Climatography
of the United States
No. 20
1971-2000

Station: PALESTINE 2 W, IL

COOP ID: 116558

Climate Division: IL 7   **NWS Call Sign:**   **Elevation: 470 Feet**   **Lat: 39°00N**   **Lon: 87°39W**

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	37.5	20.9	29.2	75	1943	24	42.0	1990	-21+	1994	19	13.5	1977	1110	0	.0	.0	4.6	10.4	25.8	2.6
Feb	43.5	25.8	34.7	77	1972	29	44.0	1992	-18+	1982	10	19.5	1978	850	0	.0	.0	8.2	5.8	20.0	1.3
Mar	55.0	35.3	45.2	88	1929	24	52.5	1990	-12	1960	6	36.6	1978	616	0	.0	.0	19.5	.9	13.1	.1
Apr	66.3	44.3	55.3	94	1989	26	61.3	1981	18	2001	1	50.1	1983	302	11	.0	.1	28.1	.0	3.4	.0
May	76.7	54.4	65.6	98+	1988	31	73.2	1987	28	1903	1	60.5	1976	115	131	.0	1.3	31.0	.0	.1	.0
Jun	85.2	63.5	74.4	108+	1954	26	78.7	1994	34	1988	10	69.0	1982	9	288	.4	7.9	30.0	.0	.0	.0
Jul	88.5	67.0	77.8	114	1954	14	81.0	1988	38	1917	9	73.4	1971	0	395	.6	12.3	31.0	.0	.0	.0
Aug	86.5	64.8	75.7	108	1930	8	82.8	1988	41	1946	30	72.2	1986	5	335	.4	9.0	31.0	.0	.0	.0
Sep	80.5	56.8	68.7	107+	1954	5	72.1	1986	26+	1942	28	63.3	1974	37	148	.0	3.6	30.0	.0	.2	.0
Oct	68.8	45.4	57.1	95	1953	2	63.6	1971	16	1952	21	47.6	1988	278	33	.0	.1	30.1	.0	3.4	.0
Nov	54.3	36.5	45.4	84	1950	1	50.9	1994	0	1929	30	37.1	1976	589	1	.0	.0	18.9	.4	12.5	.0
Dec	42.0	26.2	34.1	74+	1998	6	41.9	1982	-23	1989	22	22.3	2000	959	0	.0	.0	6.9	5.7	22.2	1.2
Ann	65.4	45.1	55.3	114	Jul 1954	14	82.8	Aug 1988	-23	Dec 1989	22	13.5	Jan 1977	4870	1342	1.4	34.3	269.3	23.2	100.7	5.2

+ 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: 1901-2001

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

Climatography
of the United States
No. 20
1971-2000

Station: PALESTINE 2 W, IL

COOP ID: 116558

Climate Division: IL 7   **NWS Call Sign:**   **Elevation: 470 Feet**   **Lat: 39°00N**   **Lon: 87°39W**

	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	2.45	1.66	3.62	1916	30	8.81	1999	.19	1986	9.1	5.6	1.6	.5	.39	.60	.95	1.29	1.64	2.02	2.46	2.99	3.70	4.86	5.97
Feb	2.58	2.57	2.70	1999	7	5.59	1990	.45	1978	8.2	5.1	1.8	.5	.74	.99	1.36	1.68	1.99	2.31	2.67	3.10	3.65	4.51	5.31
Mar	3.80	4.09	4.40	1904	25	7.83	1973	.68	1994	10.4	7.8	2.8	.8	1.10	1.46	2.01	2.48	2.94	3.41	3.94	4.57	5.37	6.64	7.82
Apr	4.00	3.61	2.70+	1994	30	9.58	1994	1.19	1976	11.3	8.6	2.8	.8	1.32	1.70	2.26	2.73	3.19	3.66	4.17	4.77	5.54	6.74	7.85
May	4.67	4.25	4.00	1996	8	10.94	1974	1.20	1987	10.5	7.7	3.3	1.4	1.23	1.67	2.35	2.94	3.53	4.14	4.83	5.64	6.70	8.36	9.92
Jun	3.81	3.86	3.22	1938	25	6.46	1973	.66	1988	9.5	6.8	2.7	.9	1.23	1.59	2.13	2.58	3.02	3.47	3.97	4.55	5.29	6.46	7.53
Jul	4.24	3.81	6.10	1958	11	11.32	1979	.81	1997	8.7	6.6	2.9	1.4	1.13	1.53	2.15	2.69	3.22	3.77	4.39	5.12	6.07	7.56	8.96
Aug	3.76	3.12	4.93	1951	29	8.22	1977	.98	1984	7.7	5.7	2.6	1.1	1.02	1.37	1.92	2.39	2.86	3.35	3.89	4.53	5.37	6.68	7.91
Sep	3.50	2.80	4.35	2000	10	9.09	1974	.10	1995	7.1	5.3	2.1	1.1	.40	.66	1.15	1.64	2.16	2.75	3.43	4.28	5.43	7.33	9.19
Oct	3.03	2.97	3.45	1905	18	6.65	1983	.88	1987	7.2	4.8	2.1	.8	1.05	1.34	1.75	2.10	2.44	2.79	3.16	3.60	4.16	5.04	5.84
Nov	3.85	3.15	4.11	1993	14	11.41	1985	.44	1999	9.2	6.5	2.8	1.0	.95	1.31	1.87	2.37	2.86	3.38	3.96	4.65	5.55	6.98	8.31
Dec	3.15	2.71	3.94	1982	3	8.48	1982	.18	1989	9.3	6.3	2.6	.7	.59	.87	1.34	1.76	2.20	2.66	3.19	3.83	4.68	6.05	7.35
Ann	42.84	43.72	6.10	Jul 1958	11	11.41	Nov 1985	.10	Sep 1995	108.2	76.8	30.1	11.0	31.17	33.44	36.35	38.55	40.50	42.38	44.31	46.45	49.04	52.78	56.00

