U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: ANTIOCH, IL **COOP ID: 110203**

Climate Division: IL 2 **NWS Call Sign:** **Elevation: 750 Feet** **Lat: 42˚29N** **Lon: 88˚06W**

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	27.8	11.4	19.6	61+	1997	5	30.4	1990	-29+	1979	12	6.8	1977	1408	0	.0	.0	.6	19.6	29.9	8.3
Feb	32.9	16.0	24.5	70	2000	26	35.8	1998	-19+	1974	9	13.8	1979	1135	0	.0	.0	1.9	13.8	26.5	5.7
Mar	43.6	27.0	35.3	78+	2000	8	43.3	2000	-15	1962	1	28.8	1996	921	0	.0	.0	8.2	4.7	24.2	.6
Apr	56.3	36.9	46.6	90	1980	23	52.7	1985	6	1982	7	41.0	1975	554	1	.0	@	21.2	.2	11.0	.0
May	68.8	47.2	58.0	90+	1992	2	65.1	1977	25+	1978	1	51.2	1997	260	42	.0	.2	30.1	.0	1.4	.0
Jun	78.3	56.9	67.6	97	1953	19	71.8	1988	33	1972	11	61.6	1982	51	129	.1	2.4	30.0	.0	.0	.0
Jul	82.2	62.3	72.3	102	1990	5	78.1	1999	42+	1983	6	69.0+	1996	8	233	.1	4.0	31.0	.0	.0	.0
Aug	80.3	61.3	70.8	104	1988	1	78.4	1988	40+	1986	29	66.4	1992	26	206	.2	2.6	31.0	.0	.0	.0
Sep	72.8	53.6	63.2	100+	1953	2	68.2	1978	28	1976	24	57.4	1993	111	55	.0	.8	29.9	.0	.4	.0
Oct	61.3	41.5	51.4	89+	1995	14	58.8	1971	18+	1988	29	45.7	1988	427	4	.0	.0	27.2	.0	6.6	.0
Nov	46.1	30.1	38.1	77	1950	1	45.5	1999	-6+	1976	30	30.0	1976	806	0	.0	.0	11.1	3.0	18.9	.2
Dec	33.0	18.1	25.6	68	2001	6	34.4	1998	-24	1983	25	13.9	1989	1223	0	.0	.0	1.9	13.5	28.8	3.7
Ann	57.0	38.5	47.8	104	Aug 1988	1	78.4	Aug 1988	-29+	Jan 1979	12	6.8	Jan 1977	6930	670	.4	10.0	224.1	54.8	147.7	18.5

\+ 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

(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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	1.74	1.54	2.08	1960	12	4.13	1974	.10	1981
Feb	1.42	1.29	1.62	1997	21	3.56	1986	.02	1987
Mar	2.17	2.01	2.85	1976	5	7.47	1976	.00	1998
Apr	3.77	3.81	2.70	1979	26	6.81	1993	.74	1997
May	3.59	3.44	2.25	1957	10	7.74	1990	.87	1992
Jun	4.22	4.45	4.64	2000	13	11.78	2000	.63	1995
Jul	4.03	3.77	8.10	1996	18	8.90	1996	.92	1998
Aug	4.50	4.44	4.96	1979	18	11.28	1979	.82	1973
Sep	3.50	2.73	3.81	1986	23	15.91	1986	.05	1979
Oct	2.49	1.95	3.00	1991	5	7.75	1991	.88	1975
Nov	2.88	2.53	2.72	1995	12	6.92	1985	.58	1999
Dec	2.19	2.06	1.99	1982	3	6.00	1987	.06	1989
Ann	36.50	36.88	8.10	Jul 1996	18	15.91	Sep 1986	.00	Mar 1998

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	4.6	.9	.3
Feb	8.1	3.9	.7	.1
Mar	9.2	5.3	1.4	.3
Apr	11.3	6.8	2.6	.9
May	11.3	7.0	2.6	.7
Jun	10.3	7.0	2.4	.7
Jul	10.5	6.6	2.5	.9
Aug	9.9	6.4	3.0	1.1
Sep	9.1	5.5	2.1	.9
Oct	9.0	5.2	1.5	.5
Nov	9.5	6.0	1.9	.6
Dec	9.7	5.2	1.2	.3
Ann	117.8	69.5	22.8	7.3

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.36	.52	.77	1.01	1.24	1.49	1.78	2.12	2.57	3.30	3.99
Feb	.18	.30	.50	.70	.90	1.13	1.40	1.73	2.17	2.90	3.61
Mar	.16	.38	.73	1.05	1.38	1.74	2.16	2.67	3.36	4.49	5.58
Apr	1.24	1.60	2.12	2.57	3.00	3.44	3.93	4.49	5.22	6.36	7.40
May	1.13	1.47	1.98	2.41	2.83	3.26	3.74	4.29	5.01	6.13	7.16
Jun	.99	1.39	2.01	2.56	3.11	3.69	4.34	5.11	6.13	7.75	9.27
Jul	1.29	1.68	2.24	2.72	3.19	3.67	4.20	4.81	5.61	6.85	7.99
Aug	1.45	1.87	2.50	3.04	3.56	4.10	4.69	5.38	6.27	7.65	8.93
Sep	.30	.53	1.00	1.48	2.02	2.62	3.35	4.26	5.52	7.62	9.69
Oct	.66	.90	1.26	1.58	1.89	2.21	2.58	3.01	3.57	4.45	5.27
Nov	.65	.92	1.34	1.72	2.10	2.51	2.96	3.50	4.21	5.34	6.40
Dec	.42	.61	.94	1.23	1.53	1.86	2.23	2.67	3.26	4.21	5.11
Ann	25.91	27.95	30.58	32.57	34.34	36.05	37.82	39.78	42.15	45.59	48.56

