	27.2	45.4	46.2	57.2	66.7	71.6	71.5	68.6	54.8	43.7	32.3	51.6
62	26.6	33.0	38.8	49.4	60.8	69.6	70.9	70.9	61.8	55.3	41.2	24.8	50.8
63	22.5	24.8	44.8	51.2	59.2	68.6	71.0	68.0	62.4	57.8	44.4	22.4	49.7
64	30.8	28.5	41.2	54.1	64.0	70.0	73.4	70.5	65.3	50.3	44.8	35.8	52.4
65	28.8	30.8	36.8	51.1	66.8	68.2	71.1	70.5	67.2	52.8	44.3	37.9	52.2
66	24.5	31.3	43.4	49.9	57.4	69.9	73.8	69.7	60.5	49.2	43.4	32.7	50.5
67	34.5	28.0	43.1	55.6	57.3	71.2	70.4	68.3	58.5	50.4	37.3	34.5	50.8
68	21.5	23.3	41.3	50.9									

TOTAL PRECIPITATION (INCHES)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
42	1.69	2.37	3.38	2.69	3.36	2.85	4.72	2.61	4.41	1.47	3.90	4.89	38.34
43	2.09	1.79	5.59	3.34	7.24	6.69	4.88	1.95	.46	1.50	1.24	1.45	38.22
44	1.40	3.04	6.66	3.89	5.96	4.76	1.58	8.18	1.77	2.15	1.83	4.27	45.49
45	1.07	3.82	7.55	6.10	5.31	4.40	2.75	.93	7.58	2.38	6.29	1.90	50.08
46	.73	4.05	2.85	2.10	5.67	6.15	1.04	2.39	1.32	3.18	1.66	2.25	33.39
47	4.76	.98	.94	4.58	6.13	2.17	4.67	2.06	1.20	1.24	1.16	.92	30.81
48	1.27	2.73	5.89	5.21	3.69	3.45	4.33	1.15	4.73	.76	2.14	2.04	37.39
49	3.71	1.54	1.69	.92	.59	2.88	4.02	1.02	.72	.85	2.13	2.51	22.58
50	6.42	3.24	1.98	3.60	2.76	4.36	3.48	3.08	2.99	1.60	4.23	1.69	39.63
51	4.55	2.53	3.90	2.22	2.92	5.32	1.49	.31	2.60	.84	1.69	3.75	32.12
52	2.46	1.59	2.58	1.51	.82	4.64	3.45	.34	.88	.40	.86	2.33	21.86
53	4.52	1.19	1.19	2.27	2.99	1.46	3.15	.57	1.14	.68	.77	2.18	22.11
54	1.83	.27	2.58	2.18	2.08	4.83	2.54	3.28	1.54	4.32	1.30	2.99	29.74
55	1.33	4.24	3.84	4.32	2.72	2.86	3.40	2.71	1.36	4.15	2.96	.20	34.09
56	2.51	5.44	5.02	4.83	6.93	3.38	3.87	3.21	1.95	2.05	1.36	3.32	43.87
57	2.33	2.30	1.28	4.85	4.16	3.90	3.47	1.70	2.69	1.53	3.09	3.66	35.78
58	2.28	1.28	1.60	4.39	3.72	7.77	12.71	9.45	5.32	1.41	2.65	1.26	53.84
59	4.82	3.22	2.50	3.56	3.36	2.77	5.03	3.09	1.31	5.66	3.53	2.64	41.49
60	2.86	3.17	1.55	1.31	5.31	2.67	3.67	3.15	1.61	2.10	2.39	1.87	31.66
61	1.63	2.84	4.55	7.60	4.69	6.85	4.52	4.95	1.08	3.10	2.72	3.28	47.81
62	3.13	4.05	3.28	1.97	2.72	1.66	4.10	2.27	4.11	2.32	3.75	3.75	37.11
63	1.62	1.24	9.09	4.28	2.16	2.71	6.59	2.56	.98	.07	1.66	1.46	34.42
64	2.87	1.94	10.38	6.33	1.20	7.28	4.22	1.49	1.33	.81	2.18	5.17	45.20
65	2.57	3.28	3.34	6.14	1.97	1.91	6.06	1.94	6.89	3.64	2.24	.97	40.95
66	3.84	3.32	2.12	4.00	3.47	.91	9.48	2.09	5.15	1.91	5.45	2.52	44.26
67	.94	2.69	5.60	3.39	5.85	1.01	4.04	2.62	2.37	1.84	3.41	3.20	36.96
68	3.45	.83	4.81	2.89									