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Climatography
of the United States
No. 20
1971-2000

Station: PALESTINE 2 W, IL

COOP ID: 116558

Climate Division: IL 7   NWS Call Sign: Elevation: 470 Feet   Lat: 39°00N   Lon: 87°39W

	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	5.8	4.0	1	1	8.0	1999	2	19.5	1979	13	1978	31	7	1977	3.3	2.5	.4	.2	.0	10.4	5.7	3.1	.5
Feb	3.6	2.6	2	#	8.0	1984	27	11.5	1979	13	1978	1	11	1978	2.0	1.4	.4	.2	.0	7.7	5.9	4.1	1.4
Mar	2.5	.5	#	0	10.0	1978	7	15.7	1978	17	1978	8	5	1978	1.0	.8	.3	.1	@	1.7	1.0	.6	.4
Apr	.2	.0	#	0	2.0	1973	10	3.0	1973	#+	1982	8	#+	1982	.2	.1	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	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	#	1989	18	#	1989	1	1993	30	#	1993	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.0	.0	#	0	3.0	1975	26	5.0+	1997	3	1975	26	#+	1997	.7	.4	.1	.0	.0	.7	@	.0	.0
Dec	3.8	2.5	1	#	12.5	1987	14	15.5+	1987	11	2000	31	6	2000	2.0	1.4	.3	.1	@	4.3	1.9	1.0	.4
Ann	16.9	9.6	N/A	N/A	12.5	Dec 1987	14	19.5	Jan 1979	17	Mar 1978	8	11	Feb 1978	9.2	6.6	1.5	.6	@	24.8	14.5	8.8	2.7

+ 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

Climatography
of the United States
No. 20
1971-2000

Station: PALESTINE 2 W, IL

COOP ID: 116558

Climate Division: IL 7   **NWS Call Sign:**   **Elevation: 470 Feet**   **Lat: 39°00N**   **Lon: 87°39W**

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	5/22	5/14	5/08	5/04	4/29	4/25	4/20	4/15	4/07
32	4/28	4/23	4/20	4/17	4/14	4/12	4/09	4/05	4/01
28	4/16	4/11	4/07	4/04	4/01	3/29	3/25	3/22	3/16
24	4/07	4/01	3/28	3/25	3/22	3/18	3/15	3/11	3/05
20	3/26	3/19	3/15	3/11	3/07	3/03	2/27	2/22	2/15
16	3/16	3/09	3/04	2/27	2/23	2/19	2/15	2/09	2/02
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	9/20	9/25	9/29	10/02	10/05	10/08	10/11	10/15	10/20
32	9/24	10/02	10/07	10/12	10/17	10/21	10/26	10/31	11/08
28	10/13	10/19	10/23	10/26	10/29	11/01	11/04	11/08	11/13
24	10/23	10/29	11/03	11/07	11/10	11/14	11/17	11/22	11/28
20	11/05	11/12	11/16	11/21	11/25	11/29	12/03	12/08	12/15
16	11/16	11/24	11/30	12/05	12/10	12/15	12/20	12/26	1/03
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	177	170	164	158	153	147	140	130
32	211	202	195	190	185	179	174	167	158
28	233	226	220	215	211	206	201	196	188
24	254	247	242	237	233	229	224	219	212
20	289	280	273	268	262	257	251	245	235
16	316	305	298	292	286	281	275	269	260

* 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

Climatography
of the United States
No. 20
1971-2000

Station: PALESTINE 2 W, IL

COOP ID: 116558

Climate Division: IL 7   **NWS Call Sign:**   **Elevation: 470 Feet**   **Lat: 39°00N**   **Lon: 87°39W**

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	1110	850	616	302	115	9	0	5	37	278	589	959	4870
60	955	712	473	181	53	2	0	0	9	171	444	804	3804
57	871	636	389	123	30	0	0	0	3	121	362	718	3253
55	811	583	338	91	19	0	0	0	2	93	310	659	2906
50	667	457	226	35	6	0	0	0	0	42	196	516	2145
32	256	133	23	0	0	0	0	0	0	0	10	145	567

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	170	208	430	699	1039	1270	1418	1353	1101	777	411	210	9086
55	12	13	32	99	346	580	705	640	412	157	21	10	3027
57	9	10	22	71	294	520	643	578	354	123	13	8	2645
60	0	3	12	40	225	431	550	485	270	81	5	0	2102
65	0	0	0	11	131	288	395	335	148	33	1	0	1342
70	0	0	0	2	64	163	245	199	61	10	0	0	744

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	32	71	219	463	786	1017	1169	1107	839	532	213	57	32	103	322	785	1571	2588	3757	4864	5703	6235	6448	6505
45	9	35	130	327	631	867	1014	952	689	384	127	27	9	44	174	501	1132	1999	3013	3965	4654	5038	5165	5192
50	3	11	72	207	476	717	859	797	539	250	67	10	3	14	86	293	769	1486	2345	3142	3681	3931	3998	4008
55	0	2	36	116	329	567	704	642	395	145	26	3	0	2	38	154	483	1050	1754	2396	2791	2936	2962	2965
60	0	0	10	58	203	417	549	487	262	67	7	0	0	0	10	68	271	688	1237	1724	1986	2053	2060	2060
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	15	41	130	277	497	690	803	756	556	323	115	30	15	56	186	463	960	1650	2453	3209	3765	4088	4203	4233

(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