

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. 26-33-6R

# CLIMATOLOGICAL SUMMARY

STATION: Gallipolis, Ohio

LATITUDE 38° 50' N  
 LONGITUDE 82° 17' W  
 ELEV. (GROUND) 673 Ft.

MEANS AND EXTREMES FOR PERIOD 1936-1965

MONTH	TEMPERATURE (*F)										PRECIPITATION TOTALS (INCHES)										MONTH				
	MEANS			EXTREMES				MEAN DEGREE DAYS **	MEAN NUMBER OF DAYS		MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	SNOW, SLEET					MEAN NUMBER OF DAYS			
	DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	RECORD HIGHEST	YEAR	DAY	RECORD LOWEST		YEAR	DAY							90° AND ABOVE	32° AND BELOW	32° AND BELOW	0° AND BELOW		MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DAILY
JAN	43.8	24.2	34.0	79	50	25	-21	38	24	956.	0	22	1	3.64	11.20	37	2.50	15	15	12	7	2.3	.6	JAN	
FEB	47.2	29.6	36.4	77	43	19	-12	36	1	605.	0	22	1	3.36	7.35	38	3.50	11	11	7	2.1	.6	FEB		
MAR	56.2	32.3	44.2	87	45	25	-9	43	4	642.	0	22	1	4.16	7.58	38	3.50	13	13	9	2.4	.7	MAR		
APR	68.4	41.7	55.0	92	60	28	-6	64	1	317.	0	22	1	5.54	9.54	38	3.50	11	11	4	2.1	.7	APR		
MAY	78.5	50.7	64.6	98	39	26	26	47	10	103.	0	22	1	6.66	6.66	38	3.50	11	11	7	2.6	.8	MAY		
JUNE	85.9	59.2	72.5	105*	36	30	35	45	6	10.	0	22	1	6.59	6.59	38	3.50	11	11	7	2.6	.8	JUNE		
JULY	88.9	62.5	75.7	109	35	27	43	4	12	14.	0	22	1	4.77	7.31	38	3.50	11	11	7	2.6	1.1	JULY		
AUG	88.5	61.1	74.7	108*	36	22	39	6	29	14.	0	22	1	4.55	6.55	38	3.50	11	11	7	2.6	1.6	AUG		
SEPT	82.3	53.9	68.1	105	53	1	27	4	29	57.	0	22	1	7.37	6.37	38	3.50	11	11	7	2.6	1.5	SEPT		
OCT	71.7	43.2	57.4	95*	51	4	15	6	27	257.	0	22	1	6.59	6.59	38	3.50	11	11	7	2.6	1.4	OCT		
NOV	56.6	33.3	44.9	89	38	7	0	38	30	500.	0	22	1	4.55	4.55	38	3.50	11	11	7	2.0	1.5	NOV		
DEC	45.6	26.1	35.8	78	51	31	-12	42	21	900.	0	22	1	3.64	3.64	38	3.50	11	11	7	2.0	1.4	DEC		
YEAR	67.7	42.8	55.2	109	36	27	-21	36	24	4650.	49	11	104	1	40.98	11.20	37	4.25	63	4	12.3	79	27.	8.	YEAR

\*\* BASE 65° F \*Also on earlier dates, months, or years. #Precipitation measurements only

## NARRATIVE CLIMATOLOGICAL SUMMARY

Gallipolis is located in Gallia County along the west bank of the Ohio River in south central Ohio. In this area, the river flows in a deep valley with hills rising abruptly from the river. The elevation of the river above mean sea level is about 560 feet white hill-tops near the river rise up to 250 feet above the normal elevation of the river. Terrain throughout Gallia County is rugged and hilly. Valley areas within the county are prone 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 Gallia County is classified as continental. Such a climate is marked by large annual, daily, and day to day ranges of temperature. In this area, summers are moderately warm and humid with numerous days when temperatures climb into the nineties. Winters are reasonably cold and cloudy but 1 of 3 years will pass with no subzero temperatures being recorded. Weather changes occur every few days from the passing of cold or warm fronts and their associated centers of high and low pressures.

