

Climatology of the United States

No. 20

1971-2000

Station: CINCINNATI LUNKEN AP, OH

COOP ID: 331576

Climate Division: OH 8

NWS Call Sign: LUK

Elevation: 490 Feet

Lat: 39°06N

Lon: 84°25W

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	39.2	22.4	30.8	74+	1950	26	40.3	1998	-22	1994	19	15.3	1977	1060	0	.0	.0	6.1	9.0	25.7	1.3
Feb	44.2	25.7	35.0	77+	2000	26	43.1	1976	-9+	1985	3	21.3	1978	841	0	.0	.0	9.4	5.7	20.5	.4
Mar	54.6	34.1	44.4	85	1986	31	51.7	1973	-6	1980	3	36.7	1984	640	0	.0	.0	20.0	.8	14.1	@
Apr	65.3	42.7	54.0	90	1986	26	59.6	1981	19	1964	1	49.9	1982	334	4	.0	@	27.3	.0	3.5	.0
May	74.8	52.7	63.8	94+	1962	18	70.5	1991	27	1966	10	58.9	1997	135	95	.0	.7	30.9	.0	@	.0
Jun	82.7	61.5	72.1	101	1988	25	75.5	1971	39	1966	1	67.6	1972	11	224	@	4.6	30.0	.0	.0	.0
Jul	86.7	66.0	76.4	105	1999	30	80.8	1999	47	1972	6	73.1	2000	0	352	.3	10.0	31.0	.0	.0	.0
Aug	85.1	64.3	74.7	103	1988	17	79.5	1995	43+	1986	29	70.8	1992	4	305	.1	6.9	31.0	.0	.0	.0
Sep	78.7	56.9	67.8	100+	1964	10	72.4	1998	32	1963	30	62.9	1974	47	131	.0	2.1	30.0	.0	.0	.0
Oct	67.5	44.5	56.0	91+	1959	4	63.5	1971	18	1962	27	49.3	1988	300	20	.0	.0	30.0	.0	2.5	.0
Nov	54.7	35.6	45.2	82+	1987	2	51.1	1985	-3	1958	30	37.7	1976	595	0	.0	.0	18.8	.3	12.2	.0
Dec	43.7	27.2	35.5	75	1982	3	43.1	1984	-14	1989	22	22.0	1989	916	0	.0	.0	9.3	5.1	21.2	.4
Ann	64.8	44.5	54.6	105	Jul 1999	30	80.8	Jul 1999	-22	Jan 1994	19	15.3	Jan 1977	4883	1131	.4	24.3	273.8	20.9	99.7	2.1

