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: HOLCOMBE, WI 1971-2000 COOP ID: 473698

Climate Division: WI 1 NWS Call Sign: Elevation: 1,025 Feet Lat: 45°14N Lon: 91°08W

									r	Tempe	eratui	re (°F)									
	Mea	n (1)						Extr	emes					Degree Base To	Days (1) emp 65		Mean	Numb	er of I	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	21.6	-2.2	9.7	52	1981	25	21.4	1990	-44	1977	9	-2.4	1977	1716	0	.0	.0	.1	24.2	30.9	15.6
Feb	28.6	4.0	16.3	58+	2000	29	30.6	1998	-45+	1996	2	6.3	1979	1364	0	.0	.0	.7	16.4	27.8	9.4
Mar	39.8	17.3	28.6	81	1986	30	38.1	2000	-40	1962	1	21.1	1975	1130	0	.0	.0	5.6	6.8	26.9	3.2
Apr	55.1	30.6	42.9	90	1970	29	49.8	1987	1	1975	4	35.4	1975	666	1	.0	.0	20.4	.4	15.0	.0
May	68.5	42.6	55.6	94	1959	2	62.6	1977	20	1966	9	49.8	1997	319	26	.0	.1	30.5	.0	2.4	.0
Jun	76.2	51.8	64.0	95+	1971	27	69.3	1991	30	1985	2	58.7	1982	103	73	.0	.9	30.0	.0	.1	.0
Jul	80.6	56.8	68.7	99	1988	15	73.7	1988	38	1948	1	63.0	1992	28	143	.0	2.8	31.0	.0	.0	.0
Aug	77.9	54.7	66.3	100+	1988	1	71.3	1995	32	1967	31	61.9	1977	62	103	@	1.4	31.0	.0	.0	.0
Sep	69.2	45.6	57.4	95	1976	7	62.4	1978	21	1949	29	51.8	1993	243	15	.0	.3	29.8	.0	1.4	.0
Oct	57.4	34.8	46.1	89	1976	1	52.6	1971	11	1976	27	41.3	1988	587	0	.0	.0	24.5	.1	10.7	.0
Nov	39.6	21.8	30.7	72	2000	1	39.6	1999	-16	1976	30	23.0	1976	1030	0	.0	.0	6.4	6.3	24.7	.9
Dec	25.7	6.5	16.1	60+	1998	3	25.9	1997	-39	1983	19	2.3	1983	1516	0	.0	.0	.4	21.3	30.6	9.0
Ann	53.4	30.4	41.9	100+	Aug 1988	1	73.7	Jul 1988	-45+	Feb 1996	2	-2.4	Jan 1977	8764	361	@	5.5	210.4	75.5	170.5	38.1

⁺ Also occurred on an earlier date(s)

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Issue Date: February 2004 046-A

