

Climatology of the United States

No. 20

1971-2000

Station: PERRY, IA

COOP ID: 136566

Climate Division: IA 5

NWS Call Sign:

Elevation: 965 Feet Lat: 41° 50N Lon: 94° 07W

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	27.5	8.2	17.9	65	1956	5	29.3	1989	-32	1974	12	5.4	1979	1461	0	.0	.0	1.3	19.1	30.7	9.5
Feb	33.6	13.3	23.5	68	1990	13	34.0	1987	-33	1979	9	8.6	1979	1164	0	.0	.0	3.7	13.8	27.1	5.8
Mar	46.3	25.1	35.7	89	1986	30	42.8	2000	-30	1962	1	25.9	1975	909	0	.0	.0	11.6	4.9	23.1	.7
Apr	60.2	36.2	48.2	95	1980	23	55.0+	1981	6	1982	6	41.8	1983	507	3	.0	.1	23.3	.4	9.2	.0
May	72.0	48.4	60.2	98	1967	26	67.9	1977	24	1968	5	53.9	1997	209	61	.0	.7	30.6	.0	.9	.0
Jun	81.3	58.4	69.9	101+	1985	9	74.7	1971	37	1969	3	64.9	1982	26	172	.2	3.8	30.0	.0	.0	.0
Jul	85.1	62.8	74.0	104+	1956	26	77.7	1999	42	1972	5	68.8	1992	5	281	.2	8.1	31.0	.0	.0	.0
Aug	82.6	59.9	71.3	106	1988	16	78.2	1983	36	1950	20	66.2	1992	26	219	.4	5.0	31.0	.0	.0	.0
Sep	75.7	49.8	62.8	100+	1955	9	68.9	1998	25	1949	29	57.2	1974	131	64	@	2.1	30.0	.0	.8	.0
Oct	63.4	37.5	50.5	95	1963	5	56.9	1971	14	1988	30	44.4	1976	454	3	.0	.2	27.4	.0	9.3	.0
Nov	45.7	25.6	35.7	83	1968	1	44.3	1999	-13+	1991	7	26.9	1991	881	0	.0	.0	11.6	4.6	22.6	.5
Dec	31.5	14.0	22.8	69	1984	29	29.1	1998	-28	1989	23	7.7	1983	1310	0	.0	.0	2.4	15.0	29.9	5.4
Ann	58.7	36.6	47.7	106	Aug 1988	16	78.2	Aug 1983	-33	Feb 1979	9	5.4	Jan 1979	7083	803	.8	20.0	233.9	57.8	153.6	21.9

+ 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

091-A

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: PERRY, IA

COOP ID: 136566

Climate Division: IA 5

NWS Call Sign:

Elevation: 965 Feet Lat: 41°50N

Lon: 94°07W

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	.78	.73	1.37	1971	4	2.34	1982	.01+	1986	6.2	2.3	.3	@	.05	.09	.19	.29	.41	.55	.73	.94	1.25	1.77	2.28
Feb	.76	.60	1.13	1976	21	2.62	1971	.00	1987	5.8	2.3	.3	@	.06	.14	.26	.38	.49	.62	.76	.93	1.17	1.55	1.92
Mar	2.01	2.04	1.88	1990	8	5.43	1990	.12	1994	7.6	4.4	1.4	.3	.23	.38	.66	.94	1.24	1.57	1.96	2.45	3.11	4.20	5.26
Apr	3.07	2.65	2.92	1978	18	7.84	1991	.42	1989	10.2	6.0	1.9	.6	.59	.86	1.31	1.73	2.15	2.60	3.12	3.74	4.57	5.89	7.15
May	4.24	4.22	3.55	1960	6	9.18	1974	1.30	1992	11.8	7.7	2.7	1.0	1.24	1.64	2.25	2.77	3.28	3.82	4.40	5.10	5.99	7.40	8.71
Jun	4.74	4.44	4.26	1986	30	10.69	1986	.84	1992	10.6	7.5	3.2	1.5	1.40	1.86	2.53	3.11	3.68	4.27	4.92	5.69	6.68	8.23	9.67
Jul	4.07	3.85	3.96	1973	1	9.37	1992	.27	1975	9.1	6.3	2.9	1.0	.84	1.21	1.81	2.35	2.90	3.49	4.15	4.95	6.00	7.69	9.29
Aug	4.02	3.43	4.83	1963	6	9.92	1987	.38	1971	9.4	6.1	2.6	1.2	.69	1.05	1.63	2.18	2.75	3.36	4.06	4.91	6.04	7.87	9.61
Sep	3.00	2.82	4.10	2001	8	7.76	1973	.85	2000	8.3	5.4	2.1	.7	.78	1.07	1.50	1.89	2.26	2.66	3.10	3.63	4.31	5.39	6.40
Oct	2.41	2.60	2.23	1973	11	5.33	1977	.16	1988	7.6	4.8	1.8	.6	.35	.55	.90	1.24	1.58	1.97	2.41	2.95	3.68	4.86	6.00
Nov	1.81	1.53	2.06	1992	2	5.19	1983	.00	1976	7.8	3.9	1.3	.3	.12	.31	.59	.86	1.14	1.45	1.80	2.24	2.83	3.79	4.72
Dec	1.05	.81	1.77	1982	28	4.31	1982	.11	1979	7.3	2.6	.6	.1	.14	.22	.37	.52	.67	.84	1.04	1.28	1.61	2.16	2.68
Ann	31.96	33.30	4.83	Aug 1963	6	10.69	Jun 1986	.00+	Feb 1987	101.7	59.3	21.1	7.3	20.00	22.21	25.09	27.32	29.33	31.30	33.35	35.64	38.46	42.59	46.22