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

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

Climatography of the United States

No. 20 1971-2000

Station: CINCINNATI LUNKEN AP, OH

COOP ID: 331576

Climate Division: OH 8

NWS Call Sign: LUK

Elevation: 490 Feet Lat: 39°06N

Lon: 84°25W

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	2.87	2.71	3.12	2000	3	7.31	1982	.49	1981	11.7	6.2	1.5	.5	.87	1.15	1.55	1.91	2.25	2.60	2.99	3.44	4.03	4.95	5.81	
Feb	2.62	2.20	2.63	2000	18	6.54	1971	.31	1978	10.3	5.5	1.3	.6	.62	.86	1.25	1.59	1.93	2.29	2.69	3.17	3.80	4.80	5.74	
Mar	3.81	3.69	4.73	1964	9	6.68	1997	1.39	1983	11.9	8.5	2.7	.7	1.56	1.90	2.40	2.80	3.19	3.57	3.99	4.48	5.09	6.02	6.87	
Apr	3.80	3.52	2.41	1996	29	8.29	1996	.67	1971	12.1	8.0	2.6	.7	1.14	1.51	2.05	2.51	2.96	3.43	3.95	4.56	5.35	6.58	7.72	
May	4.71	4.39	3.08	1996	15	10.46	1996	.81	1988	11.9	8.4	3.1	1.2	1.44	1.89	2.55	3.13	3.68	4.26	4.90	5.65	6.61	8.12	9.52	
Jun	4.16	3.89	3.84	1982	8	7.97	1998	.77	1988	11.3	7.8	2.7	1.1	1.67	2.05	2.60	3.05	3.47	3.90	4.36	4.90	5.58	6.62	7.56	
Jul	3.86	3.52	2.67	1958	31	7.85	1992	.59	1997	9.6	6.5	3.0	.9	1.23	1.59	2.14	2.60	3.05	3.51	4.02	4.62	5.39	6.58	7.69	
Aug	3.97	3.53	3.94	1960	10	7.25	1995	1.09	1985	9.3	6.6	2.7	1.0	1.46	1.83	2.37	2.81	3.24	3.68	4.15	4.70	5.40	6.49	7.48	
Sep	3.10	2.39	3.24	1971	3	8.50	1979	.50	1978	8.1	5.1	2.0	.7	.54	.81	1.26	1.69	2.12	2.59	3.13	3.78	4.64	6.04	7.38	
Oct	2.82	2.56	4.53	1985	20	8.45	1983	.74	1982	8.6	5.2	1.6	.6	.69	.95	1.37	1.73	2.10	2.48	2.91	3.42	4.09	5.14	6.13	
Nov	3.32	3.01	2.37	1948	5	7.00	1985	.63	1976	10.5	6.5	2.6	.6	1.08	1.40	1.86	2.26	2.64	3.03	3.46	3.97	4.62	5.62	6.55	
Dec	3.11	2.92	2.41	1991	2	8.04	1990	.42	1976	11.4	6.3	2.1	.5	1.02	1.31	1.75	2.12	2.47	2.84	3.24	3.71	4.31	5.25	6.12	
Ann	42.15	42.64	4.73	Mar 1964	9	10.46	May 1996	.31	Feb 1978	126.7	80.6	27.9	9.1	31.04	33.22	36.00	38.10	39.96	41.75	43.59	45.62	48.08	51.63	54.68	

+ 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: 1948-2001

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

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

Climatography of the United States

No. 20 1971-2000

Station: CINCINNATI LUNKEN AP, OH

COOP ID: 331576

Climate Division: OH 8

NWS Call Sign: LUK

Elevation: 490 Feet

Lat: 39°06N

Lon: 84°25W

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	4.5	1.5	1	0	7.4	1994	17	19.9	1978	16+	1978	22	8	1977	3.5	1.7	.4	.1	.0	6.8	3.7	2.3	.9
Feb	4.2	2.5	1	0	10.0	1971	4	22.5	1971	9	1971	9	5	1978	3.2	1.7	.3	.1	@	6.2	4.2	1.8	.0
Mar	2.2	.3	#	0	10.0	1980	1	10.0	1980	8	1980	2	1+	1980	1.2	.7	.3	.1	@	1.8	.9	.3	.0
Apr	.2	.0	#	0	2.2	1977	6	2.2	1977	1	1987	1	#	1987	.3	.1	.0	.0	.0	@	.0	.0	.0
May	#	.0	#	0	#	1989	7	#	1989	0	0	0	#	1997	.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	#	2000	.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	.1	.0	0	0	2.5	1993	30	2.5	1993	#+	1993	31	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.5	#	#	0	2.9	1984	18	3.3	1972	4	1976	29	#	1977	.4	.2	.0	.0	.0	.2	@	.0	.0
Dec	1.7	.6	#	0	5.2	1989	15	8.3	1981	8	1990	28	2	1989	1.5	.5	.2	.1	.0	2.0	.8	.4	.0
Ann	13.4	4.9	N/A	N/A	10.0+	Mar 1980	1	22.5	Feb 1971	16+	Jan 1978	22	8	Jan 1977	10.2	4.9	1.2	.4	@	17.0	9.6	4.8	.9

+ 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:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Climatography of the United States

