

Climatography of the United States

No. 20

1971-2000

Station: HILLSBORO, IL

COOP ID: 114108

Climate Division: IL 6

NWS Call Sign:

Elevation: 630 Feet

Lat: 39°09N

Lon: 89°29W

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	37.4	21.1	29.3	75	1909	23	41.4	1990	-21+	1985	20	16.1	1977	1107	0	.0	.0	4.8	11.3	27.2	2.7
Feb	44.1	25.9	35.0	79+	1932	10	45.0	1976	-22	1905	14	22.2	1978	840	0	.0	.0	9.4	6.5	21.2	1.4
Mar	55.7	35.3	45.5	90	1929	24	52.6	1973	-10	1960	6	37.9	1996	605	0	.0	.0	20.0	1.0	14.7	.1
Apr	68.1	45.2	56.7	92	1989	26	63.4	1981	18	1920	5	50.7	1997	271	20	.0	.2	28.1	.0	3.7	.0
May	78.0	55.0	66.5	98	1934	31	73.9	1987	28+	1966	10	60.5	1997	99	146	.0	1.3	31.0	.0	.1	.0
Jun	87.0	64.2	75.6	106	1931	30	80.2	1971	37	1917	16	71.5	1982	4	322	.4	9.6	30.0	.0	.0	.0
Jul	90.7	68.0	79.4	114	1954	14	84.5	1980	45	1930	15	76.1	2000	0	445	1.1	15.4	31.0	.0	.0	.0
Aug	89.0	65.6	77.3	112	1918	4	83.4	1983	39	1986	29	73.0	1992	2	383	.5	10.7	31.0	.0	.0	.0
Sep	82.2	57.6	69.9	105+	1954	5	75.8	1978	27	1928	26	64.3	1974	36	182	.1	4.2	30.0	.0	.1	.0
Oct	70.7	46.7	58.7	95	1922	3	66.5	1971	17+	1925	31	53.5	1988	225	29	.0	.1	30.2	.0	3.4	.0
Nov	54.8	37.0	45.9	83+	1950	1	52.5	1999	-5	1950	25	39.5+	1996	574	0	.0	.0	18.1	.8	13.3	.0
Dec	41.7	26.1	33.9	74	1970	3	43.6	1982	-20	1989	22	21.4+	2000	964	0	.0	.0	7.6	6.3	24.3	1.6
Ann	66.6	45.6	56.1	114	Jul 1954	14	84.5	Jul 1980	-22	Feb 1905	14	16.1	Jan 1977	4727	1527	2.1	41.5	271.2	25.9	108.0	5.8

+ 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: 1901-2001

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

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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: HILLSBORO, IL

COOP ID: 114108

Climate Division: IL 6

NWS Call Sign:

Elevation: 630 Feet

Lat: 39°09N

Lon: 89°29W

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	2.18	2.09	2.47	1950	3	5.91	1982	.02	1986	7.0	4.7	1.5	.4	.23	.39	.69	.99	1.32	1.68	2.12	2.66	3.39	4.61	5.81
Feb	2.00	1.68	2.28	1959	10	4.49	1982	.33	1991	6.7	4.6	1.4	.4	.46	.64	.93	1.20	1.46	1.74	2.06	2.43	2.92	3.71	4.45
Mar	3.56	3.23	3.19	1922	14	8.59	1973	.69	1999	9.4	7.4	2.6	.7	1.00	1.34	1.85	2.29	2.73	3.19	3.69	4.29	5.06	6.27	7.40
Apr	4.19	3.64	4.67	1996	29	10.95	1994	.62	1988	9.9	7.2	2.9	.9	.81	1.18	1.80	2.36	2.94	3.55	4.26	5.10	6.22	8.02	9.73
May	4.31	4.23	4.02	1990	25	13.42	1990	.70	1987	10.1	7.4	3.1	1.1	1.03	1.43	2.06	2.62	3.18	3.77	4.43	5.22	6.26	7.90	9.44
Jun	4.07	3.90	4.08	1951	28	9.06	1973	.75	1989	8.2	6.5	2.9	1.0	1.09	1.47	2.06	2.58	3.08	3.62	4.21	4.91	5.82	7.25	8.59
Jul	3.48	3.00	4.07	1955	15	9.26	1982	.63	1994	8.1	6.2	2.6	.8	.76	1.08	1.59	2.05	2.51	3.00	3.56	4.22	5.10	6.50	7.81
Aug	3.53	3.37	5.49	1915	21	7.79	1980	.96	1971	7.6	5.7	2.3	.9	.97	1.30	1.81	2.25	2.69	3.14	3.65	4.25	5.03	6.25	7.39
Sep	3.16	2.91	4.97	1969	17	8.85	1993	.02	1979	6.9	5.3	2.3	.9	.22	.42	.82	1.25	1.74	2.30	2.98	3.84	5.04	7.06	9.06
Oct	2.91	2.40	6.53	1905	18	6.17	1990	1.01	1987	7.7	5.1	2.0	.9	.97	1.24	1.65	1.99	2.32	2.66	3.04	3.47	4.04	4.91	5.71
Nov	3.81	3.51	2.82	1946	1	9.56	1985	.56	1976	8.2	6.8	2.8	1.2	.83	1.18	1.74	2.24	2.75	3.29	3.89	4.62	5.58	7.11	8.55
Dec	2.98	2.52	3.72	1966	8	8.71	1971	.31	1980	7.9	5.4	2.2	.8	.46	.71	1.14	1.55	1.98	2.45	2.99	3.64	4.53	5.96	7.34
Ann	40.18	39.10	6.53	Oct 1905	18	13.42	May 1990	.02+	Jan 1986	97.7	72.3	28.6	10.0	27.24	29.69	32.87	35.30	37.46	39.57	41.75	44.17	47.13	51.43	55.17