- (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

[@] Denotes mean number of days greater than 0 but less than .05

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										Pı	recipi	tation	(incl	nes)										
	Me	ans/	P	recip	itatio	on Total	s			М	ean N	Numbo Pays (3		Proba	ability th		nonthly/	annual j indic	precipita ated an		ll be equ		less tha	ın the
		ans(1)				Extremes	5			D	aily Pre	cipitatio	n		Th		•		•	incomplet	•		ion	
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	1.05	.93	1.81	1967	25	3.95	1996	.03	1985	6.5	3.2	.4	.1	.11	.19	.34	.49	.64	.82	1.02	1.28	1.63	2.21	2.77
Feb	.78	.72	1.20	1998	27	2.60	1981	.00	1997	5.1	2.8	.3	.1	.06	.14	.26	.38	.50	.63	.78	.97	1.22	1.62	2.02
Mar	1.75	1.58	1.25	1976	30	4.58	1977	.15	1978	6.3	4.0	1.1	.2	.38	.54	.80	1.03	1.26	1.51	1.79	2.12	2.56	3.27	3.93
Apr	2.74	2.67	3.00	1975	28	6.10	1975	.29	1987	7.8	5.5	1.9	.7	.74	1.00	1.40	1.74	2.08	2.44	2.84	3.31	3.92	4.88	5.78
May	3.34	2.70	3.18	1955	29	8.26	1973	1.14	1976	8.2	6.4	2.6	.9	1.07	1.39	1.85	2.25	2.64	3.04	3.47	3.99	4.65	5.67	6.62
Jun	4.21	3.61	3.65	1979	17	8.10	1980	1.49	1995	9.6	7.0	3.0	.9	1.63	2.02	2.58	3.04	3.48	3.92	4.41	4.97	5.68	6.77	7.77
Jul	3.63	3.37	5.85	1959	9	9.00	1987	1.20	1998	9.0	6.3	2.4	1.0	1.34	1.68	2.17	2.58	2.96	3.36	3.79	4.29	4.93	5.92	6.82
Aug	4.81	4.79	5.70	1960	28	9.14	1995	.78	1976	8.6	6.9	3.3	1.4	1.75	2.20	2.85	3.40	3.92	4.45	5.03	5.70	6.55	7.88	9.09
Sep	3.90	3.91	4.68	1958	6	9.56	1986	.77	1976	8.8	6.3	2.7	1.1	1.22	1.59	2.14	2.61	3.06	3.53	4.05	4.66	5.45	6.67	7.80
Oct	2.37	2.51	2.83	1966	15	5.54	1979	.59	1976	7.2	4.6	1.5	.6	.68	.91	1.25	1.54	1.83	2.13	2.46	2.85	3.35	4.15	4.88
Nov	2.13	1.87	2.90	1975	10	6.84	1991	.07	1976	6.6	4.4	1.6	.3	.35	.53	.84	1.13	1.44	1.76	2.14	2.60	3.21	4.20	5.14
Dec	1.05	1.07	1.32	1959	28	2.99	1982	.09	1989	6.1	3.2	.3	.1	.19	.28	.44	.58	.73	.89	1.07	1.28	1.57	2.04	2.48
Ann	31.76	31.93	5.85	Jul 1959	9	9.56	Sep 1986	.00	Feb 1997	89.8	60.6	21.1	7.4	22.30	24.12	26.46	28.23	29.81	31.34	32.92	34.67	36.80	39.88	42.55

⁺ Also occurred on an earlier date(s)

Complete documentation available from:

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

[#] 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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Climate Division: WI 1 NWS Call Sign:

Elevation: 1,025 Feet Lat: 45°14N Lon: 91°08W

										Snov	v (incl	hes)											
						Sno	ow To	tals									Mea	n Nu	mber	of Da	ys (1)		
	Mean	s/Medi	ans (1))					Extre	mes (2)							ow Fa					Deptl esholo	
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	16.7	16.6	8	8	9.0	1972	25	25.1	1971	26	1979	29	18	1979	5.7	3.9	1.4	.6	.0	-9.9	-9.9	-9.9	-9.9
Feb	8.0	8.5	10	9	8.0	1971	5	15.8	1971	36	1979	16	30	1979	3.7	2.1	.4	.1	.0	-9.9	-9.9	-9.9	-9.9
Mar	7.4	7.0	5	#	7.0	1972	4	17.5	1976	34	1972	10	20	1972	2.3	1.7	.9	.5	.0	-9.9	-9.9	-9.9	-9.9
Apr	1.6	1.0	1	0	3.0	1974	4	5.0+	1974	15+	1975	1	6	1975	.8	.8	.1	.0	.0	1.5	1.2	.9	.7
May	.1	.0	#	0	1.0	1973	2	1.0	1973	1	1973	2	#	1973	.1	.1	.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	#	1993	29	#	1993	#	1993	29	#	1993	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.4	1.0	1	0	5.0	1978	18	7.5	1977	11	1978	29	8	1978	1.0	.8	.3	.1	.0	1.4	.2	.0	.0
Dec	11.8	12.4	3	2	5.0	1971	19	21.0	1971	15	1978	31	11	1978	3.8	3.2	.8	.2	.0	-9.9	-9.9	-9.9	-9.9
Ann	48.0	46.5	N/A	N/A	9.0	Jan 1972	25	25.1	Jan 1971	36	Feb 1979	16	30	Feb 1979	17.4	12.6	3.9	1.5	.0	-9.9	-9.9	-9.9	-9.9