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, relative humidity averages about 80% at 1 and 7 AM, 55% at 1 PM, and 70% at 7 PM. 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. The occurrence of fog that reduces visibility to less than 1/4 mile is most frequent during summer and fall. Damaging winds of 35 to 85 mph occur during spring and summer. Such storms are usually associated with migrating thunderstorms.

Heating degree days (mean 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 effects upon power consumption and fuel consumption for heating of homes and businesses.

The tornado, one of the most destructive of all atmospheric storms, is characterized by a violently rotating column of air which is nearly always observable 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 Gallia County. Ohio averages about 10 tornadoes per year.

As is characteristic of continental climates, precipitation in the Gallipolis 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. Heavy rains of 2.2, 2.8, 3.2, 3.7, 4.1 and 4.5 inches can be expected to occur at least once in 2, 5, 10, 25, 50, and 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, snow-fall may fluctuate widely from the means shown in the above table.

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. Since 1929, extended periods of moderate to extreme drought in south central Ohio, as determined from the Palmer Drought Severity Index, have occurred during the 1930, 1934, 1941, 1944, 1953, 1954, 1964, and 1965 growing seasons. The longest continuing period of moderate to extreme drought in south central Ohio is 15 months (November 1943-January 1945).

Normal average annual temperature for Gallipolis is near the average for south central Ohio. In 8 of 10 years this temperature is in the 53.6-57.0° F range. On nights with clear skies and light winds there is often a large variation in observed surface temperatures within Gallia 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 early fall and least in winter. Annual extremes in temperature during the year is equal to or greater than 94° F in 9 of 10 years, 99° F in 5 of 10 years, and 104° F in 1 of 10 years. Lowest temperature during the year is equal to or less than 6° F in 9 of 10 years, -3° F in 5 of 10 years, and -13° 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 166 days in the Gallipolis area. The growing season is longer than 188 days in 10% of the years and shorter than 145 days in 1 of 10 years. Similar information for other Gallia County areas may differ significantly from the Gallipolis data due to the great variations in topography within the county.

October 1969

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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 13	FEB 20	MAR 15	MAR 28	APR 13	APR 17	
70	FEB 26	MAR 4	MAR 24	APR 6	APR 21	APR 29	
50	MAR 7	MAR 13	MAR 30	APR 13	APR 26	MAY 7	
30	MAR 15	MAR 21	APR 6	APR 19	MAY 2	MAY 15	
10	MAR 28	APR 3	APR 14	APR 28	MAY 10	MAY 26	

PERCENT CHANCE OF EARLIER DATE IN FALL	TEMPERATURE LEVELS						
	16°	20°	24°	28°	32°	36°	
10	NOV 10	OCT 30	OCT 20	OCT 8	SEPT 25	SEPT 18	
30	NOV 19	NOV 8	OCT 28	OCT 17	OCT 4	SEPT 25	
50	NOV 26	NOV 14	NOV 2	OCT 23	OCT 10	SEPT 30	
70	DEC 2	NOV 20	NOV 8	OCT 29	OCT 16	OCT 3	
90	DEC 11	NOV 29	NOV 15	NOV 6	OCT 25	OCT 13	

### STATION HISTORY

DATE	LOCATION	ELEVATION (Ft. MSL)	OBSERVER
1/1912-1928#	(From Post Office 0.1 mile E)	575	Samuel F. Neal
6/1928-2/1933#	Unknown	Unknown	Frank E. Wetherholt
6/1933-Present	5.0 miles W	673	Edwin B. McCormick

