

Climatology of the United States

No. 20

1971-2000

Station: LOUISBURG, NC

COOP ID: 315123

Climate Division: NC 3

NWS Call Sign:

Elevation: 260 Feet Lat: 36°06N Lon: 78°18W

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	50.7	24.7	37.7	83	1952	2	47.2	1974	-10	1985	21	26.9	1977	846	0	.0	.0	15.8	1.8	24.5	.3
Feb	54.4	26.4	40.4	83+	1997	28	46.9	1990	-5	1979	10	32.3	1979	689	0	.0	.0	17.3	.9	21.5	.2
Mar	63.1	33.9	48.5	91	1990	13	52.7	1997	8+	1980	4	43.5	1981	512	0	.0	@	26.7	.1	15.6	.0
Apr	72.5	41.5	57.0	95+	1985	24	61.6	1985	20	1985	10	52.4	1987	249	8	.0	.9	29.6	.0	5.4	.0
May	79.3	50.8	65.1	99	1953	31	70.7	1991	28	1963	2	61.4	1992	77	78	.0	2.4	31.0	.0	.4	.0
Jun	86.5	60.0	73.3	105+	1954	27	78.6	1981	36	1977	8	69.0	1979	10	258	.1	10.9	30.0	.0	.0	.0
Jul	90.4	65.2	77.8	106	1952	29	82.2	1993	43	1975	2	74.8	1989	0	397	.9	17.3	31.0	.0	.0	.0
Aug	88.7	62.9	75.8	103+	1983	23	79.2	1999	40+	1986	29	72.0	1986	2	338	.5	13.3	31.0	.0	.0	.0
Sep	82.5	56.4	69.5	106	1954	6	73.9	1980	33+	1981	29	65.1	1976	31	165	.1	4.8	30.0	.0	.0	.0
Oct	72.8	42.3	57.6	101	1954	6	64.4	1984	16	1962	27	51.7	1987	259	29	.0	@	30.8	.0	5.2	.0
Nov	63.7	34.0	48.9	88	1950	1	58.2	1985	11+	1991	28	40.9	1976	486	2	.0	.0	27.1	.0	15.3	.0
Dec	54.3	27.2	40.8	80+	1998	8	48.5	1971	-1	1958	16	32.2	1989	752	0	.0	.0	19.8	.8	22.5	.0
Ann	71.6	43.8	57.7	106+	Sep 1954	6	82.2	Jul 1993	-10	Jan 1985	21	26.9	Jan 1977	3913	1275	1.6	49.6	320.1	3.6	110.4	.5

+ 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

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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: LOUISBURG, NC

COOP ID: 315123

Climate Division: NC 3

NWS Call Sign:

Elevation: 260 Feet Lat: 36°06N

Lon: 78°18W

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	4.14	3.94	2.65	1962	7	7.61	1998	.95	1981	10.7	7.6	2.8	1.0	1.70	2.08	2.61	3.05	3.46	3.88	4.34	4.86	5.52	6.53	7.44	
Feb	3.52	3.27	2.31	1970	17	7.79	1989	.76	1991	8.7	6.0	2.3	.9	.99	1.32	1.83	2.27	2.70	3.15	3.65	4.24	5.00	6.20	7.32	
Mar	4.37	3.76	3.37	1998	9	8.20	1998	1.52	1985	10.0	7.5	3.0	1.1	1.90	2.29	2.84	3.29	3.71	4.13	4.58	5.11	5.76	6.77	7.67	
Apr	3.19	3.09	3.70	1987	16	8.26	1987	.37	1985	8.1	5.5	1.9	.8	.63	.92	1.38	1.81	2.25	2.71	3.24	3.88	4.72	6.07	7.35	
May	4.34	3.81	4.00	1983	19	10.26	1984	1.52	1997	9.8	6.8	3.1	1.4	1.84	2.23	2.78	3.23	3.66	4.08	4.55	5.08	5.75	6.77	7.70	
Jun	3.73	2.99	4.25	1973	29	9.97	1995	.45	1986	8.5	5.6	2.4	1.0	.76	1.10	1.65	2.15	2.66	3.20	3.81	4.54	5.51	7.07	8.55	
Jul	4.48	3.89	7.24	2000	24	10.22	2000	1.21	1983	9.6	7.2	2.9	1.3	1.54	1.96	2.58	3.10	3.60	4.12	4.68	5.34	6.18	7.48	8.68	
Aug	5.28	4.82	6.38	1999	26	12.18	1989	.49	1975	8.7	6.4	3.6	1.9	1.20	1.69	2.47	3.16	3.85	4.59	5.42	6.40	7.70	9.76	11.70	
Sep	4.39	3.07	7.55	1999	16	20.81	1999	1.18	1990	8.1	6.0	2.9	1.4	.83	1.23	1.87	2.46	3.07	3.72	4.46	5.35	6.53	8.43	10.24	
Oct	3.66	3.72	6.10	1995	5	11.44	1971	.00	2000	6.8	4.9	2.3	1.5	.65	1.15	1.77	2.26	2.75	3.26	3.82	4.48	5.34	6.69	7.95	
Nov	3.27	2.98	3.85	1963	7	7.25	1985	.66	1991	8.4	4.9	2.1	1.0	.76	1.06	1.54	1.97	2.39	2.85	3.35	3.96	4.76	6.02	7.21	
Dec	3.13	3.18	3.55	1956	15	7.32	1983	.58	1979	9.4	6.2	2.3	.7	.79	1.09	1.55	1.95	2.35	2.77	3.23	3.79	4.51	5.66	6.73	
Ann	47.50	48.17	7.55	Sep 1999	16	20.81	Sep 1999	.00	Oct 2000	106.8	74.6	31.6	14.0	34.74	37.24	40.42	42.83	44.96	47.01	49.13	51.46	54.28	58.36	61.87	

