

Climatology of the United States

No. 20

1971-2000

Station: ROXBORO 7 ESE, NC

COOP ID: 317516

Climate Division: NC 3

NWS Call Sign:

Elevation: 710 Feet Lat: 36° 21N Lon: 78° 53W

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	47.9	25.7	36.8	76+	1975	29	44.8	1990	-9	1985	21	26.2	1977	874	0	.0	.0	13.9	2.7	23.3	.3
Feb	51.8	27.8	39.8	81+	1989	4	48.8	1976	-8	1996	5	30.3	1978	706	0	.0	.0	16.2	1.5	19.7	.1
Mar	60.4	34.8	47.6	88+	1990	13	54.2	1976	7+	1980	3	42.3	1996	541	0	.0	.0	25.7	.3	11.9	.0
Apr	70.0	42.9	56.5	96	1985	20	62.5	1985	20	2001	2	52.3	1997	265	10	.0	.4	29.3	.0	3.4	.0
May	77.0	52.4	64.7	93+	1970	25	69.2	1982	32+	1997	12	59.8	1992	87	77	.0	.7	31.0	.0	@	.0
Jun	84.0	60.8	72.4	101	1968	30	76.7	1981	39	1977	8	68.1	1974	9	231	.0	5.9	30.0	.0	.0	.0
Jul	87.8	65.2	76.5	104	1966	14	79.7	1987	49	1988	1	73.3	1984	0	357	.3	12.3	31.0	.0	.0	.0
Aug	86.4	63.1	74.8	102	1988	19	78.6	1983	41+	1986	30	71.8	1992	1	302	.2	9.5	31.0	.0	.0	.0
Sep	80.2	56.0	68.1	99	1983	12	71.8	1998	33	1974	24	63.4	1974	39	132	.0	2.6	30.0	.0	.0	.0
Oct	70.4	43.7	57.1	91	1986	5	64.4	1984	22+	2001	29	50.8	1988	274	28	.0	.1	30.5	.0	3.6	.0
Nov	61.1	35.8	48.5	84+	1974	3	56.8	1985	13+	1991	28	43.1	1995	498	1	.0	.0	25.5	.0	11.4	.0
Dec	51.3	28.3	39.8	79+	1998	8	48.9	1971	-1	1983	26	29.3	1989	781	0	.0	.0	17.2	1.4	20.8	.1
Ann	69.0	44.7	56.9	104	Jul 1966	14	79.7	Jul 1987	-9	Jan 1985	21	26.2	Jan 1977	4075	1138	.5	31.5	311.3	5.9	94.1	.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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No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: ROXBORO 7 ESE, NC

COOP ID: 317516

Climate Division: NC 3

NWS Call Sign:

Elevation: 710 Feet Lat: 36°21N

Lon: 78°53W

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	4.29	4.12	3.47	1992	4	8.15	1998	1.00	1981	10.5	7.6	3.1	1.1	1.43	1.83	2.43	2.94	3.43	3.93	4.48	5.12	5.94	7.22	8.40
Feb	3.40	3.32	2.25	1998	16	6.10	1979	.53	1978	9.4	6.3	2.5	.9	1.25	1.57	2.03	2.41	2.78	3.15	3.56	4.03	4.63	5.56	6.41
Mar	4.38	3.82	3.70	1998	19	9.22	1993	.80	1985	11.2	7.9	3.2	1.0	1.35	1.77	2.39	2.92	3.44	3.97	4.56	5.25	6.14	7.54	8.82
Apr	3.32	3.27	2.41	1983	16	6.22	2000	.20	1985	9.2	6.0	2.4	.9	.76	1.07	1.56	2.00	2.43	2.89	3.41	4.03	4.84	6.13	7.34
May	3.68	3.44	3.27	1968	27	7.04	1971	.91	1987	10.4	6.7	2.4	.8	1.56	1.90	2.36	2.74	3.10	3.47	3.86	4.31	4.87	5.74	6.52
Jun	3.69	3.08	4.38	1964	23	12.85	1995	.93	1986	8.8	6.0	2.4	1.1	.78	1.12	1.66	2.16	2.65	3.18	3.77	4.48	5.42	6.92	8.34
Jul	4.81	4.12	5.72	1975	14	15.78	1975	1.76	1983	9.9	7.1	3.2	1.6	1.61	2.06	2.73	3.30	3.84	4.40	5.02	5.74	6.66	8.09	9.41
Aug	3.96	3.26	4.50	1981	7	9.09	1986	.74	1980	9.2	5.8	2.6	1.3	1.05	1.43	2.00	2.51	3.00	3.52	4.09	4.78	5.67	7.07	8.37
Sep	4.40	3.57	6.78	1996	6	14.05	1999	.18	1985	8.5	5.6	2.7	1.5	.47	.80	1.41	2.03	2.69	3.43	4.30	5.38	6.85	9.29	11.67
Oct	3.90	3.48	5.38	1955	1	9.32	1971	.00	2000	7.6	5.3	2.7	1.4	.65	1.18	1.85	2.38	2.90	3.45	4.06	4.78	5.72	7.19	8.57
Nov	3.40	3.30	4.71	1993	28	7.80	1985	.71	1981	8.9	5.7	2.3	.9	1.18	1.50	1.97	2.36	2.74	3.13	3.55	4.05	4.68	5.66	6.56
Dec	3.40	3.14	3.60	1958	29	6.95	1973	.83	1994	9.3	5.8	2.4	1.0	.91	1.23	1.73	2.16	2.58	3.02	3.51	4.09	4.86	6.04	7.16
Ann	46.63	47.01	6.78	Sep 1996	6	15.78	Jul 1975	.00	Oct 2000	112.9	75.8	31.9	13.5	36.18	38.27	40.92	42.90	44.64	46.32	48.03	49.91	52.17	55.42	58.19