TOTAL PRECIPITATION (INCHES)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
36	3.36	1.73	5.48	4.24	1.81	1.95	2.79	3.86	1.74	4.69	3.51	3.28	37.83
37	11.20	3.68	1.38	2.39	2.95	3.58	3.37	4.77	2.53	3.74	1.39	2.85	47.83
38	1.90	2.22	3.54	4.68	4.74	5.02	5.35	2.97	7.37	3.38	4.44	1.98	44.29
39	3.15	4.72	5.13	5.44	1.32	3.07	4.02	4.16	2.76	1.70	1.13	1.83	48.26
40	1.18	4.70	4.74	4.74	2.72	6.64	1.83	4.49	2.11	.82	4.28	2.27	40.52
41	2.96	.38	1.42	1.89	2.18	6.19	5.00	3.80	3.88	6.50	2.07	1.70	33.97
42	1.83	1.83	3.20	2.99	4.42	3.79	2.20	2.96	3.82	2.98	4.89	5.92	39.90
43	3.30	1.83	4.68	4.22	2.87	3.71	2.20	2.96	3.82	2.98	4.89	5.92	39.90
44	3.30	1.83	4.68	4.22	2.87	3.71	2.20	2.96	3.82	2.98	4.89	5.92	39.90
45	2.81	5.11	7.07	4.81	4.32	2.37	4.86	1.55	4.95	1.73	6.29	1.98	49.19
46	3.65	2.35	3.72	5.24	3.57	3.09	6.88	4.88	1.36	2.12	1.52	2.78	43.57
47	5.60	.94	1.86	3.57	3.71	2.87	3.87	5.40	2.83	1.12	2.06	1.75	35.67
48	2.95	2.92	4.07	6.61	2.55	3.50	7.44	4.45	3.17	2.46	4.87	3.89	48.38
49	42.1	4.02	2.89	3.15	3.65	3.19	5.14	2.88	2.50	1.89	2.31	3.52	39.48
50	45.6	3.65	2.81	1.60	4.34	5.54	7.51	2.23	4.88	2.19	5.70	1.86	52.10
51	6.37	2.78	4.91	2.66	6.03	4.87	2.73	2.84	1.84	1.83	4.51	5.32	47.26
52	5.70	2.08	5.09	3.11	3.77	5.02	2.78	2.08	1.62	.98	1.25	1.68	33.66
53	3.21	1.21	3.09	3.25	3.41	4.46	2.30	4.82	2.12	.82	1.72	3.32	36.28
54	1.91	6.25	3.91	1.16	2.92	3.66	2.71	3.50	2.83	3.73	1.25	.81	41.95
55	2.60	7.32	6.90	4.43	4.04	3.63	4.90	3.73	4.17	2.72	.89	4.67	50.00
56	3.07	5.12	2.93	2.54	3.28	2.25	2.93	1.65	2.52	2.78	4.39	4.55	36.81
57	2.99	2.69	2.43	5.29	5.82	4.47	7.30	2.18	3.17	1.16	2.69	1.18	46.87
58	4.95	3.51	1.54	3.54	2.67	3.50	5.61	2.82	2.69	2.37	4.83	2.43	37.96
59	1.67	4.15	1.54	.95	4.67	2.42	3.92	5.30	2.03	1.78	1.87	1.88	32.88
60	3.51	2.78	3.56	4.83	3.83	3.57	5.82	4.18	.96	4.16	2.76	3.79	45.75
61	3.20	6.08	4.38	2.98	2.88	2.11	5.75	.84	4.53	2.37	5.14	2.68	52.98
62	1.81	1.34	7.88	1.02	3.28	3.58	3.32	7.07	1.21	.86	2.53	1.91	59.25
63	1.95	2.60	5.12	6.59	1.55	.91	2.78	5.81	3.45	.58	3.23	4.52	41.81
64	3.52	2.69	4.92	6.34	1.87	3.93	4.28	3.58	3.58	3.20	1.40	.52	41.81
65	4.16	4.67	1.37	6.54	1.97	.87	5.02	2.57	5.18	1.97	3.49	2.93	39.59
66	3.12	2.49	7.32	3.63	5.44	1.45	5.44	2.54	5.97	2.03	3.60	3.06	50.55
67	2.50	.82	5.22	3.52	8.39	2.06	5.28	6.70	2.45	2.43	3.52	1.76	44.65
68	2.82	3.30	3.32	3.24									
69	2.82	3.30	3.32	3.24									

