

# Climatography of the United States

No. 20

1971-2000

Station: HEALY, KS

COOP ID: 143554

Climate Division: KS 4

NWS Call Sign:

Elevation: 2,850 Feet Lat: 38° 36N

Lon: 100° 37W

## 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	41.2	13.9	27.6	80+	1986	20	39.3	1986	-31	1918	11	13.4	1979	1162	0	.0	.0	11.5	8.1	30.5	3.0
Feb	47.4	18.5	33.0	87	1972	29	41.4	1999	-24	1933	8	20.0	1978	898	0	.0	.0	14.4	5.2	25.8	1.9
Mar	56.1	26.3	41.2	97	1907	19	48.8	1986	-25	1948	11	35.2	1980	737	0	.0	.1	21.9	1.8	21.1	.4
Apr	66.2	36.0	51.1	100+	1989	23	58.4	1981	4	1936	2	45.3	1984	421	3	@	.6	27.0	.2	9.5	.0
May	75.2	47.4	61.3	105	1927	17	65.5	1998	20	1907	27	54.4	1995	169	54	@	2.4	30.7	.0	.8	.0
Jun	87.1	58.2	72.7	112+	1974	29	77.1	1977	33	1917	2	66.6	1982	23	251	2.7	13.3	30.0	.0	.0	.0
Jul	92.6	63.2	77.9	116	1913	13	82.2	1980	43+	1924	3	74.0	1992	0	400	5.8	21.4	31.0	.0	.0	.0
Aug	90.1	61.8	76.0	113	1934	8	81.6	1983	39+	1928	24	70.1	1992	5	344	3.4	18.6	31.0	.0	.0	.0
Sep	81.7	51.6	66.7	109	1947	3	72.8	1998	24	1984	30	61.2	1974	74	124	.7	8.4	29.6	.0	.6	.0
Oct	70.0	38.3	54.2	99	1947	5	57.5	2000	5	1917	29	46.6	1976	341	4	.0	.8	29.4	.2	6.3	.0
Nov	53.2	25.3	39.3	87	1945	5	49.0	1999	-10	1952	28	31.3	1985	774	0	.0	.0	19.0	2.0	22.6	.1
Dec	44.0	17.1	30.6	84	1955	24	37.4	1999	-25	1989	22	15.1	1983	1067	0	.0	.0	12.3	5.7	29.7	1.8
Ann	67.1	38.1	52.6	116	Jul 1913	13	82.2	Jul 1980	-31	Jan 1918	11	13.4	Jan 1979	5671	1180	12.6	65.6	287.8	23.2	146.9	7.2

+ 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/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: 1901-2001

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

040-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: HEALY, KS**

**COOP ID: 143554**

**Climate Division: KS 4**

**NWS Call Sign:**

**Elevation: 2,850 Feet Lat: 38°36N**

**Lon: 100°37W**

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	.58	.43	1.25	1944	27	1.69	1993	.00	1986	3.2	1.5	.2	@	.01	.05	.12	.20	.30	.40	.53	.70	.93	1.32	1.72
Feb	.62	.32	2.31	1928	6	2.76	1993	.00	1977	3.6	1.7	.3	@	.01	.03	.10	.18	.28	.40	.54	.74	1.02	1.51	2.00
Mar	1.60	1.18	2.32	1942	25	6.33	1973	.00	1997	5.7	3.4	1.0	.3	.03	.11	.31	.52	.78	1.08	1.45	1.93	2.60	3.76	4.92
Apr	1.91	1.80	2.55	1905	23	5.77	1984	.23	1992	6.2	3.9	1.3	.4	.37	.55	.83	1.08	1.35	1.62	1.94	2.32	2.83	3.64	4.41
May	3.33	2.95	3.19	1955	18	7.31	1972	.53	1976	9.3	6.1	2.3	.9	1.04	1.36	1.83	2.23	2.62	3.02	3.47	3.99	4.66	5.70	6.67
Jun	2.80	2.24	3.95	1994	9	7.00	1982	.19	1981	7.4	4.5	2.0	.9	.50	.75	1.16	1.54	1.93	2.35	2.83	3.41	4.18	5.42	6.61
Jul	3.24	2.96	3.70	1995	18	11.40	1996	.00	1983	7.7	5.2	1.7	.9	.38	.77	1.32	1.79	2.26	2.76	3.32	4.00	4.90	6.34	7.70
Aug	2.73	1.94	3.44	1987	12	8.60	1997	.25	1978	6.4	4.4	1.5	.9	.40	.63	1.02	1.40	1.79	2.23	2.72	3.33	4.15	5.48	6.76
Sep	1.69	1.20	5.25	1919	17	6.10	1996	.01	1979	5.4	3.1	1.2	.4	.09	.19	.39	.62	.88	1.18	1.55	2.03	2.71	3.86	5.00
Oct	1.26	.81	4.25	1965	18	3.95	1984	.00	1975	3.7	2.4	.9	.3	.03	.11	.27	.44	.64	.88	1.16	1.53	2.04	2.91	3.78
Nov	1.19	.78	1.56	1975	19	3.85	1972	.00	1989	3.8	2.4	.9	.3	.06	.16	.34	.52	.70	.91	1.16	1.47	1.89	2.58	3.26
Dec	.52	.39	1.70	1913	5	1.48	1973	.00+	1996	3.1	1.6	.2	.0	.00	.03	.11	.19	.27	.37	.49	.64	.85	1.20	1.55
Ann	21.47	21.12	5.25	Sep 1919	17	11.40	Jul 1996	.00+	Mar 1997	65.5	40.2	13.5	5.3	13.85	15.27	17.11	18.54	19.81	21.06	22.36	23.80	25.57	28.17	30.43