+ 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: 710 Feet

Lat: 36°21N

Lon: 78°53W

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	2.7	.0	#	#	8.5	1987	22	16.0	1987	10	1987	27	2	1987	1.4	1.0	.3	.1	.0	2.4	1.1	.5	.1
Feb	4.0	1.3	#	#	10.0	1989	18	22.5	1989	13	1989	19	3	1979	1.6	1.3	.5	.3	@	2.6	1.2	.5	.1
Mar	1.8	.0	#	0	8.0	1981	23	12.0	1980	12	1980	3	1	1980	.6	.6	.2	.1	.0	.5	.2	.1	@
Apr	.0	.0	#	0	.2	1989	8	.4	1989	#+	1989	11	#+	1989	.1	.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	#	1988	31	#	1988	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.2	.0	#	0	2.0	1975	24	2.0+	1987	1+	1987	12	#+	1987	.1	.1	.0	.0	.0	.1	.0	.0	.0
Dec	1.1	.0	#	0	10.0	1973	17	11.0	1973	11	1973	18	1	1973	.6	.4	.1	@	@	.6	.2	.1	.1
Ann	9.8	1.3	N/A	N/A	10.0+	Feb 1989	18	22.5	Feb 1989	13	Feb 1989	19	3	Feb 1979	4.4	3.4	1.1	.5	@	6.2	2.7	1.2	.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

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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	5/10	5/05	5/02	4/28	4/26	4/23	4/19	4/16	4/11
32	4/30	4/24	4/20	4/16	4/13	4/09	4/05	4/01	3/26
28	4/20	4/13	4/08	4/03	3/30	3/26	3/22	3/16	3/09
24	4/06	3/30	3/25	3/20	3/16	3/12	3/08	3/02	2/23
20	3/23	3/15	3/10	3/05	3/01	2/25	2/20	2/15	2/08
16	3/08	3/01	2/24	2/20	2/16	2/12	2/08	2/03	1/28
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	9/28	10/04	10/08	10/12	10/15	10/19	10/23	10/27	11/02
32	10/06	10/13	10/18	10/22	10/26	10/30	11/03	11/08	11/15
28	10/12	10/19	10/25	10/29	11/03	11/07	11/11	11/17	11/24
24	10/28	11/04	11/10	11/14	11/18	11/22	11/26	12/02	12/09
20	11/16	11/22	11/26	11/30	12/03	12/07	12/11	12/15	12/21
16	12/02	12/10	12/16	12/21	12/26	12/30	1/04	1/10	1/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	198	189	183	177	172	167	162	155	147
32	225	215	208	201	196	190	184	176	166
28	247	237	229	223	217	211	204	197	186
24	275	265	258	252	246	240	234	227	217
20	306	296	288	282	277	271	265	258	248
16	341	331	324	318	312	306	300	292	282

* 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	874	706	541	265	87	9	0	1	39	274	498	781	4075
60	719	566	392	146	28	1	0	0	10	165	357	629	3013
57	629	484	308	93	11	0	0	0	4	114	277	543	2463
55	573	433	256	65	5	0	0	0	2	86	229	485	2134
50	430	305	149	20	0	0	0	0	0	36	131	350	1421
32	82	32	3	0	0	0	0	0	0	0	2	53	172

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	231	249	486	735	1014	1212	1380	1325	1084	777	496	295	9284
55	9	6	26	109	306	522	667	612	395	150	32	14	2848
57	3	1	16	77	249	462	605	550	337	116	20	10	2446
60	0	0	7	41	173	372	512	457	253	74	10	3	1902
65	0	0	0	10	77	231	357	302	132	28	1	0	1138
70	0	0	0	1	23	115	206	161	49	8	0	0	563

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	87	135	289	523	783	986	1145	1090	861	550	295	132	87	222	511	1034	1817	2803	3948	5038	5899	6449	6744	6876
45	39	72	179	379	628	836	990	935	711	399	188	70	39	111	290	669	1297	2133	3123	4058	4769	5168	5356	5426
50	12	32	98	251	475	686	835	780	562	263	106	37	12	44	142	393	868	1554	2389	3169	3731	3994	4100	4137
55	1	12	43	148	324	536	680	625	413	152	46	15	1	13	56	204	528	1064	1744	2369	2782	2934	2980	2995
60	0	1	18	70	196	388	525	471	276	67	15	0	0	1	19	89	285	673	1198	1669	1945	2012	2027	2027
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	64	101	198	336	500	666	782	742	566	354	194	90	64	165	363	699	1199	1865	2647	3389	3955	4309	4503	4593

(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