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
JAN	1.14	1.48	2.00	2.44	2.86	3.30	3.78	4.35	5.08	6.22	7.27
FEB	.86	1.18	1.66	2.09	2.52	2.97	3.46	4.05	4.82	6.03	7.16
MAR	1.56	1.95	2.56	3.09	3.57	4.06	4.60	5.26	6.14	7.44	8.74
APR	1.48	1.85	2.45	2.87	3.19	3.56	4.06	4.78	5.57	6.28	7.14
MAY	1.82	1.87	2.35	2.75	3.13	3.52	3.93	4.41	5.02	5.94	6.79
JUN	1.76	2.16	2.71	3.17	3.60	4.03	4.50	5.04	5.73	6.77	7.72
JUL	1.94	1.67	2.16	2.56	2.95	3.34	3.77	4.26	4.89	5.86	6.75
AUG	1.13	1.41	1.81	2.15	2.47	2.79	3.14	3.55	4.07	4.86	5.59
SEP	.99	.58	.89	1.18	1.47	1.79	2.15	2.58	3.16	4.08	4.96
OCT	.83	1.10	1.51	1.87	2.21	2.57	2.97	3.44	4.05	5.01	5.89
NOV	.86	1.22	1.61	1.93	2.24	2.56	2.91	3.31	3.83	4.63	5.37
DEC	.86	1.22	1.61	1.93	2.24	2.56	2.91	3.31	3.83	4.63	5.37
ANN 33.14	34.75	36.77	38.26	39.59	40.85	42.14	43.54	45.22	47.63	49.69	

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.

