

Climatology of the United States

No. 20

1971-2000

Station: WESTERVILLE, OH

COOP ID: 338951

Climate Division: OH 5

NWS Call Sign:

Elevation: 810 Feet

Lat: 40°08N

Lon: 82°57W

Temperature (°F)

Mean (1)				Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	35.7	19.7	27.7	68	1999	22	37.2	1990	-27+	1994	21	13.2	1977	1157	0	.0	.0	3.8	11.8	26.8	3.5
Feb	40.8	22.3	31.6	74	2000	26	40.1	1998	-25	1977	6	16.3	1978	937	0	.0	.0	6.8	7.9	23.2	2.5
Mar	52.2	31.5	41.9	82+	1998	31	49.0	1973	-10	1967	1	32.5	1984	719	0	.0	.0	16.9	1.6	18.9	.3
Apr	64.0	40.2	52.1	88+	1990	28	57.9	1985	13	1964	1	46.2	1975	389	3	.0	.0	26.9	@	8.6	.0
May	74.2	50.5	62.4	95	1962	18	69.6	1991	23	1966	10	57.1	1997	157	74	.0	.4	31.0	.0	.9	.0
Jun	82.1	59.5	70.8	100	1988	25	74.0	1984	33	1972	11	65.6	1972	17	191	@	3.4	30.0	.0	.0	.0
Jul	85.4	63.4	74.4	102	1954	14	77.9	1999	41	1988	1	71.1	2000	0	292	.1	6.8	31.0	.0	.0	.0
Aug	83.9	61.7	72.8	101	1983	20	77.8	1995	36	1982	29	69.0	1992	9	250	.1	4.5	31.0	.0	.0	.0
Sep	77.7	54.6	66.2	101	1953	2	70.8	1998	29+	1974	23	60.7	1974	67	101	.0	1.5	30.0	.0	.2	.0
Oct	66.2	42.9	54.6	89+	1953	3	60.8	1971	16	1952	21	47.9	1988	337	13	.0	.0	29.5	.0	5.3	.0
Nov	52.3	34.4	43.4	79+	1987	2	48.3	1985	-9	1958	30	35.2	1976	650	0	.0	.0	16.9	.7	15.5	.0
Dec	40.5	25.3	32.9	76	1982	3	42.6	1982	-25	1989	22	18.8	1989	995	0	.0	.0	6.7	6.9	23.8	.9
Ann	62.9	42.2	52.6	102	Jul 1954	14	77.9	Jul 1999	-27+	Jan 1994	21	13.2	Jan 1977	5434	924	.2	16.6	260.5	28.9	123.2	7.2

+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1952-2001

(3) Derived from 1971-2000 serially complete daily data

082-A

Climatography of the United States

No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: WESTERVILLE, OH

COOP ID: 338951

Climate Division: OH 5

NWS Call Sign:

Elevation: 810 Feet Lat: 40°08N

Lon: 82°57W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	2.56	2.26	4.61	1959	21	5.62	1978	.37	1981	11.7	6.1	1.4	.4	.68	.92	1.29	1.62	1.94	2.27	2.65	3.09	3.66	4.57	5.41
Feb	2.26	2.12	2.07	1975	23	5.09	1990	.41	1987	10.0	5.4	1.2	.3	.68	.89	1.22	1.49	1.76	2.04	2.35	2.71	3.18	3.91	4.59
Mar	2.83	2.75	4.25	1964	9	4.43	1984	1.12	1979	11.7	7.1	1.8	.2	1.26	1.51	1.86	2.15	2.41	2.68	2.97	3.29	3.71	4.33	4.90
Apr	3.58	3.52	3.84	1981	12	7.27	1981	.78	1971	12.8	8.0	2.3	.5	1.13	1.47	1.97	2.40	2.82	3.25	3.73	4.28	5.00	6.12	7.16
May	4.06	3.68	2.54	1972	9	8.70	1990	1.51	1977	12.5	8.3	2.9	.9	1.50	1.88	2.43	2.89	3.32	3.76	4.24	4.80	5.51	6.61	7.61
Jun	4.64	4.86	4.13	1973	20	8.72	1973	.94	1991	11.3	7.9	3.1	1.0	1.47	1.91	2.56	3.12	3.66	4.22	4.84	5.56	6.48	7.93	9.26
Jul	4.01	3.91	4.50	1969	11	9.60	1990	.46	1982	10.7	7.3	2.7	1.0	1.20	1.58	2.15	2.64	3.12	3.62	4.16	4.80	5.63	6.93	8.14
Aug	3.55	3.04	3.54	1976	7	8.29	1976	.39	1998	9.5	6.4	2.4	.6	.79	1.12	1.64	2.11	2.58	3.08	3.64	4.31	5.19	6.59	7.92
Sep	2.91	2.74	5.42	1979	14	7.16	1979	.35	1978	9.0	5.2	2.0	.7	.44	.69	1.11	1.51	1.93	2.39	2.91	3.55	4.41	5.81	7.16
Oct	2.65	2.09	3.67	1977	1	5.96	1990	.57	1982	9.6	5.9	1.5	.4	.73	.98	1.36	1.69	2.02	2.36	2.74	3.19	3.77	4.68	5.54
Nov	3.33	2.91	1.67	1962	12	9.86	1985	.45	1976	11.7	7.3	2.2	.6	.87	1.19	1.67	2.10	2.52	2.96	3.45	4.03	4.78	5.97	7.09
Dec	2.97	2.92	1.77+	2001	17	7.25	1990	.62	1976	11.8	7.0	1.8	.4	1.17	1.45	1.84	2.16	2.47	2.78	3.11	3.50	3.99	4.75	5.43
Ann	39.35	38.54	5.42	Sep 1979	14	9.86	Nov 1985	.35	Sep 1978	132.3	81.9	25.3	7.0	28.60	30.70	33.37	35.40	37.20	38.93	40.72	42.69	45.07	48.53	51.50

+ Also occurred on an earlier date(s)

Denotes amounts of a trace

@ Denotes mean number of days greater than 0 but less than .05

** Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1952-2001

(3) Derived from 1971-2000 serially complete daily data

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Station: WESTERVILLE, OH

COOP ID: 338951

Climate Division: OH 5

NWS Call Sign:

Elevation: 810 Feet

Lat: 40°08N

Lon: 82°57W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	7.0	5.0	2	1	8.0	1999	2	21.8	1985	19	1978	21	8	1977	5.8	2.7	.7	.3	.0	10.6	6.1	3.6	.6
Feb	5.4	3.8	1	#	8.0	1971	8	19.0	1979	13	1985	13	6	1985	3.9	1.8	.4	.2	.0	6.8	4.2	2.8	.7
Mar	2.3	2.1	#	#	6.0	1984	8	8.8	1984	8	1978	9	2	1984	1.6	.9	.2	.1	.0	2.0	1.0	.4	.0
Apr	.5	#	#	0	4.0	1982	9	4.6	1987	4	1973	12	#+	1996	.3	.1	.1	.0	.0	.1	.1	.0	.0
May	#	.0	0	0	#	1989	7	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	#	0	.5	1989	19	.5	1989	#+	1993	30	#+	1993	@	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.4	#	#	#	5.1	1980	17	5.1	1980	5	1980	17	#+	2000	.6	.2	.1	@	.0	.3	.1	@	.0
Dec	3.1	1.9	#	#	7.0	1984	6	9.6	1984	7	1984	7	2	1989	3.3	1.3	.3	.1	.0	4.3	1.3	.2	.0
Ann	18.7	12.8	N/A	N/A	8.0+	Jan 1999	2	21.8	Jan 1985	19	Jan 1978	21	8	Jan 1977	15.5	7.0	1.8	.7	.0	24.1	12.8	7.0	1.3