\+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	14.7	12.4	5	4
Feb	9.5	10.2	5	4
Mar	7.0	7.5	2	1
Apr	2.8	.7	#	#
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.1	.0	#	0
Nov	3.1	2.7	#	#
Dec	12.6	10.8	2	1
Ann	49.8	44.3	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	19.0	1985	1	47.1	1979	39	1979	16	24	1979
Feb	9.4	1988	10	22.3	1974	28	1979	13	22	1979
Mar	8.0	1971	19	17.5	1982	18	1979	1	9	1979
Apr	8.5	1973	10	14.7	1973	8	1982	6	1	1982
May	#	1976	4	#+	1976	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	1.5	1980	28	1.5	1980	1	1980	28	#+	1980
Nov	5.5	1976	27	10.4	1977	8	1977	29	1	1995
Dec	13.2	1987	29	39.1	2000	17	2000	31	9	2000
Ann	19.0	Jan 1985	1	47.1	Jan 1979	39	Jan 1979	16	24	Jan 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.8	4.0	1.4	.4	.1
Feb	5.2	2.8	1.0	.3	.0
Mar	3.7	2.0	.8	.3	.0
Apr	1.4	.6	.3	.2	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.1	@	.0	.0	.0
Nov	2.0	1.2	.3	@	.0
Dec	6.0	3.4	1.4	.4	@
Ann	25.2	14.0	5.2	1.6	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	21.7	17.1	13.6	6.1
Feb	17.6	13.1	9.9	4.2
Mar	8.1	4.5	3.0	1.0
Apr	1.0	.5	.4	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	@	.0	.0	.0
Nov	2.2	.8	.2	.0
Dec	10.4	6.1	2.8	.8
Ann	61.0	42.1	29.9	12.1

+ 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

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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	6/05	5/30	5/25	5/21	5/17	5/13	5/09	5/05	4/28
32	5/16	5/11	5/08	5/05	5/03	4/30	4/27	4/24	4/20
28	5/04	4/29	4/26	4/23	4/20	4/17	4/14	4/10	4/05
24	4/19	4/16	4/13	4/11	4/09	4/06	4/04	4/01	3/29
20	4/10	4/06	4/02	3/31	3/28	3/26	3/23	3/20	3/15
16	4/05	3/30	3/26	3/22	3/19	3/15	3/12	3/07	3/01

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	9/19	9/23	9/26	9/28	10/01	10/03	10/06	10/09	10/13
32	9/26	9/30	10/03	10/05	10/08	10/10	10/12	10/15	10/19
28	10/05	10/11	10/16	10/20	10/23	10/27	10/31	11/05	11/11
24	10/16	10/23	10/28	11/01	11/05	11/09	11/13	11/18	11/25
20	10/28	11/03	11/07	11/11	11/15	11/18	11/22	11/26	12/02
16	11/08	11/13	11/17	11/21	11/24	11/27	11/30	12/04	12/10

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	158	151	145	140	136	131	127	121	113
32	175	169	164	161	157	154	150	146	140
28	213	204	197	191	186	180	174	168	158
24	233	225	219	214	210	205	200	194	186
20	254	246	240	235	231	226	221	216	208
16	275	266	260	254	249	244	239	233	224

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1408	1135	921	554	260	51	8	26	111	427	806	1223	6930
60	1253	995	766	409	158	15	0	6	41	287	656	1068	5654
57	1160	911	673	327	110	6	0	1	19	215	567	975	4964
55	1098	855	612	276	84	3	0	0	10	172	509	913	4532
50	943	717	466	164	36	0	0	0	1	89	373	766	3555
32	438	286	90	3	0	0	0	0	0	1	58	304	1180

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	53	75	191	441	806	1068	1248	1204	935	601	242	104	6968
55	0	0	0	23	176	381	535	491	254	60	3	0	1923
57	0	0	0	14	141	324	473	429	204	40	1	0	1626
60	0	0	0	6	96	242	380	341	136	20	0	0	1221
65	0	0	0	1	42	129	233	206	55	4	0	0	670
70	0	0	0	0	15	51	111	106	15	0	0	0	298

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	0	9	60	227	540	812	982	937	671	348	89	7	0	9	69	296	836	1648	2630	3567	4238	4586	4675	4682
45	0	1	30	131	390	662	827	782	521	215	44	3	0	1	31	162	552	1214	2041	2823	3344	3559	3603	3606
50	0	0	14	68	261	513	672	627	376	127	17	1	0	0	14	82	343	856	1528	2155	2531	2658	2675	2676
55	0	0	3	34	156	367	517	472	245	60	4	0	0	0	3	37	193	560	1077	1549	1794	1854	1858	1858
60	0	0	1	12	81	236	365	320	140	21	0	0	0	0	1	13	94	330	695	1015	1155	1176	1176	1176
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	3	39	136	330	518	658	618	411	200	50	3	0	3	42	178	508	1026	1684	2302	2713	2913	2963	2966

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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