MONTHLY AND SEASONAL SNOWFALL

SEASON	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	TOTAL
42-43	.0	.0	1.1	17.4	4.4	.3	6.0	.5	.0	29.7
43-44	.0	.0	1.3	5.8	.0	2.0	3.0	1.6	.0	13.7
44-45	.0	.0	.4	11.8	9.0	1.9	.0	.0	.0	23.1
45-46	.0	.0	1.5	10.7	1.8	1.5	.0	.0	.0	15.5
46-47	.0	.0	.0	3.3	3.2	11.7	3.6	.0	.0	21.8
47-48	.0	.0	.1	5.2	23.0	7.0	.0	.0	.0	35.3
48-49	.0	.0	.0	2.3	4.7	1.2	2.1	.0	.0	10.3
49-50	.0	.0	2.8	.0	.0	3.9	1.5	.2	.0	8.4
50-51	.0	.0	25.8	5.1	6.9	5.1	3.5	.0	.0	46.4
51-52	.0	.0	2.4	16.2	3.5	1.5	4.5	.0	.0	28.1
52-53	.0	.0	3.0	4.9	5.4	.2	4.5	3.3	.0	21.3
53-54	.0	.0	2.9	6.5	10.3	1.2	8.5	.0	.0	29.4
54-55	.0	.0	.5	.9	5.7	5.2	2.2	.0	.0	14.5
55-56	.0	.0	3.5	1.0	9.4	1.0	13.0	.0	.0	27.9
56-57	.0	.0	3.0	2.0	3.2	2.0	3.0	.0	.0	13.2
57-58	.0	.0	.0	5.3	4.8	7.9	8.9	.0	.0	26.9
58-59	.0	.0	8.1	4.9	10.6	1.1	10.6	3.2	.0	38.5
59-60	.0	.0	6.9	5.1	1.5	17.7	14.1	.6	.0	45.9
60-61	.0	.0	.6	19.4	14.2	12.7	3.8	5.2	.0	55.9
61-62	.0	.0	1.2	9.3	6.8	9.2	10.8	5.0	.0	42.3
62-63	.0	2.3	.0	28.7	11.5	11.0	1.4	.0	.0	54.9
63-64	.0	.0	3.2	13.5	17.5	14.3	7.1	1.0	.0	56.6
64-65	.0	.0	1.2	2.4	9.4	6.9	6.5	.0	.0	26.4
65-66	.0	.0	.0	.0	10.6	6.4	.0	.2	.0	17.2
66-67	.0	.0	2.6	2.6	.0	10.5	8.0	.0	.0	23.7
67-68	.0	.0	2.0	5.5	27.3	2.0	1.5	.0		

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
JAN	.89	1.14	1.52	1.83	2.14	2.45	2.79	3.19	3.71	4.50	5.22
FEB	.79	1.04	1.40	1.72	2.02	2.34	2.69	3.10	3.63	4.45	5.21
MAR	.94	1.30	1.87	2.37	2.87	3.40	3.99	4.69	5.62	7.07	8.44
APR	1.31	1.66	2.18	2.62	3.03	3.46	3.93	4.47	5.17	6.25	7.24
MAY	1.07	1.42	1.95	2.40	2.85	3.31	3.82	4.42	5.20	6.42	7.56
JUN	1.61	1.99	2.52	2.96	3.38	3.80	4.26	4.79	5.46	6.49	7.43
JUL	1.50	1.89	2.45	2.93	3.38	3.84	4.34	4.92	5.67	6.82	7.87
AUG	.42	.65	1.04	1.41	1.79	2.21	2.68	3.27	4.04	5.30	6.49
SEP	.44	.67	1.03	1.37	1.72	2.10	2.52	3.04	3.73	4.84	5.90
OCT	.31	.48	.78	1.05	1.34	1.65	2.01	2.44	3.03	3.97	4.86
NOV	.83	1.06	1.40	1.68	1.95	2.23	2.53	2.89	3.34	4.04	4.69
DEC	.70	.94	1.31	1.63	1.94	2.27	2.63	3.05	3.61	4.48	5.29
ANN	24.14	26.54	29.67	32.08	34.23	36.33	38.51	40.94	43.91	48.25	52.01

Median precipitation amounts (0.50 probability level) in the above table differ from the means shown on the opposite page because of the method used in making the computations. The above values were determined from the incomplete gamma distribution whose curve has been found to give best fits to precipitation climatological series.