+ 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

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Station: PERRY, IA

COOP ID: 136566

Climate Division: IA 5

NWS Call Sign:

Elevation: 965 Feet

Lat: 41°50N

Lon: 94°07W

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	4.0	2.0	3	2	10.0	1971	4	13.0	1971	14+	1996	31	10	1971	2.3	1.8	.8	.3	@	10.2	5.8	4.2	1.8
Feb	4.3	3.5	2	1	8.0	1997	4	9.6	1983	14	1996	7	9	1972	2.0	1.5	.7	.3	.0	-9.9	-9.9	-9.9	-9.9
Mar	3.8	2.0	#	#	12.0	1983	27	16.0	1998	14	1998	13	5	1998	1.6	1.1	.6	.2	@	2.2	1.3	.9	.5
Apr	.8	.0	#	0	5.0	1997	12	8.0	1997	6	1979	2	6	1979	.2	.2	.2	@	.0	.1	.1	.1	.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	.1	.0	#	0	3.0	1980	28	3.0	1980	2	1997	27	#	1997	@	@	@	.0	.0	.0	.0	.0	.0
Nov	2.6	1.2	#	#	6.0	1972	14	10.0	1983	6	1983	30	1	1997	.9	.6	.4	.1	.0	1.0	.6	.2	.0
Dec	5.3	4.0	1	1	7.0	1972	12	24.7	2000	15	2000	30	11	2000	2.6	2.0	.8	.1	.0	7.8	3.9	2.1	1.8
Ann	20.9	12.7	N/A	N/A	12.0	Mar 1983	27	24.7	Dec 2000	15	Dec 2000	30	11	Dec 2000	9.6	7.2	3.5	1.0	@	-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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Climate Division: IA 5

NWS Call Sign:

Elevation: 965 Feet

Lat: 41° 50N

Lon: 94° 07W

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	5/18	5/14	5/11	5/08	5/06	5/03	5/01	4/28	4/24
32	5/10	5/06	5/03	4/30	4/28	4/25	4/22	4/19	4/15
28	4/27	4/22	4/19	4/16	4/13	4/10	4/07	4/04	3/30
24	4/18	4/14	4/11	4/08	4/06	4/03	3/31	3/28	3/24
20	4/15	4/10	4/06	4/02	3/30	3/27	3/24	3/19	3/14
16	4/07	3/31	3/26	3/22	3/19	3/15	3/11	3/06	2/27
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	9/14	9/17	9/20	9/22	9/24	9/26	9/28	10/01	10/05
32	9/21	9/26	9/29	10/01	10/04	10/06	10/09	10/12	10/16
28	9/27	10/03	10/08	10/11	10/15	10/18	10/22	10/26	11/01
24	10/11	10/16	10/20	10/24	10/27	10/30	11/02	11/06	11/12
20	10/17	10/24	10/29	11/02	11/05	11/09	11/13	11/18	11/24
16	10/30	11/05	11/10	11/14	11/18	11/21	11/25	11/30	12/06
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	152	148	144	141	137	133	129	123
32	176	170	166	162	159	155	151	147	141
28	206	198	193	188	184	179	175	169	161
24	221	215	211	207	204	200	196	192	186
20	246	237	230	225	219	214	208	202	193
16	272	262	255	249	243	238	231	224	214

* 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)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1461	1164	909	507	209	26	5	26	131	454	881	1310	7083
60	1306	1024	754	367	120	6	0	6	57	312	731	1155	5838
57	1213	940	661	290	80	2	0	2	30	237	641	1062	5158
55	1151	884	603	242	58	1	0	0	18	192	583	1000	4732
50	997	756	460	143	23	0	0	0	3	102	445	848	3777
32	491	337	103	3	0	0	0	0	0	2	95	367	1398

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	52	98	218	489	875	1136	1300	1216	923	574	204	80	7165
55	0	0	4	38	220	446	587	504	251	51	3	0	2104
57	0	0	1	26	180	388	525	443	203	34	1	0	1801
60	0	0	0	13	127	301	432	354	140	16	0	0	1383
65	0	0	0	3	61	172	281	219	64	3	0	0	803
70	0	0	0	0	23	75	148	115	21	0	0	0	382

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	12	84	294	634	903	1059	978	700	360	81	6	0	12	96	390	1024	1927	2986	3964	4664	5024	5105	5111
45	0	3	46	187	480	753	904	823	552	234	33	2	0	3	49	236	716	1469	2373	3196	3748	3982	4015	4017
50	0	0	19	106	337	603	749	668	405	136	12	0	0	0	19	125	462	1065	1814	2482	2887	3023	3035	3035
55	0	0	5	54	212	456	594	513	278	69	2	0	0	0	5	59	271	727	1321	1834	2112	2181	2183	2183
60	0	0	1	23	115	313	440	359	165	25	0	0	0	0	1	24	139	452	892	1251	1416	1441	1441	1441
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	16	65	187	386	595	716	654	449	234	54	4	0	16	81	268	654	1249	1965	2619	3068	3302	3356	3360

(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.

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| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
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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