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: SALEM, IL **COOP ID: 117636**

Climate Division: IL 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚39N** **Lon: 88˚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	36.8	18.1	27.5	70+	1970	28	39.3	1990	-23	1994	19	12.1	1977	1166	0	.0	.0	5.4	10.1	26.6	2.2
Feb	42.7	22.3	32.5	78+	1972	29	41.5	1998	-23	1982	10	18.7	1978	910	0	.0	.0	9.5	5.8	20.4	1.2
Mar	54.1	32.5	43.3	85	1986	30	49.2	1973	-8	1978	5	36.1	1984	674	0	.0	.0	20.5	.9	13.9	.1
Apr	65.4	43.6	54.5	91	1987	29	61.4	1981	20	1990	7	48.5	1983	326	11	.0	.1	28.0	.0	3.9	.0
May	75.3	53.7	64.5	94	1987	20	72.1	1991	31+	1976	4	60.1+	1981	122	108	.0	1.3	31.0	.0	.1	.0
Jun	84.2	63.2	73.7	101+	1988	25	77.9	1984	38	1969	3	68.7	1982	7	269	.1	8.1	30.0	.0	.0	.0
Jul	88.2	68.1	78.2	104	1980	15	82.3	1980	48+	1968	4	74.0	1971	0	408	.5	14.8	31.0	.0	.0	.0
Aug	86.6	66.0	76.3	105	1983	20	83.2	1983	44	1964	13	72.3	1992	3	353	.5	10.8	31.0	.0	.0	.0
Sep	79.6	57.2	68.4	100	1960	6	72.7	1998	33	1974	23	62.9	1974	46	146	.0	3.7	30.0	.0	.0	.0
Oct	68.6	45.1	56.9	93	1963	11	63.2	1971	21	1981	24	50.5	1976	279	25	.0	@	30.3	.0	2.9	.0
Nov	53.7	33.9	43.8	82+	2000	2	50.9	1999	2	1959	17	35.2	1976	636	0	.0	.0	18.3	.4	12.4	.0
Dec	41.6	23.9	32.8	74	1982	2	40.3	1982	-20	1989	22	20.4	2000	1000	0	.0	.0	8.3	5.4	22.7	1.1
Ann	64.7	44.0	54.4	105	Aug 1983	20	83.2	Aug 1983	-23+	Jan 1994	19	12.1	Jan 1977	5169	1320	1.1	38.8	273.3	22.6	102.9	4.6

\+ 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

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: SALEM, IL **COOP ID: 117636**

Climate Division: IL 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚39N** **Lon: 88˚57W**

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	2.46	1.86	2.43	1950	4	7.88	1999	.13	1986
Feb	2.53	2.59	2.41	1999	7	5.10	1999	.34	1996
Mar	3.98	3.36	2.75	1964	9	7.52	1973	.88	1981
Apr	4.01	3.55	3.42	1984	21	11.05	1994	1.02	1976
May	4.37	3.46	4.55	1961	8	15.07	1995	1.02	1988
Jun	4.15	3.78	4.40	1957	15	10.12	1995	.82	1992
Jul	3.90	3.44	4.35	1967	10	8.69	1993	.64	1974
Aug	3.43	3.10	4.90	1998	4	9.11	1998	.60	1971
Sep	3.22	2.94	3.19	1959	1	9.81	1984	.30	1995
Oct	3.10	2.59	3.46	1983	20	10.35	1983	1.06	1971
Nov	4.12	4.03	4.85	1993	14	11.90	1985	.26	1976
Dec	3.26	2.48	4.27	1967	21	8.72	1990	.71	1976
Ann	42.53	41.71	4.90	Aug 1998	4	15.07	May 1995	.13	Jan 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.3	5.1	1.6	.5
Feb	7.9	4.9	1.8	.5
Mar	10.5	7.4	2.9	1.1
Apr	10.8	7.6	2.7	.9
May	11.3	7.9	2.9	1.0
Jun	9.7	7.0	2.8	1.1
Jul	8.3	5.6	2.8	1.2
Aug	8.4	5.9	2.3	.8
Sep	7.3	5.0	2.2	1.0
Oct	8.7	5.3	2.3	.8
Nov	9.9	6.8	3.0	1.1
Dec	9.5	6.2	2.2	.7
Ann	111.6	74.7	29.5	10.7

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	.30	.50	.84	1.19	1.55	1.96	2.43	3.01	3.80	5.10	6.36
Feb	.72	.96	1.32	1.63	1.94	2.26	2.62	3.04	3.58	4.44	5.23
Mar	1.37	1.75	2.29	2.76	3.20	3.66	4.16	4.74	5.48	6.64	7.70
Apr	1.00	1.38	1.96	2.48	2.99	3.53	4.14	4.85	5.79	7.27	8.66
May	1.05	1.46	2.10	2.67	3.23	3.83	4.49	5.29	6.33	7.98	9.52
Jun	.95	1.33	1.94	2.49	3.03	3.61	4.26	5.03	6.05	7.67	9.19
Jul	.84	1.20	1.77	2.29	2.81	3.37	3.99	4.74	5.72	7.29	8.77
Aug	.82	1.14	1.64	2.09	2.53	3.00	3.53	4.15	4.97	6.27	7.48
Sep	.55	.83	1.30	1.75	2.20	2.69	3.25	3.93	4.84	6.30	7.70
Oct	.93	1.22	1.66	2.04	2.41	2.79	3.22	3.71	4.36	5.36	6.29
Nov	.78	1.15	1.75	2.31	2.87	3.48	4.18	5.01	6.13	7.91	9.61
Dec	.72	1.02	1.50	1.93	2.36	2.82	3.34	3.96	4.78	6.08	7.31
Ann	29.31	31.84	35.09	37.57	39.78	41.93	44.15	46.61	49.60	53.95	57.73