AVERAGE TEMPERATURE (° F)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
36	25.45	29.33	47.77	50.44	66.11	75.0	78.8	79.1	72.45	58.2	42.0	39.4	55.43
37	43.5	35.9	40.17	53.6	63.2	73.7	76.5	78.4	66.6	54.9	42.2	33.3	55.2
38	35.5	43.0	51.2	57.4	67.1	76.1	76.9	69.9	59.1	47.2	36.1	37.2	57.2
39	38.9	39.6	47.2	51.7	66.7	75.7	75.7	73.5	62.3	48.7	36.3	35.1	57.1
40	21.2	33.8	41.1	50.9	62.0	73.3	78.3	75.9	64.4	57.2	44.9	41.4	53.45
41	34.5	31.0	37.4	59.5	66.1	73.5	77.1	74.1	62.5	61.4	44.6	40.0	52.9
42	36.2	37.9	49.2	59.3	68.6	75.6	76.0	75.1	64.5	58.2	42.8	33.1	52.6
43	36.2	37.9	49.2	59.3	68.6	75.6	76.0	75.1	64.5	58.2	42.8	33.1	52.6
44	35.1	39.4	43.1	53.8	60.3	71.5	76.8	75.6	66.6	55.7	44.3	33.5	53.6
45	28.1	36.2	34.7	57.5	60.3	70.5	74.8	73.8	70.9	55.6	46.8	30.1	53.0
46	36.5	39.3	53.9	56.2	64.6	73.5	75.2	69.4	65.5	58.7	49.7	40.5	58.7
47	40.2	26.8	36.5	57.8	61.0	71.0	71.3	79.3	68.8	63.6	43.4	35.1	54.6
48	25.4	37.8	49.3	59.5	64.6	73.7	76.8	73.7	68.8	54.6	48.8	39.3	59.7
49	42.1	42.6	45.3	52.8	58.8	75.1	80.1	74.9	64.1	62.3	45.8	39.3	57.5
50	45.6	39.1	41.4	51.7	53.5	71.2	72.6	71.7	65.9	60.4	41.3	31.1	54.8
51	37.3	36.7	43.2	53.7	65.2	72.4	76.1	74.0	67.8	59.9	40.0	38.2	58.5
52	41.3	40.6	45.0	55.5	65.1	77.2	79.1	76.2	68.5	52.9	45.9	39.0	57.3
53	40.3	40.3	47.1	53.0	68.6	77.2	76.9	76.6	67.3	52.4	44.3	37.0	56.9
54	35.9	35.9	41.4	51.7	61.2	73.1	76.4	74.5	67.2	58.6	43.0	35.1	56.1
55	32.3	39.3	46.5	59.6	68.5	77.3	77.3	70.1	58.5	43.6	38.8	35.8	53.6
56	30.4	40.7	43.6	52.2	63.9	71.6	74.2	73.3	64.5	59.0	45.2	45.4	55.3
57	30.4	40.7	43.6	52.2	63.9	71.6	74.2	73.3	64.5	59.0	45.2	45.4	55.3
58	31.5	37.5	39.9	53.7	68.0	76.8	76.0	73.2	67.7	55.2	47.6	38.2	53.0
59	32.1	39.0	42.6	55.8	68.2	71.7	75.0	77.5	70.5	58.0	42.9	39.1	58.1
60	36.5	32.7	32.5	58.1	61.1	70.6	73.2	75.7	68.5	57.3	45.7	28.8	53.4
61	28.0	40.0	47.8	45.2	58.7	68.4	73.8	73.4	70.9	57.4	45.9	35.6	54.2
62	31.2	31.2	42.1	51.9	69.2	71.3	72.6	72.9	63.7	58.2	42.6	29.3	53.5
63	27.1	28.5	43.7	54.7	63.2	70.0	72.9	70.8	64.3	59.3	46.6	38.9	52.5
64	24.0	30.2	34.1	57.2	65.9	77.5	75.8	73.8	68.8	58.1	48.6	39.4	58.1
65	35.2	39.1	40.4	59.7	69.7	71.1	72.9	72.3	69.4	54.6	47.2	40.4	59.8
66	27.9	35.0	46.9	52.7	65.1	72.0	76.4	73.0	64.7	53.2	46.1	36.1	53.1
67	30.7	31.9	39.5	57.0	58.4	76.7	71.7	70.8	63.4	54.4	41.8	38.4	54.4
68	28.2	28.7	37.6	55.7	66.9	76.0	75.0	73.2	67.4	57.1	47.5	35.2	54.1
69	33.7	34.2	39.0	56.5									

MONTHLY AND SEASONAL SNOWFALL

SEASON	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	TOTAL
36-37	.0	.0	1.4	2.0	1.3	5.1	8.4	.0	.0	18.2
37-38	.0	.0	3.0	6.2	1.2	1.4	.0	.0	.0	11.8
38-39	.0	.0	7.0	.0	5.0	4.3	.2	.2	.0	16.7
39-40	.0	.0	.2	3.4	7.4	10.7	1.0	2.0	.0	22.7
40-41	.0	.0	6.5	.0	.7	3.4	7.5	.0	.0	18.1
41-42	.0	.0	.0	.0	3.2	.6	3.2	.0	.0	7.0
42-43	.0	.0	.0	11.3	10.4	2.1	4.5	2.5	.0	36.8
43-44	.0	.0	.4	12.5	11.8	2.6	1.5	.2	.0	32.0
44-45	.0	.0	1.6	15.4	10.8	4.8	.0	.0	.0	32.6
45-46	.0	.0	.0	10.5	.8	.0	.0	.0	.0	11.3
46-47	.0	.0	.0	.5	4.3	10.6	4.1	.0	.0	19.5
47-48	.0	.0	.0	.5	17.8	13.4	.0	.0	.0	31.7
48-49	.0	.0	.0	.0	2.4	5.5	9.8	.0	.0	6.7
49-50	.0	.0	.0	2.0	.0	1.8	2.7	1.6	.0	8.1
50-51	.0	.0	20.8	2.0	5.9	4.6	3.5	.0	.0	36.8
51-52	.0	.0	2.9	9.2	2.5	.5	1.6	.0	.0	16.7
52-53	.0	.0	1.4							