+ 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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NWS Call Sign:

Elevation: 260 Feet

Lat: 36°06N

Lon: 78°18W

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	1.2	.0	#	0	3.0	1973	8	6.0	1973	10	2000	27	1+	2000	.6	.6	.1	.0	.0	.5	.2	.1	.0
Feb	2.0	.0	#	0	9.0	1979	19	15.5	1979	5	2000	1	1	2000	.6	.6	.3	.1	.0	.2	.1	.0	.0
Mar	.9	.0	#	0	3.0	1971	27	5.0	1971	5	1971	27	#+	1983	.4	.4	.1	.0	.0	.2	@	@	.0
Apr	#	.0	0	0	#	1983	18	#	1983	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.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	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	#	0	#	1987	12	#	1987	#	1987	12	#	1987	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.7	.0	#	0	3.0	1973	17	3.0	1973	3	1973	17	#+	2000	.3	.3	.1	.0	.0	.2	@	.0	.0
Ann	4.8	.0	N/A	N/A	9.0	Feb 1979	19	15.5	Feb 1979	10	Jan 2000	27	1+	Feb 2000	1.9	1.9	.6	.1	.0	1.1	.3	.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

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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	5/20	5/14	5/10	5/06	5/03	4/29	4/26	4/21	4/16
32	5/08	5/02	4/27	4/23	4/20	4/16	4/12	4/07	4/01
28	4/22	4/17	4/13	4/10	4/07	4/03	3/31	3/27	3/22
24	4/11	4/04	3/30	3/25	3/21	3/17	3/12	3/07	2/27
20	3/28	3/20	3/14	3/10	3/05	3/01	2/24	2/18	2/11
16	3/07	3/01	2/24	2/20	2/16	2/12	2/08	2/03	1/26
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	9/23	9/28	10/01	10/04	10/07	10/10	10/13	10/16	10/21
32	10/04	10/09	10/13	10/17	10/20	10/24	10/27	10/31	11/06
28	10/13	10/19	10/23	10/27	10/30	11/02	11/06	11/10	11/16
24	10/25	10/31	11/05	11/10	11/14	11/18	11/22	11/27	12/04
20	11/09	11/16	11/21	11/25	11/29	12/03	12/08	12/13	12/20
16	11/21	11/30	12/07	12/12	12/18	12/23	12/29	1/05	1/15
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	173	167	161	156	151	146	140	131
32	210	201	194	188	183	178	172	165	156
28	232	223	217	211	206	201	195	189	179
24	270	259	251	244	237	231	224	216	204
20	298	288	280	274	268	263	257	249	239
16	344	326	317	309	303	296	289	282	271

* 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	846	689	512	249	77	10	0	2	31	259	486	752	3913
60	691	549	362	130	21	1	0	0	7	152	346	597	2856
57	608	466	278	78	7	0	0	0	2	103	268	510	2320
55	549	415	226	52	3	0	0	0	1	76	222	452	1996
50	411	287	122	13	0	0	0	0	0	30	126	314	1303
32	81	26	1	0	0	0	0	0	0	0	1	32	141

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	258	260	512	750	1025	1239	1420	1359	1124	793	507	302	9549
55	13	6	25	112	315	549	707	646	435	156	38	9	3011
57	9	0	14	78	257	489	645	584	377	120	24	6	2603
60	0	0	5	40	178	400	552	491	291	76	12	0	2045
65	0	0	0	8	78	258	397	338	165	29	2	0	1275
70	0	0	0	0	24	140	245	197	73	7	0	0	686

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	90	126	295	519	783	1003	1169	1107	887	547	291	125	90	216	511	1030	1813	2816	3985	5092	5979	6526	6817	6942
45	43	70	184	373	628	853	1014	952	737	399	181	66	43	113	297	670	1298	2151	3165	4117	4854	5253	5434	5500
50	18	29	97	244	476	703	859	797	587	260	99	31	18	47	144	388	864	1567	2426	3223	3810	4070	4169	4200
55	0	11	46	143	328	553	704	642	440	145	47	12	0	11	57	200	528	1081	1785	2427	2867	3012	3059	3071
60	0	1	15	74	195	405	549	488	299	66	17	1	0	1	16	90	285	690	1239	1727	2026	2092	2109	2110
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	79	115	221	356	511	667	785	743	587	379	218	110	79	194	415	771	1282	1949	2734	3477	4064	4443	4661	4771

(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

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