+ 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: HEALY, KS

COOP ID: 143554

Climate Division: KS 4

NWS Call Sign:

Elevation: 2,850 Feet

Lat: 38°36N

Lon: 100°37W

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	5.0	4.0	2	1	13.0	1985	9	18.0	1985	16	1985	9	7	1993	2.5	1.5	.6	.2	@	9.0	5.5	3.3	.9
Feb	4.9	2.5	1	#	10.0	1993	11	20.0	1993	15	1982	12	8	1993	2.2	1.5	.6	.2	@	5.8	3.1	2.4	.8
Mar	6.0	3.7	#	#	13.0	1999	13	22.0	1984	13	1999	13	2+	1999	2.3	2.0	.6	.3	.1	3.1	1.5	.9	.2
Apr	2.3	.0	#	#	8.0	1994	12	14.0	1994	7	1997	12	1+	1997	.8	.7	.4	.2	.0	.9	.5	.2	.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	.2	.0	#	0	4.0	1995	21	4.0	1995	4	1995	21	#+	1995	.1	@	@	.0	.0	.1	@	.0	.0
Oct	1.1	.0	#	0	12.0	1997	26	12.0	1997	12	1997	26	1+	1997	.1	.1	.1	.1	@	.4	.3	.2	.1
Nov	3.7	2.0	#	#	12.0	1992	25	19.0	1992	14	1991	2	3	1992	1.4	1.1	.5	.2	@	3.3	1.6	.9	.3
Dec	3.2	2.9	1	#	6.0	1984	14	16.8	1973	9	1979	28	2	1997	1.8	1.5	.4	.1	.0	5.7	2.0	.3	.0
Ann	26.4	15.1	N/A	N/A	13.0+	Mar 1999	13	22.0	Mar 1984	16	Jan 1985	9	8	Feb 1993	11.2	8.4	3.2	1.3	.1	28.3	14.5	8.2	2.3

+ 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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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	5/23	5/19	5/15	5/13	5/10	5/08	5/05	5/02	4/27
32	5/15	5/10	5/06	5/02	4/29	4/26	4/23	4/19	4/13
28	5/02	4/27	4/24	4/21	4/18	4/15	4/13	4/09	4/04
24	4/18	4/14	4/10	4/07	4/05	4/02	3/30	3/27	3/22
20	4/13	4/06	4/02	3/29	3/26	3/22	3/19	3/14	3/08
16	4/08	4/02	3/29	3/25	3/21	3/17	3/14	3/09	3/03
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	9/17	9/21	9/24	9/27	9/30	10/02	10/05	10/08	10/13
32	9/21	9/26	9/30	10/04	10/07	10/11	10/14	10/18	10/24
28	10/02	10/07	10/11	10/14	10/17	10/20	10/23	10/27	11/01
24	10/15	10/20	10/24	10/27	10/30	11/02	11/05	11/08	11/13
20	10/22	10/28	11/01	11/04	11/08	11/11	11/14	11/19	11/24
16	10/31	11/06	11/10	11/13	11/16	11/19	11/22	11/26	12/02
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	153	149	145	142	138	135	130	124
32	183	175	170	165	161	156	152	146	138
28	198	192	188	184	181	178	174	170	164
24	227	220	215	211	207	203	199	195	188
20	250	242	236	231	226	221	216	210	202
16	262	254	249	244	239	235	230	224	216

\* 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	1162	898	737	421	169	23	0	5	74	341	774	1067	5671
60	1007	758	582	283	83	6	0	0	26	204	624	912	4485
57	914	681	490	210	48	2	0	0	11	136	536	819	3847
55	854	629	433	167	31	1	0	0	6	99	480	757	3457
50	709	500	293	83	8	0	0	0	0	39	345	610	2587
32	264	158	25	0	0	0	0	0	0	0	50	179	676

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	125	184	311	573	908	1219	1423	1363	1040	686	266	135	8233
55	2	11	6	50	226	529	710	650	355	73	6	0	2618
57	0	7	1	33	181	471	648	588	300	48	2	0	2279
60	0	0	0	15	123	384	555	495	225	22	0	0	1819
65	0	0	0	3	54	251	400	344	124	4	0	0	1180
70	0	0	0	0	18	143	248	206	56	0	0	0	671

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	25	74	189	387	691	994	1198	1138	825	484	134	38	25	99	288	675	1366	2360	3558	4696	5521	6005	6139	6177
45	1	32	104	261	540	844	1043	983	676	345	67	11	1	33	137	398	938	1782	2825	3808	4484	4829	4896	4907
50	0	7	51	155	391	694	888	828	531	219	27	0	0	7	58	213	604	1298	2186	3014	3545	3764	3791	3791
55	0	1	16	78	253	546	733	673	392	123	4	0	0	1	17	95	348	894	1627	2300	2692	2815	2819	2819
60	0	0	2	32	140	398	578	518	268	55	0	0	0	0	2	34	174	572	1150	1668	1936	1991	1991	1991
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	49	90	171	274	434	633	766	737	524	338	125	59	49	139	310	584	1018	1651	2417	3154	3678	4016	4141	4200

(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)