

# Climatology of the United States

No. 20

1971-2000

Station: ALBIA 3 NNE, IA

COOP ID: 130112

Climate Division: IA 8

NWS Call Sign:

Elevation: 880 Feet

Lat: 41°04N

Lon: 92°47W

## 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	29.4	11.2	20.3	71	1989	31	32.5	1989	-24	1996	31	6.7	1979	1386	0	.0	.0	2.4	15.2	29.1	6.3
Feb	35.6	16.3	26.0	74	1972	29	37.6	1998	-31	1996	3	12.8	1978	1093	0	.0	.0	5.7	10.6	24.1	3.2
Mar	48.1	27.7	37.9	86	1986	29	44.3	2000	-15+	1960	5	28.6	1975	840	0	.0	.0	15.3	2.9	18.6	.3
Apr	60.3	38.5	49.4	90+	1952	29	56.3	1981	10	1975	3	42.6	1983	472	4	.0	.0	26.1	.2	6.4	.0
May	71.1	50.6	60.9	96	1956	12	66.9	1977	29+	1989	7	54.8	1997	182	53	.0	.1	30.9	.0	.2	.0
Jun	80.1	60.0	70.1	101+	1956	30	74.9	1971	40	1993	1	65.8	1982	20	172	.1	3.3	30.0	.0	.0	.0
Jul	85.0	65.1	75.1	106	1980	30	79.5	1980	45+	1971	30	70.6	1992	4	317	.7	10.0	31.0	.0	.0	.0
Aug	83.0	63.0	73.0	106	1954	4	81.4	1983	40	1950	20	66.9	1992	19	267	.6	7.2	31.0	.0	.0	.0
Sep	75.4	53.4	64.4	101+	1953	1	69.5	1978	28	1949	29	58.6	1974	98	80	.0	2.0	29.9	.0	.4	.0
Oct	63.9	42.2	53.1	96	1953	2	58.8	1971	16+	1972	19	47.5	1988	374	3	.0	.1	28.8	.0	4.5	.0
Nov	47.1	28.9	38.0	79+	1965	7	47.1	1999	-8	1964	30	30.6	1991	810	0	.0	.0	14.4	2.6	17.2	.2
Dec	33.8	17.0	25.4	71	1998	5	32.6	1994	-26	1989	23	10.5	1983	1227	0	.0	.0	3.9	11.3	27.8	3.4
Ann	59.4	39.5	49.5	106+	Jul 1980	30	81.4	Aug 1983	-31	Feb 1996	3	6.7	Jan 1979	6525	896	1.4	22.7	249.4	42.8	128.3	13.4

+ 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](http://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

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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: ALBIA 3 NNE, IA**

**COOP ID: 130112**

**Climate Division: IA 8**

**NWS Call Sign:**

**Elevation: 880 Feet**

**Lat: 41°04N**

**Lon: 92°47W**

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	1.12	1.01	1.23	1973	4	3.27	1996	.02	1981	7.0	3.2	.5	.1	.11	.19	.35	.50	.67	.86	1.09	1.36	1.75	2.38	3.00
Feb	1.34	1.11	2.23	1997	21	3.51	1997	.43	1991	6.7	3.7	.5	.1	.40	.53	.72	.88	1.04	1.21	1.39	1.61	1.89	2.32	2.73
Mar	2.39	2.25	1.96	1979	24	4.96	1979	.40	1989	7.8	5.0	1.3	.4	.50	.72	1.07	1.39	1.71	2.05	2.44	2.91	3.52	4.51	5.44
Apr	3.55	3.27	2.94	1976	24	7.18	1976	.91	1988	11.5	7.3	2.4	.7	1.12	1.46	1.96	2.39	2.80	3.23	3.70	4.25	4.96	6.06	7.08
May	4.80	4.66	3.20	1976	16	10.57	1986	.72	1980	11.5	8.6	3.5	1.1	1.27	1.73	2.42	3.03	3.63	4.26	4.96	5.79	6.87	8.57	10.16
Jun	4.54	4.65	4.83	1982	28	9.60	2000	.85	1992	10.4	7.5	3.0	1.2	1.46	1.89	2.53	3.07	3.59	4.13	4.73	5.42	6.32	7.71	9.00
Jul	5.03	3.97	7.25	1982	3	18.33	1982	.41	1975	9.2	6.6	3.2	1.6	.78	1.21	1.94	2.63	3.35	4.14	5.04	6.14	7.61	10.01	12.31
Aug	3.74	3.48	5.76	1977	7	12.64	1977	.70	1984	9.4	6.0	2.4	.9	.99	1.34	1.89	2.36	2.83	3.32	3.86	4.51	5.35	6.67	7.91
Sep	4.29	3.88	4.61	1992	15	10.77	1992	1.60	1979	9.2	6.2	3.0	1.3	1.32	1.73	2.34	2.86	3.36	3.89	4.46	5.14	6.01	7.37	8.63
Oct	2.74	2.59	3.60	1970	9	6.28	1998	.03	1975	8.2	5.4	1.7	.6	.44	.67	1.07	1.45	1.84	2.27	2.75	3.35	4.14	5.43	6.67
Nov	2.68	2.42	4.45	1961	2	6.53	1983	.08	1989	8.1	5.1	1.7	.5	.40	.63	1.01	1.39	1.77	2.19	2.68	3.28	4.08	5.38	6.63
Dec	1.43	1.44	2.28	1980	8	3.48	1980	.13	1976	7.3	3.8	.6	.2	.23	.35	.56	.75	.96	1.18	1.43	1.74	2.15	2.83	3.47
Ann	37.65	36.57	7.25	Jul 1982	3	18.33	Jul 1982	.02	Jan 1981	106.3	68.4	23.8	8.7	25.51	27.82	30.79	33.07	35.10	37.07	39.12	41.39	44.15	48.19	51.69