+ 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: 1901-2001

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

Complete documentation available from:
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Station: HILLSBORO, IL

COOP ID: 114108

Climate Division: IL 6

NWS Call Sign:

Elevation: 630 Feet

Lat: 39°09N

Lon: 89°29W

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	2.9	2.5	1	#	11.0	1982	31	11.0	1982	11	1978	17	8	1978	2.2	1.4	.4	.3	@	-9.9	-9.9	-9.9	-9.9
Feb	3.5	2.1	#	#	10.0	1993	25	17.5	1982	10	1993	25	2	1993	1.4	.9	.4	.2	@	-9.9	-9.9	-9.9	-9.9
Mar	3.4	1.0	#	0	8.5	1978	9	26.5	1978	3	1975	10	#+	1999	1.1	.9	.3	.2	.0	.2	.1	.0	.0
Apr	.6	.0	#	0	7.0	1971	6	7.0	1971	7	1971	6	#+	2000	.2	.2	.1	@	.0	.1	.1	.1	.0
May	#	.0	0	0	#	1989	6	#	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	#	1993	30	#+	1993	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.2	.0	#	0	8.0	1975	27	8.5	1975	8	1975	27	#+	1997	.5	.4	.1	.1	.0	.2	.1	.1	.0
Dec	4.4	2.0	#	0	11.0	1973	31	25.5	1973	8	2000	18	2+	2000	1.7	1.4	.5	.2	.1	-9.9	-9.9	-9.9	-9.9
Ann	16.0	7.6	N/A	N/A	11.0+	Jan 1982	31	26.5	Mar 1978	11	Jan 1978	17	8	Jan 1978	7.1	5.2	1.8	1.0	.1	-9.9	-9.9	-9.9	-9.9

+ 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:

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Lon: 89°29W

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	5/09	5/04	5/01	4/28	4/25	4/23	4/20	4/17	4/12
32	4/25	4/21	4/18	4/15	4/12	4/10	4/07	4/04	3/30
28	4/17	4/13	4/09	4/06	4/04	4/01	3/29	3/26	3/22
24	4/08	4/03	3/31	3/28	3/25	3/22	3/19	3/16	3/11
20	3/28	3/23	3/20	3/17	3/14	3/11	3/08	3/05	2/28
16	3/23	3/14	3/09	3/04	2/27	2/22	2/17	2/11	2/03
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	9/22	9/27	10/01	10/04	10/07	10/09	10/13	10/16	10/21
32	9/28	10/04	10/08	10/11	10/14	10/17	10/21	10/25	10/30
28	10/10	10/17	10/22	10/27	10/31	11/04	11/08	11/13	11/20
24	10/25	10/30	11/04	11/07	11/10	11/14	11/17	11/21	11/27
20	11/03	11/09	11/13	11/17	11/21	11/24	11/28	12/02	12/08
16	11/10	11/17	11/22	11/26	11/30	12/04	12/08	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	176	171	167	164	160	156	152	145
32	202	196	191	188	184	181	177	172	166
28	235	226	219	214	209	204	199	192	183
24	254	246	240	234	230	225	220	213	205
20	274	266	260	255	251	246	241	235	227
16	310	298	290	282	276	269	262	253	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

Complete documentation available from:
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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	1107	840	605	271	99	4	0	2	36	225	574	964	4727
60	952	704	460	160	44	0	0	0	9	121	433	812	3695
57	859	625	377	107	24	0	0	0	3	76	352	725	3148
55	798	573	325	79	15	0	0	0	1	53	302	667	2813
50	654	447	214	30	4	0	0	0	0	17	195	527	2088
32	224	125	19	0	0	0	0	0	0	0	15	159	542

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	140	209	438	739	1071	1308	1468	1403	1136	828	432	219	9391
55	1	13	30	128	373	618	755	690	447	168	29	14	3266
57	0	9	20	96	319	558	693	628	389	128	19	9	2868
60	0	4	11	59	246	468	600	535	305	80	10	3	2321
65	0	0	0	20	146	322	445	383	182	29	0	0	1527
70	0	0	0	5	73	187	292	241	91	7	0	0	896

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	27	74	216	473	790	1034	1180	1112	859	545	209	53	27	101	317	790	1580	2614	3794	4906	5765	6310	6519	6572
45	8	38	133	336	635	884	1025	957	709	397	127	25	8	46	179	515	1150	2034	3059	4016	4725	5122	5249	5274
50	1	13	72	220	482	734	870	802	560	264	68	6	1	14	86	306	788	1522	2392	3194	3754	4018	4086	4092
55	0	3	37	127	337	584	715	647	412	154	30	2	0	3	40	167	504	1088	1803	2450	2862	3016	3046	3048
60	0	1	10	63	209	435	560	492	275	73	11	0	0	1	11	74	283	718	1278	1770	2045	2118	2129	2129
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	16	49	136	290	507	693	805	756	562	339	119	31	16	65	201	491	998	1691	2496	3252	3814	4153	4272	4303

(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.

- 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