\+ 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/normals/usnormals.html

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

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: SALEM, IL **COOP ID: 117636**

Climate Division: IL 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38°39N** **Lon: 88°57W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	5.2	2.6	1	#
Feb	3.6	2.0	1	#
Mar	1.3	.0	#	#
Apr	.3	.0	#	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	.1	.0	0	0
Nov	.7	.0	#	0
Dec	2.4	1.0	#	#
Ann	13.6	5.6	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	13.5	1982	31	17.4	1977	14	1982	31	7	1977
Feb	10.0	1984	27	16.0	1984	27	1982	10	13	1982
Mar	10.5	2000	12	10.5+	2000	10	2000	12	2	1978
Apr	6.3	1971	6	6.3	1971	5	1971	6	#+	1997
May	.0	0	0	.0	0	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	2.5	1993	31	2.5	1993	0	0	0	0	0
Nov	4.3	1975	26	4.6	1975	4	1975	27	#+	1997
Dec	8.0	2000	14	12.8	1973	8+	2000	31	4	2000
Ann	13.5	Jan 1982	31	17.4	Jan 1977	27	Feb 1982	10	13	Feb 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.5	2.0	.5	.1	@
Feb	1.9	1.1	.4	.1	@
Mar	.8	.4	.2	.1	@
Apr	.1	.1	@	@	.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	@	@	.0	.0	.0
Nov	.4	.2	.1	.0	.0
Dec	2.1	1.3	.3	.2	.0
Ann	8.8	5.1	1.5	.5	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	7.5	4.2	2.4	.1
Feb	5.5	3.9	2.1	1.0
Mar	1.1	.6	.2	@
Apr	.1	@	@	.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	.0
Nov	.4	.2	.0	.0
Dec	3.8	1.6	.9	.0
Ann	18.4	10.5	5.6	1.1

+ 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

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

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: SALEM, IL **COOP ID: 117636**

Climate Division: IL 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚39N** **Lon: 88˚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	5/11	5/05	5/02	4/28	4/25	4/22	4/19	4/15	4/09
32	4/25	4/21	4/18	4/15	4/12	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	4/09	4/03	3/30	3/27	3/24	3/20	3/17	3/13	3/07
20	3/26	3/20	3/16	3/13	3/10	3/07	3/03	2/27	2/22
16	3/18	3/11	3/06	3/01	2/25	2/21	2/16	2/11	2/04

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	9/24	9/29	10/02	10/05	10/08	10/10	10/13	10/17	10/22
32	10/05	10/10	10/13	10/16	10/19	10/22	10/25	10/29	11/03
28	10/13	10/19	10/24	10/28	11/01	11/04	11/08	11/13	11/19
24	10/27	11/02	11/07	11/10	11/14	11/18	11/22	11/26	12/02
20	11/08	11/14	11/18	11/22	11/25	11/29	12/03	12/07	12/13
16	11/16	11/22	11/27	12/01	12/04	12/08	12/12	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	186	179	174	169	165	161	156	151	144
32	209	202	198	193	189	185	181	176	169
28	237	228	222	217	212	207	201	195	186
24	256	249	244	239	235	231	226	221	213
20	282	275	269	264	260	255	251	245	237
16	308	299	292	287	282	276	271	264	255

***** 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/normals/usnormals.html

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: SALEM, IL **COOP ID: 117636**

Climate Division: IL 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚39N** **Lon: 88˚57W**

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	1166	910	674	326	122	7	0	3	46	279	636	1000	5169
60	1011	770	521	202	57	1	0	0	12	167	490	845	4076
57	918	692	436	142	32	0	0	0	5	115	407	756	3503
55	856	640	380	107	21	0	0	0	2	87	354	698	3145
50	713	510	254	45	6	0	0	0	0	37	235	555	2355
32	270	162	25	0	0	0	0	0	0	0	20	167	644

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	127	176	374	675	1008	1252	1431	1373	1091	769	374	190	8840
55	1	10	16	92	316	562	718	660	403	142	18	8	2946
57	0	5	10	66	266	502	656	598	345	109	12	3	2572
60	0	0	2	37	198	413	563	505	263	68	4	0	2053
65	0	0	0	11	108	269	408	353	146	25	0	0	1320
70	0	0	0	2	47	143	255	213	64	6	0	0	730

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	36	81	229	478	789	1031	1183	1126	872	547	219	62	36	117	346	824	1613	2644	3827	4953	5825	6372	6591	6653
45	10	39	141	340	634	881	1028	971	722	399	136	31	10	49	190	530	1164	2045	3073	4044	4766	5165	5301	5332
50	3	16	75	219	480	731	873	816	572	266	72	9	3	19	94	313	793	1524	2397	3213	3785	4051	4123	4132
55	0	4	37	125	332	581	718	661	424	156	34	1	0	4	41	166	498	1079	1797	2458	2882	3038	3072	3073
60	0	1	11	66	204	431	563	506	288	76	11	0	0	1	12	78	282	713	1276	1782	2070	2146	2157	2157
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	21	50	139	291	502	698	815	768	571	340	126	34	21	71	210	501	1003	1701	2516	3284	3855	4195	4321	4355

(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.
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