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

Complete documentation available from:

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Lon: 82°57W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/31	5/25	5/20	5/16	5/13	5/09	5/05	5/01	4/24
32	5/13	5/09	5/05	5/02	4/29	4/27	4/24	4/20	4/15
28	5/01	4/26	4/23	4/20	4/18	4/15	4/12	4/09	4/04
24	4/17	4/12	4/09	4/07	4/04	4/02	3/30	3/27	3/23
20	4/09	4/03	3/30	3/27	3/24	3/21	3/17	3/13	3/08
16	3/28	3/22	3/18	3/14	3/11	3/08	3/04	2/28	2/22
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/17	9/21	9/24	9/27	9/29	10/02	10/04	10/07	10/12
32	9/26	9/30	10/04	10/07	10/09	10/12	10/15	10/18	10/23
28	10/07	10/13	10/17	10/21	10/24	10/28	10/31	11/04	11/10
24	10/22	10/27	10/31	11/03	11/06	11/09	11/12	11/16	11/21
20	10/28	11/05	11/10	11/15	11/19	11/23	11/27	12/03	12/10
16	11/13	11/20	11/25	11/29	12/03	12/07	12/11	12/16	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	160	153	148	143	139	135	130	125	118
32	181	175	170	166	162	158	154	150	143
28	216	206	200	194	189	184	178	171	162
24	236	228	223	219	215	211	207	201	194
20	267	258	251	245	239	234	228	221	211
16	291	283	276	271	266	261	256	250	241

* Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

0/00 Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

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Degree Days to Selected Base Temperatures (°F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1157	937	719	389	157	17	0	9	67	337	650	995	5434
60	1002	797	567	252	78	3	0	0	21	212	502	840	4274
57	909	713	481	180	46	1	0	0	8	150	416	747	3651
55	847	660	424	138	30	0	0	0	4	116	361	692	3272
50	703	530	295	61	9	0	0	0	0	52	235	548	2433
32	256	162	37	0	0	0	0	0	0	0	15	160	630

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	122	150	341	603	941	1165	1315	1265	1024	699	355	188	8168
55	0	3	15	51	258	475	602	552	338	102	11	7	2414
57	0	0	10	33	211	416	540	490	282	75	5	0	2062
60	0	0	3	15	151	328	447	397	205	43	1	0	1590
65	0	0	0	3	74	191	292	250	101	13	0	0	924
70	0	0	0	0	28	86	152	127	36	2	0	0	431

Growing Degree Units (2)																								
Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	28	47	161	367	682	919	1057	1006	777	445	173	51	28	75	236	603	1285	2204	3261	4267	5044	5489	5662	5713
45	7	17	96	245	528	769	902	851	627	306	101	23	7	24	120	365	893	1662	2564	3415	4042	4348	4449	4472
50	2	3	48	145	379	619	747	696	478	189	50	6	2	5	53	198	577	1196	1943	2639	3117	3306	3356	3362
55	0	0	25	78	246	469	592	541	334	100	18	1	0	0	25	103	349	818	1410	1951	2285	2385	2403	2404
60	0	0	3	35	140	322	437	387	209	43	4	0	0	0	3	38	178	500	937	1324	1533	1576	1580	1580
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	11	33	109	238	435	610	725	683	505	280	100	30	11	44	153	391	826	1436	2161	2844	3349	3629	3729	3759

(1) Derived from the 1971-2000 Monthly Normals

(2) Derived from 1971-2000 serially complete daily data

Note: For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Notes

- a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.
- b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.
- c. Only observed validated values were used to select the extreme daily values.
- d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.
- e. Degree Days were derived using the same techniques as the 1971-2000 normals.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html
- f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set.
Documentation of the serially complete data set is available from the link below:
- g. Snowfall and snow depth statistics were derived from the Snow Climatology.
Documentation for the Snow Climatology project is available from the link under references.

Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html
Snow Climatology Project Description, www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,
www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf