

Climatography of the United States

No. 20

1971-2000

Station: BREWSTER, NE

COOP ID: 251130

Climate Division: NE 2

NWS Call Sign:

Elevation: 2,495 Feet Lat: 41° 56N

Lon: 99° 52W

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	33.9	6.5	20.2	72	1981	24	32.0	1992	-34	1996	31	2.4	1979	1389	0	.0	.0	4.9	13.3	30.9	8.4
Feb	39.1	11.8	25.5	81	1982	23	35.2	1992	-35	1996	4	10.2	1978	1108	0	.0	.0	7.9	9.4	27.3	4.4
Mar	48.7	20.6	34.7	86	1978	31	40.3	1986	-26	1980	1	27.5	1996	941	0	.0	.0	14.8	4.0	26.6	.8
Apr	60.4	30.9	45.7	93	1981	27	53.5	1981	2	1975	3	39.0	1983	580	0	.0	.3	23.6	.6	14.7	.0
May	70.7	42.4	56.6	99	1992	1	62.9	1977	19	1981	10	51.0	1995	285	22	.0	.5	30.0	.0	2.6	.0
Jun	81.3	52.2	66.8	108	1988	22	74.5	1988	32	1969	2	60.8	1982	71	123	.4	4.9	29.9	.0	.0	.0
Jul	87.3	58.1	72.7	109	1980	7	76.4	1980	38	1971	30	67.5	1992	8	247	2.0	12.6	31.0	.0	.0	.0
Aug	85.6	55.6	70.6	105+	2000	15	77.1	2000	37+	1976	28	65.4	1974	36	210	1.1	10.8	31.0	.0	.0	.0
Sep	76.8	44.5	60.7	100+	1984	7	67.8	1998	18	1976	28	56.5	1974	176	46	.1	4.5	29.5	.0	2.0	.0
Oct	64.7	32.0	48.4	93+	1990	6	51.5	1973	6	1997	27	42.6	1976	517	0	.0	.4	27.0	.3	12.9	.0
Nov	46.8	18.7	32.8	82	1990	1	43.1	1999	-20	1976	28	20.1	1985	967	0	.0	.0	13.3	5.5	27.0	1.5
Dec	37.1	9.6	23.4	73	1998	3	31.6	1999	-35	1983	22	3.3	1983	1292	0	.0	.0	6.6	11.0	30.7	5.0
Ann	61.0	31.9	46.5	109	Jul 1980	7	77.1	Aug 2000	-35+	Feb 1996	4	2.4	Jan 1979	7370	648	3.6	34.0	249.5	44.1	174.7	20.1

+ 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

016-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: BREWSTER, NE

COOP ID: 251130

Climate Division: NE 2

NWS Call Sign:

Elevation: 2,495 Feet Lat: 41°56N

Lon: 99°52W

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	.41	.21	1.10	1979	19	1.36	1989	.00+	1986	2.9	1.3	.2	@	.00	.03	.10	.16	.23	.31	.40	.51	.66	.92	1.17
Feb	.64	.41	1.28	1980	23	3.04	1984	.00+	1982	3.2	1.6	.4	.1	.00	.01	.06	.14	.24	.36	.53	.74	1.06	1.62	2.20
Mar	1.33	.96	1.70	1983	5	4.57	1977	.20	1994	5.2	3.1	.8	.3	.16	.26	.45	.64	.83	1.05	1.31	1.62	2.05	2.76	3.44
Apr	1.90	1.78	3.30	2001	7	4.11	1984	.36	1989	7.4	4.6	1.1	.1	.45	.63	.91	1.16	1.40	1.66	1.95	2.30	2.75	3.47	4.14
May	3.58	3.40	5.60	1964	3	7.92	1995	.51	1994	9.3	6.4	2.3	.8	1.08	1.42	1.93	2.37	2.79	3.23	3.72	4.29	5.03	6.19	7.25
Jun	3.72	3.23	2.75	1974	9	8.77	1998	.70	1978	9.0	6.0	2.5	1.0	1.04	1.39	1.93	2.39	2.85	3.32	3.85	4.47	5.28	6.55	7.73
Jul	3.23	3.30	2.78	1988	1	7.25	1976	.08	1991	7.7	5.1	1.8	.9	.51	.79	1.25	1.70	2.16	2.66	3.24	3.94	4.88	6.41	7.87
Aug	3.06	3.21	3.15	1984	21	6.37	1992	.31	1972	6.7	4.3	1.6	.6	.63	.91	1.36	1.77	2.18	2.63	3.12	3.72	4.51	5.77	6.97
Sep	1.75	1.39	4.00	1958	14	7.79	1973	.07	1980	5.8	3.6	1.3	.4	.20	.34	.58	.82	1.08	1.37	1.71	2.13	2.71	3.65	4.57
Oct	1.36	1.09	2.17	1949	10	4.09	1997	.06	1988	4.4	3.0	.9	.2	.13	.23	.41	.60	.80	1.04	1.31	1.65	2.12	2.91	3.67
Nov	1.03	1.06	1.22	1993	13	2.67	2000	.00+	1999	3.7	2.4	.6	.1	.00	.05	.20	.35	.53	.72	.96	1.26	1.68	2.38	3.09
Dec	.53	.20	3.39	1982	28	5.47	1982	.00+	1983	2.7	1.3	.2	.1	.00	.01	.06	.12	.20	.31	.44	.62	.88	1.34	1.80
Ann	22.54	22.92	5.60	May 1964	3	8.77	Jun 1998	.00+	Nov 1999	68.0	42.7	13.7	4.6	15.03	16.44	18.27	19.67	20.93	22.14	23.41	24.81	26.53	29.03	31.21

+ 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: BREWSTER, NE

COOP ID: 251130

Climate Division: NE 2

NWS Call Sign:

Elevation: 2,495 Feet

Lat: 41°56N

Lon: 99°52W

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	5.6	3.1	2	1	18.0	1988	19	24.2	1988	16	1979	31	13	1979	2.3	1.7	.7	.2	@	4.8	2.6	1.1	.1
Feb	4.6	3.5	1	#	8.0	1984	12	26.5	1984	16	1979	20	16	1979	2.0	1.4	.5	.2	.0	4.4	2.5	.8	.4
Mar	5.2	3.5	1	#	10.0	1980	28	15.5	1998	15	1979	5	5	1979	2.1	1.5	.5	.2	@	2.8	1.1	.9	.1
Apr	1.3	1.0	#	#	12.0	1984	3	12.0	1984	12	1984	3	1	1997	1.0	.9	.2	.1	@	1.2	.5	.3	.1
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	.1	.0	#	0	2.0	1995	21	2.0	1995	#	1985	28	#	1985	.1	@	.0	.0	.0	.0	.0	.0	.0
Oct	1.2	.0	#	0	6.0	1995	23	11.0	1995	8	1995	24	1+	1997	.5	.5	.1	.1	.0	.7	.3	.2	.0
Nov	6.8	2.0	1	#	14.0	1975	19	30.0	1975	15	1983	28	4+	2000	1.7	1.5	.9	.4	.1	3.6	2.4	1.3	.3
Dec	4.3	1.5	2	#	11.0	1981	1	20.0	1981	14	1978	3	10	1981	1.8	1.3	.5	.2	@	3.7	.9	.4	.0
Ann	29.1	14.6	N/A	N/A	18.0	Jan 1988	19	30.0	Nov 1975	16+	Feb 1979	20	16	Feb 1979	11.5	8.8	3.4	1.4	.1	21.2	10.3	5.0	1.0

+ 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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No. 20 1971-2000

Station: BREWSTER, NE

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Climate Division: NE 2

NWS Call Sign:

Elevation: 2,495 Feet

Lat: 41° 56N

Lon: 99° 52W

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	6/03	5/29	5/25	5/21	5/18	5/15	5/12	5/08	5/03
32	5/19	5/15	5/12	5/09	5/07	5/04	5/02	4/29	4/25
28	5/10	5/06	5/03	4/30	4/28	4/25	4/22	4/19	4/15
24	5/04	4/29	4/25	4/22	4/19	4/16	4/13	4/10	4/05
20	4/25	4/20	4/16	4/13	4/10	4/08	4/04	4/01	3/27
16	4/12	4/07	4/04	3/31	3/28	3/25	3/22	3/18	3/13
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	9/08	9/12	9/15	9/17	9/19	9/21	9/23	9/26	9/30
32	9/13	9/17	9/20	9/23	9/25	9/28	10/01	10/04	10/08
28	9/19	9/24	9/28	10/02	10/05	10/08	10/12	10/15	10/21
24	9/27	10/02	10/06	10/10	10/13	10/16	10/19	10/23	10/28
20	10/02	10/08	10/13	10/17	10/21	10/24	10/28	11/02	11/08
16	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/11	11/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	143	136	131	127	123	119	115	110	103
32	159	153	149	145	141	137	134	129	123
28	179	172	167	163	160	156	152	147	141
24	196	189	184	180	176	171	167	162	155
20	213	206	201	197	193	189	184	179	172
16	238	231	225	221	217	213	209	203	196

* 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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Climate Division: NE 2 NWS Call Sign: Elevation: 2,495 Feet Lat: 41°56N Lon: 99°52W

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	1389	1108	941	580	285	71	8	36	176	517	967	1292	7370
60	1234	968	786	435	170	25	0	10	86	364	817	1137	6032
57	1141	884	693	351	116	11	0	4	48	276	727	1044	5295
55	1079	834	631	298	87	6	0	2	30	223	667	982	4839
50	936	703	484	184	35	1	0	0	7	113	529	837	3829
32	453	300	94	5	0	0	0	0	0	2	147	361	1362

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	87	117	176	415	761	1042	1262	1197	861	508	170	92	6688
55	1	6	0	18	134	358	549	486	201	16	0	0	1769
57	0	0	0	11	102	303	487	426	159	7	0	0	1495
60	0	0	0	5	63	227	394	339	106	2	0	0	1136
65	0	0	0	0	22	123	247	210	46	0	0	0	648
70	0	0	0	0	5	52	123	112	15	0	0	0	307

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	1	29	78	244	558	840	1051	996	658	327	73	14	1	30	108	352	910	1750	2801	3797	4455	4782	4855	4869
45	0	8	38	142	408	690	896	841	511	208	30	0	0	8	46	188	596	1286	2182	3023	3534	3742	3772	3772
50	0	1	10	77	269	541	741	686	372	112	11	0	0	1	11	88	357	898	1639	2325	2697	2809	2820	2820
55	0	0	1	32	159	392	586	533	248	49	1	0	0	0	1	33	192	584	1170	1703	1951	2000	2001	2001
60	0	0	0	12	76	255	432	381	143	15	0	0	0	0	0	12	88	343	775	1156	1299	1314	1314	1314
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	19	38	87	181	348	533	681	644	425	253	73	25	19	57	144	325	673	1206	1887	2531	2956	3209	3282	3307

(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/normal/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.

- | | |
|---|---|
| <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 |
|---|---|

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