⁺ Also occurred on an earlier date(s) #Denotes trace amounts

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

[@] 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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				Freez	e Data				
			Spri	ng Freeze D	ates (Month/	Day)			
Temp (F)		P	robability of	later date i	n spring (thr	u Jul 31) tha	n indicated((*)	
icinp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	6/10	6/05	6/01	5/28	5/25	5/21	5/18	5/14	5/08
32	6/01	5/26	5/21	5/17	5/14	5/10	5/06	5/02	4/26
28	5/09	5/04	5/01	4/28	4/25	4/22	4/19	4/16	4/11
24	4/27	4/22	4/19	4/16	4/14	4/11	4/08	4/05	3/31
20	4/16	4/13	4/10	4/08	4/06	4/04	4/02	3/30	3/26
16	4/11	4/06	4/03	3/31	3/29	3/26	3/23	3/20	3/15
			Fal	l Freeze Da	tes (Month/D	ay)		•	
Temp (F)		Pro	bability of ea	arlier date i	n fall (beginn	ing Aug 1) t	han indicate	ed(*)	
Temp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/07	9/11	9/14	9/17	9/19	9/21	9/24	9/27	10/01
32	9/16	9/20	9/23	9/26	9/28	10/01	10/03	10/06	10/10
28	9/24	9/29	10/03	10/06	10/09	10/12	10/15	10/19	10/24
24	10/08	10/13	10/17	10/20	10/23	10/26	10/29	11/01	11/06
20	10/17	10/22	10/26	10/29	11/01	11/04	11/07	11/11	11/16
16	10/26	11/01	11/05	11/08	11/11	11/15	11/18	11/22	11/28
				Freeze F	ree Period			•	
Temp (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	138	130	125	121	117	112	108	103	95
32	161	153	147	141	137	132	127	121	113
28	186	179	174	170	166	162	158	154	147
24	213	206	200	196	191	187	182	177	169
20	225	220	215	212	208	205	201	197	191
16	251	243	237	232	227	222	217	211	203

^{*} 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.

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				Deg	ree Days t	o Selected	Base Tem	peratures	(°F)				
Base						Heatin	g Degree l	Days (1)					
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1716	1364	1130	666	319	103	28	62	243	587	1030	1516	8764
60	1561	1224	975	521	206	40	5	17	131	434	880	1361	7355
57	1468	1140	882	437	150	19	0	6	81	347	790	1268	6588
55	1406	1084	820	384	119	11	0	2	55	292	730	1206	6109
50	1251	944	667	263	58	2	0	0	16	173	582	1051	5007
32	707	476	213	24	0	0	0	0	0	5	162	537	2124

Base						Coolin	g Degree I	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	14	37	106	349	730	960	1137	1064	762	441	121	43	5764
55	0	0	0	18	136	281	424	353	127	15	0	0	1354
57	0	0	0	12	105	229	362	295	93	8	0	0	1104
60	0	0	0	6	67	160	274	213	53	3	0	0	776
65	0	0	0	1	26	73	143	103	15	0	0	0	361
70	0	0	0	0	8	21	56	35	2	0	0	0	122

										Gro	wing	Degre	e Uni	ts (2)										
Base					Growing	g Degree	Units (N	Ionthly)								Growi	ng Degre	ee Units (Accumu	lated Mo	nthly)			
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Do												Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	0	31	196	544	765	937	865	574	263	33	2	0	0	31	227	771	1536	2473	3338	3912	4175	4208	4210
45												0	0	0	13	124	518	1133	1915	2625	3050	3200	3214	3214
50												0	0	0	3	58	313	778	1405	1960	2246	2318	2320	2320
55	0	0	0	20	147	323	472	400	171	27	0	0	0	0	0	20	167	490	962	1362	1533	1560	1560	1560
60	0	0	0	6	73	189	318	252	88	7	0	0	0	0	0	6	79	268	586	838	926	933	933	933
Base	se Growing Degree Units for Corn (Monthly)													Gr	owing D	egree Un	its for C	orn (Acc	umulate	d Month	ly)			
50/86	50/86 0 1 22 136 344 488 616 559 351 159 21											0	0	1	23	159	503	991	1607	2166	2517	2676	2697	2697

(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

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

- c. Snow Tables
 - 1. Snow Climatology
 - 2. Cooperative Summary of the Day
- d. Freeze Data Table

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

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