U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: BLAIR, NE **COOP ID: 250930**

Climate Division: NE 6 **NWS Call Sign:** **Elevation: 1,090 Feet** **Lat: 41˚33N** **Lon: 96˚08W**

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	31.7	11.2	21.5	70	1981	25	32.0	1989	-23	1966	29	9.3	1979	1350	0	.0	.0	2.7	16.2	30.3	7.9
Feb	37.2	16.3	26.8	77	1972	29	36.7	1987	-24+	1996	3	11.7	1979	1071	0	.0	.0	5.9	11.7	25.9	4.1
Mar	49.6	26.7	38.2	87	1968	31	43.8	1977	-16	1960	5	29.1	1975	831	0	.0	.0	14.7	3.9	21.3	.6
Apr	63.0	37.8	50.4	98	1994	19	58.2	1981	8	1975	3	43.8	1983	445	7	.0	.4	24.7	.3	7.6	.0
May	73.7	49.5	61.6	100	1967	26	68.4	1977	23	1966	1	55.9	1997	175	70	.0	.7	30.7	.0	.6	.0
Jun	82.9	59.7	71.3	104	1988	21	76.0	1971	40+	1998	5	67.1	1982	18	207	.2	5.6	30.0	.0	.0	.0
Jul	86.7	64.4	75.6	108	1995	13	81.4	1974	43+	1972	5	69.1	1992	6	333	.8	10.0	31.0	.0	.0	.0
Aug	84.3	61.6	73.0	105	1983	16	80.0	1983	38	1967	31	68.1	1992	17	264	.1	7.0	31.0	.0	.0	.0
Sep	76.8	51.9	64.4	101	2000	3	70.7	1998	27	1984	29	59.0	1993	100	79	@	2.5	29.8	.0	.4	.0
Oct	65.3	40.0	52.7	94	1975	13	56.6	2000	9	1952	27	47.8	1976	386	2	.0	.2	28.1	@	5.8	.0
Nov	47.8	26.9	37.4	85	1999	14	46.8	1999	-12	1964	30	29.4	1991	830	0	.0	.0	13.1	3.9	21.2	.3
Dec	34.8	16.2	25.5	68+	1998	2	32.5	1979	-24+	1989	23	7.8	1983	1226	0	.0	.0	3.5	13.1	29.6	3.9
Ann	61.2	38.5	49.9	108	Jul 1995	13	81.4	Jul 1974	-24+	Feb 1996	3	7.8	Dec 1983	6455	962	1.1	26.4	245.2	49.1	142.7	16.8

+ 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/normals/usnormals.html

(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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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	.73	.72	1.14	1960	15	1.60	1979	.00+	1987
Feb	.74	.63	1.73	1954	20	2.42	1971	.09	1974
Mar	2.66	2.33	4.90	1987	29	10.74	1987	.00	1988
Apr	3.06	3.01	2.52	1959	20	8.56	1984	.18	1990
May	3.96	3.80	2.90	1979	2	9.11	1982	.83	1989
Jun	4.34	4.26	3.73	1967	5	10.46	1998	1.20	1973
Jul	3.69	3.75	3.85	1985	19	7.91	1990	.23	1974
Aug	3.07	2.92	6.27	1999	7	7.68	1999	.69	1971
Sep	3.09	2.22	5.92	1982	12	8.05	1982	.07	1980
Oct	2.31	2.04	3.55	1980	16	5.95	1984	.00	1988
Nov	1.59	1.61	2.62	1948	19	5.17	1983	.00	1976
Dec	.95	.90	2.97	1984	16	4.34	1984	.07	1989
Ann	30.19	29.88	6.27	Aug 1999	7	10.74	Mar 1987	.00+	Oct 1988

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.2	2.2	.3	@
Feb	4.6	2.3	.3	.1
Mar	7.0	4.8	1.6	.7
Apr	8.8	6.2	2.0	.7
May	10.7	7.7	2.9	.8
Jun	8.8	6.9	2.9	1.4
Jul	8.2	6.0	2.5	.9
Aug	7.5	5.3	1.8	.8
Sep	6.6	4.7	1.7	1.0
Oct	5.7	4.0	1.5	.7
Nov	5.3	3.4	1.0	.4
Dec	4.6	2.4	.6	.1
Ann	82.0	55.9	19.1	7.6

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.00	.00	.20	.33	.46	.59	.74	.93	1.17	1.57	1.95
Feb	.10	.16	.27	.37	.48	.60	.74	.91	1.14	1.51	1.87
Mar	.13	.37	.77	1.16	1.58	2.05	2.60	3.28	4.21	5.75	7.25
Apr	.61	.89	1.34	1.75	2.17	2.61	3.12	3.72	4.53	5.81	7.03
May	1.30	1.68	2.23	2.70	3.15	3.62	4.12	4.72	5.49	6.68	7.77
Jun	1.40	1.81	2.42	2.94	3.44	3.96	4.52	5.19	6.04	7.38	8.61
Jul	.45	.74	1.26	1.78	2.32	2.93	3.64	4.51	5.69	7.64	9.52
Aug	.71	.99	1.44	1.85	2.25	2.68	3.15	3.73	4.48	5.67	6.79
Sep	.44	.69	1.14	1.56	2.01	2.51	3.07	3.77	4.72	6.25	7.73
Oct	.09	.27	.60	.94	1.31	1.72	2.22	2.84	3.69	5.12	6.53
Nov	.13	.30	.56	.79	1.03	1.30	1.60	1.97	2.46	3.26	4.03
Dec	.13	.21	.35	.48	.62	.77	.95	1.16	1.45	1.93	2.39
Ann	20.43	22.28	24.68	26.51	28.15	29.74	31.39	33.22	35.45	38.70	41.53