+ 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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Station: ALBIA 3 NNE, IA

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NWS Call Sign:

Elevation: 880 Feet

Lat: 41°04N

Lon: 92°47W

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	7.7	7.3	3	2	11.0	1996	27	22.8	1996	19	1979	16	13	1979	4.6	2.7	.8	.3	@	14.3	8.3	4.5	2.1
Feb	6.9	6.5	3	2	7.0	1979	8	21.5	1978	22	1979	8	14	1979	3.4	2.5	1.0	.3	.0	12.1	8.5	4.9	1.9
Mar	4.1	1.4	1	#	6.4	1999	6	15.0	1978	20	1978	3	10	1978	2.0	1.3	.6	.1	.0	4.7	2.9	1.5	.6
Apr	2.3	.0	#	0	13.5	1980	12	18.0	1973	18	1973	10	2	1973	.6	.4	.2	.2	.1	.9	.4	.4	.3
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	.6	.0	#	0	9.0	1980	28	9.0	1980	8	1997	27	#+	1997	.1	.1	.1	.1	.0	.1	.1	.1	.0
Nov	2.9	1.0	#	#	9.0	1991	23	14.1	1991	10	1991	25	2	1991	1.5	1.0	.3	.2	.0	2.5	1.1	.5	.1
Dec	7.0	5.1	2	1	10.1	2000	12	28.0	2000	19	2000	31	13	2000	3.8	2.2	.6	.2	@	10.9	6.6	3.4	.7
Ann	31.5	21.3	N/A	N/A	13.5	Apr 1980	12	28.0	Dec 2000	22	Feb 1979	8	14	Feb 1979	16.0	10.2	3.6	1.4	.1	45.5	27.9	15.3	5.7

+ 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

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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	5/16	5/11	5/08	5/05	5/02	4/29	4/26	4/23	4/18
32	5/02	4/28	4/25	4/23	4/21	4/18	4/16	4/13	4/09
28	4/18	4/15	4/12	4/10	4/08	4/06	4/04	4/02	3/30
24	4/14	4/10	4/08	4/05	4/03	4/01	3/29	3/27	3/23
20	4/11	4/05	4/01	3/28	3/24	3/21	3/17	3/13	3/07
16	3/30	3/24	3/20	3/16	3/13	3/09	3/06	3/01	2/23
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	9/24	9/27	9/30	10/02	10/04	10/07	10/10	10/14
32	9/23	9/28	10/03	10/06	10/09	10/13	10/16	10/20	10/26
28	10/04	10/10	10/14	10/17	10/21	10/24	10/27	10/31	11/06
24	10/17	10/23	10/27	10/30	11/02	11/05	11/09	11/13	11/18
20	10/28	11/02	11/06	11/10	11/13	11/16	11/19	11/23	11/29
16	11/01	11/07	11/12	11/16	11/20	11/24	11/28	12/02	12/09
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	171	165	160	156	152	149	145	140	134
32	192	184	179	175	171	167	162	157	150
28	214	207	203	198	195	191	187	182	175
24	230	224	220	216	212	209	205	201	195
20	257	249	243	237	233	228	223	217	208
16	279	269	263	257	252	246	241	234	225

\* 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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**Lat: 41°04N**

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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	1386	1093	840	472	182	20	4	19	98	374	810	1227	6525
60	1231	953	685	335	95	3	0	4	36	236	660	1072	5310
57	1138	869	597	261	59	1	0	0	16	167	572	979	4659
55	1076	819	540	216	41	0	0	0	8	127	516	917	4260
50	924	689	400	124	13	0	0	0	1	57	381	772	3361
32	432	290	78	3	0	0	0	0	0	0	70	313	1186

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	69	121	261	525	894	1142	1336	1272	972	652	250	109	7603
55	0	6	10	48	222	452	623	559	290	66	6	0	2282
57	0	0	5	33	178	393	561	497	238	44	2	0	1951
60	0	0	0	17	121	305	468	407	168	21	0	0	1507
65	0	0	0	4	53	172	317	267	80	3	0	0	896
70	0	0	0	0	17	73	179	152	29	0	0	0	450

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	9	40	144	379	690	944	1120	1061	781	459	131	16	9	49	193	572	1262	2206	3326	4387	5168	5627	5758	5774
45	0	17	84	258	535	794	965	906	631	318	73	5	0	17	101	359	894	1688	2653	3559	4190	4508	4581	4586
50	0	1	43	154	390	644	810	751	481	200	30	2	0	1	44	198	588	1232	2042	2793	3274	3474	3504	3506
55	0	0	20	80	248	495	655	596	346	113	12	0	0	0	20	100	348	843	1498	2094	2440	2553	2565	2565
60	0	0	5	38	135	347	500	441	221	50	3	0	0	0	5	43	178	525	1025	1466	1687	1737	1740	1740
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	3	25	95	233	424	631	766	714	504	274	74	9	3	28	123	356	780	1411	2177	2891	3395	3669	3743	3752

(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](http://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](http://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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)