No. 20 1971-2000

Station: CINCINNATI LUNKEN AP, OH

COOP ID: 331576

Climate Division: OH 8

NWS Call Sign: LUK

Elevation: 490 Feet

Lat: 39°06N

Lon: 84°25W

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	5/11	5/06	5/02	4/29	4/27	4/24	4/21	4/17	4/13
32	4/27	4/23	4/19	4/16	4/13	4/10	4/07	4/04	3/30
28	4/17	4/12	4/08	4/05	4/02	3/30	3/27	3/23	3/18
24	4/06	3/31	3/26	3/22	3/19	3/15	3/11	3/07	2/28
20	3/21	3/15	3/10	3/06	3/02	2/27	2/23	2/18	2/12
16	3/20	3/10	3/02	2/24	2/18	2/12	2/06	1/29	1/19
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	9/29	10/03	10/05	10/08	10/10	10/12	10/15	10/18	10/22
32	10/09	10/14	10/17	10/20	10/23	10/26	10/29	11/01	11/06
28	10/20	10/25	10/28	11/01	11/04	11/07	11/10	11/14	11/19
24	11/02	11/07	11/12	11/15	11/18	11/22	11/25	11/29	12/05
20	11/10	11/18	11/23	11/28	12/02	12/06	12/11	12/16	12/24
16	11/26	12/01	12/06	12/09	12/13	12/16	12/20	12/24	12/30
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	178	173	169	166	162	158	154	147
32	214	207	201	196	192	188	183	177	170
28	237	229	224	219	215	211	206	201	193
24	269	261	254	249	244	239	234	227	219
20	298	290	284	279	274	269	264	257	249
16	324	313	306	300	294	289	283	277	268

* 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

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Climatology of the United States

No. 20 1971-2000

Station: CINCINNATI LUNKEN AP, OH

COOP ID: 331576

Climate Division: OH 8

NWS Call Sign: LUK

Elevation: 490 Feet

Lat: 39°06N

Lon: 84°25W

Degree Days to Selected Base Temperatures (°F)

Base	Heating Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Below 65	1060	841	640	334	135	11	0	4	47	300	595	916	4883
60	905	701	490	201	64	2	0	0	13	183	447	761	3767
57	812	621	403	135	36	0	0	0	5	127	364	676	3179
55	758	570	348	98	23	0	0	0	2	97	309	617	2822
50	612	441	226	34	7	0	0	0	0	41	191	476	2028
32	204	111	17	0	0	0	0	0	0	0	8	120	460

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above 32	167	194	400	660	984	1203	1375	1324	1074	744	403	227	8755
55	8	9	18	68	294	513	662	611	386	127	14	11	2721
57	0	4	11	45	245	453	600	549	329	96	9	8	2349
60	0	0	5	21	180	365	507	456	247	59	2	0	1842
65	0	0	0	4	95	224	352	305	131	20	0	0	1131
70	0	0	0	0	40	107	204	170	52	5	0	0	578

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	35	74	209	436	745	975	1145	1089	840	508	215	75	35	109	318	754	1499	2474	3619	4708	5548	6056	6271	6346
45	12	34	122	301	590	825	990	934	690	359	127	37	12	46	168	469	1059	1884	2874	3808	4498	4857	4984	5021
50	2	12	64	189	438	675	835	779	540	229	65	17	2	14	78	267	705	1380	2215	2994	3534	3763	3828	3845
55	1	1	31	102	295	525	680	624	390	122	29	4	1	2	33	135	430	955	1635	2259	2649	2771	2800	2804
60	0	0	8	47	169	379	525	469	254	58	6	0	0	0	8	55	224	603	1128	1597	1851	1909	1915	1915
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	24	47	128	260	467	664	794	753	548	301	126	42	24	71	199	459	926	1590	2384	3137	3685	3986	4112	4154

(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/normal/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 are 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.

- a. Temperature/ Precipitation Tables
 1. 1971-2000 Monthly Normals
 2. Cooperative Summary of the Day
 3. National Weather Service station records
 4. 1971-2000 serially complete daily data
- b. Degree Day Table
 1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
 2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data
- c. Snow Tables
 1. Snow Climatology
 2. Cooperative Summary of the Day
- d. 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