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	6.6	5.1	2	1	10.0	1991	5	20.8	1975	14	1984	1	12	1984	3.3	2.1	.7	.2	@	7.4	4.0	2.1	.0
Feb	5.9	4.7	2	1	11.5	1971	22	20.2	1999	12+	1999	23	11	1978	2.6	1.8	.8	.3	@	8.2	4.9	3.2	.1
Mar	4.9	3.3	1	0	12.0	1987	29	20.0	1984	12	1998	11	3	1998	1.9	1.5	.6	.3	@	3.3	2.1	1.2	.3
Apr	1.7	.0	#	0	12.5	1992	21	12.9	1997	12+	1997	12	1+	1997	.5	.4	.1	.1	@	.3	.2	.1	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	.0	#	0	4.5	1980	27	6.5	1980	3+	1997	26	#+	1997	.2	.1	.1	.0	.0	.1	@	.0	.0
Nov	2.6	1.9	#	#	8.5	1983	28	8.5	1983	9	1983	29	2	1978	1.3	.6	.3	.1	.0	1.5	.4	.1	.0
Dec	6.3	5.8	1	1	7.8	1994	7	15.2	2000	16	1983	31	10	1983	3.0	1.9	.7	.1	.0	9.5	6.6	4.1	.7
Ann	28.4	20.8	N/A	N/A	12.5	Apr 1992	21	20.8	Jan 1975	16	Dec 1983	31	12	Jan 1984	12.8	8.4	3.3	1.1	@	30.3	18.2	10.8	1.2

+ 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	5/18	5/12	5/08	5/05	5/02	4/29	4/25	4/21	4/16
32	5/09	5/04	5/01	4/28	4/25	4/22	4/19	4/16	4/11
28	4/23	4/19	4/16	4/13	4/11	4/08	4/06	4/03	3/30
24	4/18	4/13	4/09	4/06	4/03	3/31	3/27	3/24	3/18
20	4/10	4/04	3/31	3/27	3/24	3/21	3/17	3/13	3/07
16	4/01	3/27	3/23	3/20	3/17	3/15	3/11	3/08	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	9/14	9/19	9/23	9/26	9/29	10/02	10/05	10/09	10/14
32	9/23	9/29	10/03	10/06	10/10	10/13	10/16	10/20	10/26
28	10/06	10/11	10/14	10/17	10/20	10/23	10/26	10/30	11/04
24	10/15	10/21	10/26	10/30	11/02	11/06	11/10	11/14	11/20
20	10/26	10/31	11/04	11/07	11/11	11/14	11/17	11/21	11/27
16	10/31	11/06	11/10	11/14	11/18	11/21	11/25	11/29	12/05

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	172	164	159	154	149	145	140	134	127
32	186	180	175	171	167	163	159	154	147
28	212	205	200	196	192	188	184	179	172
24	239	230	224	218	213	208	203	196	187
20	255	247	241	236	231	226	221	215	207
16	266	259	253	249	245	240	236	230	223

***** 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	1350	1071	831	445	175	18	6	17	100	386	830	1226	6455
60	1195	931	677	312	94	3	0	3	37	246	680	1071	5249
57	1102	847	587	241	59	1	0	0	16	174	593	978	4598
55	1040	798	531	199	42	0	0	0	8	133	537	916	4204
50	890	667	392	113	14	0	0	0	1	61	401	767	3306
32	406	274	74	2	0	0	0	0	0	0	82	303	1141

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	78	128	265	554	917	1180	1350	1270	970	640	242	101	7695
55	0	7	10	61	246	490	637	557	288	60	7	0	2363
57	0	0	4	43	202	430	575	495	236	39	3	0	2027
60	0	0	0	24	143	343	482	405	167	17	0	0	1581
65	0	0	0	7	70	207	333	264	79	2	0	0	962
70	0	0	0	1	26	101	197	149	29	0	0	0	503

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	3	31	119	344	673	946	1106	1033	742	411	98	7	3	34	153	497	1170	2116	3222	4255	4997	5408	5506	5513
45	0	9	62	229	519	796	951	878	593	278	46	3	0	9	71	300	819	1615	2566	3444	4037	4315	4361	4364
50	0	1	26	135	369	646	796	723	450	168	18	0	0	1	27	162	531	1177	1973	2696	3146	3314	3332	3332
55	0	0	6	71	239	496	641	568	313	85	4	0	0	0	6	77	316	812	1453	2021	2334	2419	2423	2423
60	0	0	1	31	131	350	486	414	200	35	0	0	0	0	1	32	163	513	999	1413	1613	1648	1648	1648
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	5	27	87	216	409	625	750	696	475	254	66	9	5	32	119	335	744	1369	2119	2815	3290	3544	3610	3619

(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

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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

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

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   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